



Teaching Strategies

Criteria Report

Teaching Strategies Criteria Report

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Social-Emotional

SOCIAL-EMOTIONAL OBJECTIVES

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|---|---|---|---|
| 1 | Regulates own emotions and behaviors | 3 | Participates cooperatively and constructively in group situations |
| 2 | Establishes and sustains positive relationships | | |

Young children's social-emotional development involves learning how to understand their own and others' feelings, regulate and express their emotions appropriately, build relationships with others, and interact in groups (Rubin, Bukowski, & Parker, 1998). Social-emotional development flourishes when children have close, supportive, and trusting relationships with adults (Howes & James, 2002). When adults are responsive, when they express pleasure about children's accomplishments and discoveries, and when they create an environment in which children can participate actively in daily routines and experiences, children know that adults consider them to be important, interesting, and competent.

Children's interactions with others are crucial to their learning. Problematic childhood relationships with adults and peers have been linked to negative outcomes such as emotional and mental health problems, lower school achievement, higher dropout rates, peer rejection, and delinquency. When their interactions are positive, young children are more likely to have positive short- and long-term outcomes (Rubin et al., 1998; Smith & Hart, 2002). The strong connection between early relationships and later behavior and learning makes it especially important for teachers to assess children's social-emotional development accurately and to support their growth and competence in this area.

Objective 1. Regulates own emotions and behaviors

a. Manages feelings

Children in the *red* (birth–1) and *orange* (1–2) bands *use adult support to calm self*. Infants rely on responsive adults to help them regain their equilibrium when they become upset. Young infants try to avoid distressing situations by turning away or mouthing and sucking (Berk, 2009; Woltering & Lewis, 2011), and they can be comforted by a soothing touch, soft voice, or gentle rocking (Berk, 2009; Florez, 2011). They watch trusted adults (Shelov & Hannemann, 2004), and they may become quiet when they see or hear them approach (Bronson, 1995). Toddlers are able to take verbal and physical cues from adults to help them manage their feelings (Florez, 2011) and to co-regulate (Bilmes & Welker, 2006).

Children in the *orange* (1–2), *yellow* (2–3), and *green* (preschool 3) bands *comfort self by seeking out special object or person*. Older toddlers and young preschoolers begin to show the ability to regulate some of their own emotions and behaviors (Grusec, Hastings, & Almas, 2011), but they frequently rely on external support (Denham, von Salisch, Olthof, Kochanoff, & Caverly, 2002). They may use a favorite toy or blanket (Allen & Marotz, 2007) or cues provided by trusted adults (Florez, 2011). As children's language and cognitive abilities increase, they become better able to communicate their distress to an adult when they seek their assistance (Berk, 2009).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *are able to look at a situation differently or delay gratification*. Preschoolers and kindergartners begin to use various emotional self-regulation strategies (Berk, 2009). They may use "self-talk" to guide their feelings and actions (Riley, San Juan, Klinkner, & Ramminger, 2008). At about 3 1/2 children begin to develop the ability to delay gratification (Riley et al., 2008). One of the strategies they may use is to think about something else rather than their immediate wants or needs (Berk, 2009; Riley et al., 2008). They also begin to learn how to use "cognitive reframing," whereby they view a situation more positively (Riley et al., 2008) such that circumstances become less emotionally charged or frustrating. Adults play a key role in helping young children develop strategies by modeling appropriate behavior, providing language, playing games that require self-control, and establishing appropriate routines and schedules (Copple & Bredekamp, 2006; Bilmes, 2004).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *control strong emotions in an appropriate manner most of the time*. Although older preschool and kindergarten children continue to need adult guidance, they are gaining in their ability to manage emotions on their own (Allen & Marotz, 2007; Copple & Bredekamp, 2006), and emotional displays tend to become stable across time and across some situations (Denham, von Salisch, Olthof, Kochanoff, & Caverly, 2002). They usually can restrain their emotions when necessary and often use language to assist them in controlling their emotions and that of others (Copple & Bredekamp, 2006; McAfee & Leong, 2007). Kindergartners "are expected to regulate their emotions and behavior appropriately under most circumstances"... and "to be able to be able to delay, defer, and accept substitution for their preferred goals without becoming aggressive or overly frustrated" (Tomlinson, 2009, p. 192).

Objective 1. Regulates own emotions and behaviors

a. Manages feelings

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Objective 1. Regulates own emotions and behaviors

b. Follows limits and expectations

Children in the *red* (birth–1) and *orange* (1–2) bands *respond to changes in an adult's tone of voice and expression*. Infants and young toddlers can distinguish the emotional meaning behind the facial (Bilmes & Welker, 2006) and vocal expressions of many adults (Saarni, Mumme, & Campos, 1998). In the first 4 months, infants may turn toward or away from a person depending upon voice familiarity, tenor, and volume fluctuation (Allen & Marotz, 2007). Between the ages of 1 and 2, children look at adults' facial expressions to get cues as to how they should proceed with their actions (PBS, n.d.).

Children in the *orange* (1–2), *yellow* (2–3), and *green* (preschool 3) bands *accept redirection from adults*. Toddlers and young preschool children are learning to assert their independence, and sometimes they test limits (Bilmes & Welker, 2007). They may initially refuse to cooperate during daily routines but then comply (Allen & Marotz, 2007). They usually follow simple rules or instructions that are consistent and clearly stated (Zero to Three, 2009). Two-year-olds show a beginning awareness of rules and expected behavior (Grusec, Hastings, & Almas, 2011), while 3-year-old children are more cooperative and have fewer and less intense conflicts with adults than twos (Allen & Marotz, 2007).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *manage classroom rules, routines, and transitions with occasional reminders*. Preschool and kindergarten children understand routines, simple rules (Epstein, 2009), and expected classroom behaviors (McAfee & Leong, 2007). Children as young as 3 years of age exhibit "learning-related social skills" such as following directions, participating appropriately in groups, and organizing work materials (McClelland & Morrison, 2003). They understand the concepts of sharing and of taking turns (Allen & Marotz, 2007) but may need adult guidance to follow through. Older preschool children have a better understanding of the reasons for limits than younger children and will abide by them most of the time (Allen & Marotz, 2007). Kindergartners generally are cooperative and comply with adult requests. They know how to share, take turns, and participate in routines with only occasional lapses in expected behaviors (Allen & Marotz, 2007).

Children in the *purple* (kindergarten) band *apply rules in new but similar situations*. Adults' use of inductive discipline or providing rationales for rules helps children understand the consequences of their actions and provides them with behavioral information they can use in future situations (Berk, 2002). Children's ability to abide by limits and expectations advances from a dependence on specific personal experiences to the ability to apply the limits to less familiar situations. Kindergartners can manage social situations with greater autonomy than younger children (PBS, n.d.). Their varied social experiences and advances in cognitive, language, and social-emotional development help them to act in accordance with social rules and to display behavior appropriate for the situation or place (VORT, 2004). They have a differentiated understanding of authority figures and are likely to abide by legitimate limits established by them, even in different contextual settings (e.g. school and park) (Berk, 2009; Laupa & Elliot, 1993).

Objective 1. Regulates own emotions and behaviors
b. Follows limits and expectations

	<ul style="list-style-type: none"> • Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning. • Bilmes, J., & Welker, T. (2006). <i>Common psychological disorders in young children: A handbook for child care professionals</i>. St. Paul, MN: Redleaf Press. • Public Broadcasting System (PBS) (n.d.). <i>Child development and early child development advice/PBS parents: Child development tracker</i>. Retrieved September 7, 2007, from www.pbs.org/parents/childdevelopment/
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Objective 1. Regulates own emotions and behaviors

c. Takes care of own needs appropriately

Children in the *red* (birth–1) band *indicate needs and wants; participate as adult attends to needs*. Infants initially communicate their needs by crying (Bilmes & Welker, 2006) and later by repeating sounds or gestures to gain the attention of adults (Shelov & Hannemann, 2004). By about 6 months, infants' emotional expressions become more organized and specific, allowing adults to better interpret what the infant is feeling (Berk, 2009). As infants near their first birthday, they begin to assist in caregiving activities. They may hold out their arms, legs, or feet so adults can dress them, or they may feed themselves with finger foods (PBS, n.d.).

Children in the *orange* (1–2) and *yellow* (2–3) bands *seek to do things for self*. Toddlers enjoy using their more advanced abilities that allow them to do many things independently. They show pleasure as they try out their skills (Berk, 2009) and begin to see themselves as capable (Epstein, 2009). They want to participate in self-care activities, but they sometimes get distracted or frustrated and do not complete the process (Allen & Marotz, 2007). Motor development during this period makes it easier for them to remove clothing than to put it on or to take toys off the shelf rather than to put them back (Allen & Marotz, 2007). Twos enjoy assisting with everyday chores and activities, and they are better able to communicate requests for help in self-care needs than previously (Allen & Marotz, 2007; PBS, n.d.).

Children in the *yellow* (2–3), *green* (preschool 3), and *blue* (pre-K 4) bands *demonstrate confidence in meeting own needs*. One of the ways children evaluate themselves is in terms of competence or the things they can do (Epstein, 2009; McAfee & Leong, 2007), including self-care. Older toddlers (Bilmes & Welker, 2006) and preschool children gradually learn basic self-care (Shelov & Hannemann, 2004). Four-year-olds can generally undress and dress themselves independently, feed themselves with a fork and spoon, and engage in personal hygiene routines such as brushing their teeth (Shelov & Hannemann, 2004).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *take responsibility for own well-being*. Older preschool and kindergarten children are capable of assuming many daily self-care (Shelov & Hannemann, 2004) and routine classroom responsibilities (McClelland & Morrison, 2003). Kindergarten children are conscientious and usually act responsibly (Bronson, 2006) as they carry out assignments (Allen & Marotz, 2007) and assume responsibility for dressing and for their own toileting needs (Allen & Marotz, 2007).

Objective 1. Regulates own emotions and behaviors

c. Takes care of own needs appropriately

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Objective 2. Establishes and sustains positive relationships

a. Forms relationships with adults

Children in the *red* (birth–1) band *demonstrate a secure attachment to one or more adults*. Over time, most infants develop social bonds or attachments with their primary caregivers (Epstein, 2009), including their teachers (Berk, 2009; Ray, Bowman, & Brownell, 2006; Riley, San Juan, Klinkner, & Ramminger, 2008). During the first few weeks and months of life the attachment is formed (Berk, 2009) as responsive caregivers meet infants' needs and interact with them during care routines and social interactions. From about 6 weeks to about 6–8 months infants respond differently to familiar persons than to strangers (Berk, 2009). Children who are securely attached may demonstrate this special bond with adults as they accept comfort and are calmed by their caregivers (Riley et al., 2008) or by becoming upset when separated from them (Berk, 2009).

Children in the *red* (birth–1), *orange* (1–2), and *yellow* (2–3) bands *use trusted adult as a secure base from which to explore the world*. From early warm, nurturing interactions, infants form a sense of trust with their primary caregivers (Epstein, 2009; Ray, Bowman, & Brownell, 2006). Infants and toddlers rely on trusted adults to help them feel safe and secure (Berk, 2009). Older infants begin to use adults' facial expressions to guide their actions (Saarni, Mumme, & Campos, 1998). The more advanced motor abilities of mobile infants and toddlers allow them to explore the world around them. As they venture away, they may repeatedly look toward their caregiver, viewing them as their secure base (Berk, 2009; Raikes, 1996; Raikes & Edwards, 2009).

Children in the *yellow* (2–3) and *green* (preschool 3) bands *manage separation without distress and engage with trusted adults*. Young children typically exhibit some reaction to the newness of an unfamiliar place, such as a new care or education setting (Balaban, 2006). As a result of warm, supportive, caring relationships, young children can develop secure relationships with their teachers similar to the attachment relationships they form with parents (Howes & Richie, 2002; Tomlinson & Hyson, 2009). Preschool children are much more able to separate from parents, family members, or other primary caregivers (Bilmes & Welker, 2006) than they were at earlier ages and may even look forward to the experience with anticipation (Balaban, 2006).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *engage with trusted adults as resources and to share mutual interests*. Supportive, sensitive, and stimulating teacher-child relationships are important in helping children adjust to the school environment (Birch & Ladd, 1997) and in supporting school success (Burchinal, Howes, Pianta, Bryant, Early, Clifford, et al., 2008). Older preschool and kindergarten children view their teachers and other trusted adults as supportive guides as well as someone with whom to share warm and friendly interactions (Bilmes & Welker, 2006; Hyson, 2004; Tomlinson, 2009). Kindergartners enjoy engaging in conversations with adults and seek their approval (Tomlinson, 2009).

Objective 2. Establishes and sustains positive relationships

a. Forms relationships with adults

	<ul style="list-style-type: none">• Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston, MA: Pearson.• Epstein, A. S. (2009). <i>Me, you, us: Social-emotional learning in preschool</i>. Ypsilanti, MI: HighScope Press.• Ray, A., Bowman, B., & Brownell, J. O. (2006). Teacher-child relationships, social-emotional development, and school achievement. In B. Bowman & E. K. Moore (Eds.), <i>School readiness and social-emotional development</i> (pp. 7–22). Washington, DC: National Association for the Education of Young Children.• Riley, D., San Juan, R. S., Klinkner, J., & Ramminger, A. (2008). <i>Social and emotional development: Connecting science and practice in early childhood settings</i>. St. Paul, MN: Redleaf Press.
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Objective 2. Establishes and sustains positive relationships

b. Responds to emotional cues

Children in the *red* (birth–1), *orange* (1–2), and *yellow* (2–3) bands *react to others' emotional expressions*. As early as the first few days of life, infants respond to the emotional distress of other newborns (Sagi & Hoffman, 1976). During the first year they react differently to the emotional tones (Grusec, Hastings, & Almas, 2011) and the voices of others (Bronson, 1995). They may cry when others cry (Grusec et al., 2011) and smile and display pleasure in response to positive social stimulation (PBS, n.d.). Toddlers are more aware of others' emotions than are infants. They visually check when they hear sounds of distress, use appropriate facial expressions, and try to soothe and help others in response to their emotional expressions (Epstein, 2009).

Children in the *yellow* (2–3) and *green* (preschool 3) bands *demonstrate concern about the feelings of others*. When toddlers sense another's unhappiness, they frequently try to relieve their distress (Berk, 2009) by trying to comfort or to help them (Grusec, Hastings, & Almas, 2011). Older toddlers and young preschool children most often show their concern for the feelings of others through physical means (Tomlinson & Hyson, 2009) such as hugging or sharing a toy. Preschool children have a greater understanding of their own feelings and that of others (Epstein, 2009), but they are inclined to use physical means, rather than verbal ones, to express their concern.

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *identify basic emotional reactions of others and their causes accurately*. As children gain a better understanding of their own emotions, they also begin to show a greater appreciation of the feelings of others (PBS, n.d.). Preschool (Denham, von Salisch, Olthof, Kochanoff, & Caverly, 2002; Tomlinson & Hyson, 2009) and kindergarten children can accurately label and identify the causes of most basic emotions in other people (Tomlinson, 2009). They use that awareness to comfort others through verbal as well as physical means (Tomlinson, 2009; Tomlinson & Hyson, 2009).

Children in the *purple* (kindergarten) band *recognize that others' feelings about a situation might be different from his or her own*. More advanced cognitive development and a wider array of experiences assist kindergarten children in understanding that someone else's emotions and feelings about something may differ from their own (Denhan, Salisch, Olthof, Kochanoff, & Caverly, 2002). For example, they understand that one child may really enjoy playing chase, but another child does not like the game. Kindergartners also are beginning to predict with some accuracy how a child expressing a particular emotion may react in that situation (Golbeck, 2006; Tomlinson, 2009).

Objective 2. Establishes and sustains positive relationships

b. Responds to emotional cues

	<ul style="list-style-type: none">• Bronson, M. B. (1995). <i>The right stuff for children birth to 8: Selecting play materials to support development.</i> Washington, DC: National Association for the Education of Young Children.• Epstein, A. S. (2009). <i>Me, you, us: Social-emotional learning in preschool.</i> Ypsilanti, MI: HighScope Press.• Grusec, J. E., Hastings, P., & Almas, A. (2011). Prosocial behavior. In P. K. Smith and C. H. Hart (Eds.), <i>The Wiley-Blackwell handbook of childhood social development</i> (pp. 549–566). Oxford: Wiley & Sons.• Public Broadcasting System (PBS) (n.d.). <i>The whole child: ABCs of child care.</i> Retrieved July 31, 2007 from http://www.pbs.org/wholechild/abc/social.html• Sagi, A., & Hoffman, M. L. (1976). Empathetic distress in the newborn. <i>Developmental Psychology</i>, <i>12</i>(2), 175–176.
	<ul style="list-style-type: none">• Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston, MA: Pearson.• Epstein, A. S. (2009). <i>Me, you, us: Social-emotional learning in preschool.</i> Ypsilanti, MI: HighScope Press.• Grusec, J. E., Hastings, P., & Almas, A. (2011). Prosocial behavior. In P. K. Smith and C. H. Hart (Eds.), <i>The Wiley-Blackwell handbook of childhood social development</i> (pp. 549–566). Oxford: Wiley & Sons.• Tomlinson, H. B., & Hyson, M. (2009). Developmentally appropriate practice in the preschool years – Ages 3–5. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 111–148). Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Denham, S., von Salisch, M., Olthof, T., Kochanoff, A., & Caverly, S. (2002). Emotional and social development in childhood. In P. K. Smith and C. H. Hart (Eds.), <i>Blackwell handbook of childhood social development</i> (pp. 307–328). Oxford: Blackwell.• Public Broadcasting System (PBS) (n.d.). <i>The whole child: ABCs of child care.</i> Retrieved July 31, 2007 from http://www.pbs.org/wholechild/abc/social.html• Tomlinson, H. B. (2009). Developmentally appropriate practice in the kindergarten year—Ages 5–6. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 187–216). Washington, DC: National Association for the Education of Young Children.• Tomlinson, H. B., & Hyson, M. (2009). Developmentally appropriate practice in the preschool years—Ages 3–5. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through 8</i> (3rd ed.), (pp. 111–148). Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Denham, S., von Salisch, M., Olthof, T., Kochanoff, A., & Caverly, S. (2002). Emotional and social development in childhood. In P. K. Smith and C. H. Hart (Eds.), <i>Blackwell handbook of childhood social development</i> (pp. 307–328). Oxford: Blackwell.• Golbeck, S. L. (2006). Developing key cognitive skills. In D. F. Gullo (Ed.), <i>K today: Teaching and learning in the kindergarten year</i> (pp. 37–46). Washington, DC: National Association for the Education of Young Children.• Tomlinson, H. B. (2009). Developmentally appropriate practice in the kindergarten year—Ages 5–6. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 187–216). Washington, DC: National Association for the Education of Young Children.

Objective 2. Establishes and sustains positive relationships

c. Interacts with peers

Children in the *orange* (1–2) and *yellow* (2–3) bands *play near other children; use similar materials or actions*. Toddlers actively seek out other children, imitate their behaviors, and may work together briefly to accomplish a common goal, such as pulling a wagon (Zero to Three, 2009). They watch other children playing and may engage in similar activities when they play beside each other in parallel play (Epstein, 2009; PBS, n.d.). They sometimes share materials, but they usually are possessive and want to keep “their” materials to themselves (Bronson, 1995).

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands *use successful strategies for entering groups*. Preschool children increasingly want to engage in cooperative or interactive play with other children (Epstein, 2009; Tomlinson & Hyson, 2009), but they must first establish common ground. As they approach others at play, they may initiate conversations by referring to mutually known persons or characters (O’Neill, Main, & Ziemski, 2009). They begin to use a wider assortment of successful peer-group entry strategies (Tomlinson & Hyson, 2009). This may include observing what others are doing, smiling, asking a play-related question or making an appropriate play-related comment, or offering an appropriate prop for play (Ladd, Herald, & Andrews, 2006). Some children find entering group play difficult and may need teacher guidance and coaching to successfully enter the group (Epstein, 2009).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *invite, join in, and sustain positive interactions with a small group of two to three children*. When groups are too large, it is difficult for young children to follow conversations (Hulit & Howard, 2002). Older preschool (Hulit & Howard, 2002) and kindergarten children can successfully maintain conversations, role-play, and participate in make-believe activities when groups are small (McAfee & Leong, 2007). Four-year-olds take turns, share, and play cooperatively most of the time (Allen & Marotz, 2007). Kindergarten children can initiate and sustain play that is more complex (Epstein, 2009) and that has more positive interactions than those of preschool children (McAfee & Leong, 2007).

Children in the *purple* (kindergarten) band *interact cooperatively in groups of four or five children*. Group size influences children’s ability to maintain conversations (Hulit & Howard, 2002) and the quality of their peer interactions and play (McAfee & Leong, 2007). Groups of 5 or less children support kindergartners’ positive peer interactions and cooperation (McAfee & Leong, 2007). They can maintain conversations with attention to the needs of others (McAfee & Leong, 2007), share materials, make suggestions for play ideas, and communicate the boundaries for play and other activities (Allen & Marotz, 2007; Tomlinson, 2009).

Objective 2. Establishes and sustains positive relationships

c. Interacts with peers

	<ul style="list-style-type: none">• Bronson, M. B. (1995). <i>The right stuff for children birth to 8: Selecting play materials to support development</i>. Washington, DC: National Association for the Education of Young Children.• Epstein, A. S. (2009). <i>Me, you, us: Social-emotional learning in preschool</i>. Ypsilanti, MI: HighScope Press.
	<ul style="list-style-type: none">• Public Broadcasting System (PBS) (n.d.). <i>The whole child: ABCs of child care</i>. Retrieved July 31, 2007 from http://www.pbs.org/wholechild/abc/social.html• Zero to Three (2009). The infant and toddler years: Development in the first three years of life. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through 8</i> (3rd ed.), (pp. 53–73). Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Epstein, A. S. (2009). <i>Me, you, us: Social-emotional learning in preschool</i>. Ypsilanti, MI: HighScope Press.• Ladd, G. W., Herald, S. L., & Andrews, R. K. (2006). Young children's peer relations and social competence. In B. Spodek & O. N. Saracho (Eds.), <i>Handbook of research on the education of young children</i> (2nd ed.), (pp. 23–54). Mahwah, NJ: Lawrence Erlbaum Associates.• O'Neill, D. K., Main, R. M., & Ziemski, R. A. (2009). 'I like Barney': Preschoolers' spontaneous conversational initiations with peers. <i>First Language</i>, 29, 401–425.• Tomlinson, H. B., & Hyson, M. (2009). Developmentally appropriate practice in the preschool years—Ages 3–5. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through 8</i> (3rd ed.), (pp. 111–148). Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning.• Epstein, A. S. (2009). <i>Me, you, us: Social-emotional learning in preschool</i>. Ypsilanti, MI: HighScope Press.• Hult, L. M., & Howard, M. R. (2002). <i>Born to talk: An introduction to speech and language development</i> (3rd ed.). Boston: Allyn and Bacon.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.
	<ul style="list-style-type: none">• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning.• Hult, L. M., & Howard, M. R. (2002). <i>Born to talk: An introduction to speech and language development</i> (3rd ed.). Boston: Allyn and Bacon.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Tomlinson, H. B. (2009). Developmentally appropriate practice in the kindergarten year—Ages 5–6. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through 8</i> (3rd ed.), (pp. 187–216). Washington, DC: National Association for the Education of Young Children.

Objective 2. Establishes and sustains positive relationships

d. Makes friends

Children in the *orange* (1–2) and *yellow* (2–3) bands seek a preferred playmate; show pleasure when seeing a friend. The concept of friendship changes over time and differs for younger and older children during the early childhood years and in later life (Hartup & Abecassis, 2002). The friendships of toddlers are usually brief and may be based on a temporary common activity (McAfee & Leong, 2007). Toddlers show social preferences among their playmates (Hartup & Abecassis, 2002; Riley, San Juan, Klinkner, & Ramminger, 2008) and seek them out (Zero to Three, 2009). They “exchange expressions of positive emotions” (Berk, 2009, p. 610), imitate each other’s behaviors, and participate together in simple games and activities (Zero to Three, 2009). Over time, toddler friends cultivate special customs and favorite games and activities, and their affection for one another becomes stronger (Zero to Three, 2009).

Children in the *green* (preschool 3) band play with one or two preferred playmates. Interacting with peers is more important for preschool children than for toddlers, and they prefer certain playmates over other children in the group (Epstein, 2009). Their friendship networks are small, consisting of one or two children (Copple & Bredekamp, 2006; Hartup & Abecassis, 2002). They often refer to a preferred playmate as their “friend,” even though they do not yet fully understand the concept of friendship (Tomlinson & Hyson, 2009).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands establish a special friendship with one other child, but the friendship might only last a short while. “By 4 years of age, about three quarters of children are involved in mutual friendships as indicated by time spent together, cooperation and reciprocities in social interaction, and various affective markers” (Hartup & Abecassis, 2002, p. 289). These friendships are flexible and may only last a short time (Copple & Bredekamp, 2006) as children drift away due to changing interests, disagreements, and lack of friendship talk (Berk, 2009; Hartup & Abecassis, 2002). Sometimes friendships last for longer periods (Park, 1992). This is the case particularly if children have been together over time in contextual settings (e.g., neighborhoods, community, and early care and education) and if the friendships are based on positive interactions rather than on negative ones (Ladd, Herald, & Andrews, 2006).

Children in the *purple* (kindergarten) band maintain friendships for several months or more. The friendships of kindergarten children are more complex and longer lasting than the friendships of younger children (Copple & Bredekamp, 2006). Kindergartners’ more advanced cognitive, language, and social-emotional abilities (Berk, 2006; McAfee & Leong, 2007) help support the development of stronger friendship bonds. Friendships are more often developed between children of the same sex (Copple & Bredekamp, 2006) and between children who share other things in common such as age, ethnicity, and personality (Berk, 2006). When a friend moves away, children may express sadness and continue to talk about the friend for a period of time after the departure (Park, 1992; Riley, San Juan, Klinkner, & Ramminger, 2008).

Objective 2. Establishes and sustains positive relationships

d. Makes friends

	<ul style="list-style-type: none">• Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston, MA: Pearson.• Hartup, W. W., & Abecassis, M. (2002). Friends and enemies. In P. K. Smith and C. H. Hart (Eds.), <i>Blackwell handbook of childhood social development</i> (pp. 285-306). Oxford: Blackwell.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.
	<ul style="list-style-type: none">• Riley, D., San Juan, R. S., Klinkner, J., & Ramming, A. (2008). <i>Social and emotional development: Connecting science and practice in early childhood settings</i>. St. Paul, MN: Redleaf Press.• Zero to Three (2009). The infant and toddler years: Development in the first three years of life. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 53–73). Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Copple, C., & Bredekamp, S. (2006). <i>Basics of developmentally appropriate practice: An introduction for teachers of children 3 to 6</i>. Washington, DC: National Association for the Education of Young Children.• Epstein, A. S. (2009). <i>Me, you, us: Social-emotional learning in preschool</i>. Ypsilanti, MI: HighScope Press.• Hartup, W. W., & Abecassis, M. (2002). Friends and enemies. In P. K. Smith and C. H. Hart (Eds.), <i>Blackwell handbook of childhood social development</i> (pp. 285–306). Oxford: Blackwell.• Tomlinson, H. B., & Hyson, M. (2009). Developmentally appropriate practice in the preschool years—Ages 3–5. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 111–148). Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston, MA: Pearson.• Copple, C., & Bredekamp, S. (2006). <i>Basics of developmentally appropriate practice: An introduction for teachers of children 3 to 6</i>. Washington, DC: National Association for the Education of Young Children.• Hartup, W. W., & Abecassis, M. (2002). Friends and enemies. In P. K. Smith and C. H. Hart (Eds.), <i>Blackwell handbook of childhood social development</i> (pp. 285–306). Oxford: Blackwell.• Ladd, G. W., Herald, S. L., & Andrews, R. K. (2006). Young children's peer relations and social competence. In B. Spodek & O. N. Saracho (Eds.), <i>Handbook of research on the education of young children</i> (2nd ed.), (pp. 23–54). Mahwah, NJ: Lawrence Erlbaum Associates.• Park, K. A. (1992). Preschoolers' reactions to a loss of a best friend: Developmental trends and individual differences. <i>Child Study Journal</i>, 22(4), 233–252.
	<ul style="list-style-type: none">• Berk, L. E. (2006). Looking at kindergarten children. In D. F. Gullo (Ed.), <i>K today: Teaching and learning in the kindergarten year</i> (pp. 11–25). Washington, DC: National Association for the Education of Young Children.• Copple, C., & Bredekamp, S. (2006). <i>Basics of developmentally appropriate practice: An introduction for teachers of children 3 to 6</i>. Washington, DC: National Association for the Education of Young Children.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Park, K. A. (1992). Preschoolers' reactions to a loss of a best friend: Developmental trends and individual differences. <i>Child Study Journal</i>, 22(4), 233–252.• Riley, D., San Juan, R. S., Klinkner, J., & Ramming, A. (2008). <i>Social and emotional development: Connecting science and practice in early childhood settings</i>. St. Paul, MN: Redleaf Press.

Objective 3. Participates cooperatively and constructively in group situations

a. Balances needs and rights of self and others

Children in the *orange* (1–2) and *yellow* (2–3) bands *respond appropriately to others' expression of wants*. Toddlers increasingly desire to play with their peers (Bronson, 1995; Raikes & Edwards, 2009), and they are learning how to cooperate in small groups (Allen & Marotz, 2007). They watch and imitate the actions of older children and adults (Shelov & Hannemann, 2004), including how they interact with other people. Although toddlers are still most concerned with their own desires (Shelov & Hannemann, 2004), they can respond appropriately to another's wants, particularly if the adults around them have modeled prosocial behaviors. They may offer another child a desired toy (Allen & Marotz, 2007) or help move a heavy object (Zero to Three, 2009). As children's language skills improve, they increasingly use verbal rather than physical means to communicate their wants (Allen & Marotz, 2007).

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands *take turns*. Preschoolers have a greater ability than they did as toddlers to understand the feelings of others (Tomlinson & Hyson, 2009), to delay gratification (Riley, San Juan, Klinkner, & Ramminger, 2008), and to share and to take turns (Allen & Marotz, 2007; Bilmes & Welker, 2006; Epstein, 2009; McAfee & Leong, 2007). Younger preschoolers, in particular, may still need the support of sensitive adults to help them follow through with sharing and turn-taking when they participate in group activities (Allen & Marotz, 2007).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *initiate the sharing of materials in the classroom and outdoors*. To take turns and to share, children must be able to postpone their wishes and understand that such behaviors are normal and expected within the social context (Katz & McClellan, 1997). Older preschool and kindergarten children demonstrate an increasing ability to share (McAfee & Leong, 2007), and they often independently engage in these prosocial acts without adults having to intervene (Whitin, 2001). The peer interactions of kindergartners are "governed by social norms such as sharing and helping" (McAfee & Leong, 2007, p. 240). Adults continue to be important in helping children develop positive social interaction skills (Bronson, 2006; Whitin, 2001).

Children in the *purple* (kindergarten) band *cooperate and share ideas and materials in socially acceptable ways*. Kindergarten children have better self-control and greater understanding of others' feelings than they did at younger ages (PBS, n.d.), and they act in more consistent and responsible ways (Bronson, 2006). Their social play is generally cooperative and conforming (Bronson, 1995). They freely share ideas and materials during play, and they are capable of performing many socially acceptable acts, especially if adults reinforce their positive behaviors (Whitin, 2001).

Objective 3. Participates cooperatively and constructively in group situations

a. Balances needs and rights of self and others

	<ul style="list-style-type: none">• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning• Bronson, M. B. (1995). <i>The right stuff for children birth to 8: Selecting play materials to support development</i>. Washington, DC: National Association for the Education of Young Children.• Raikes, H. H., & Edwards, C. P. (2009). <i>Extending the dance in infant and toddler caregiving: Enhancing attachment relationships</i>. Baltimore, MD: Paul H. Brookes Publishing.• Shelov, S. P., & Hannemann, R. E. (Eds.). (2004). <i>American Academy of Pediatrics: Caring for your baby and young child: Birth to age 5</i>. New York: Bantam Books.• Zero to Three (2009). The infant and toddler years: Development in the first three years of life. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 53–73). Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning.• Bilmes, J., & Welker, T. (2006). <i>Common psychological disorders in young children: A handbook for child care professionals</i>. St. Paul, MN: Redleaf Press.• Epstein, A. S. (2009). <i>Me, you, us: Social-emotional learning in preschool</i>. Ypsilanti, MI: HighScope Press.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Riley, D., San Juan, R. S., Klinkner, J., & Ramminger, A. (2008). <i>Social and emotional development: Connecting science and practice in early childhood settings</i>. St. Paul, MN: Redleaf Press.• Tomlinson, H. B., & Hyson, M. (2009). Developmentally appropriate practice in the preschool years— Ages 3–5. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 111–148). Washington, DC: National Association for the Education of Young Children.
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	<ul style="list-style-type: none">• Bronson, M. B. (1995). <i>The right stuff for children birth to 8: Selecting play materials to support development</i>. Washington, DC: National Association for the Education of Young Children.• Bronson, M. B. (2006). Developing social and emotional competence. In D. F. Gullo (Ed.), <i>K today: Teaching and learning in the kindergarten year</i> (pp. 37–46). Washington, DC: National Association for the Education of Young Children.• Public Broadcasting System (PBS) (n.d.). <i>The whole child: ABCs of child care</i>. Retrieved July 31, 2007 from http://www.pbs.org/wholechild/abc/social.html• Whitin, P. (2001). Kindness in a jar. <i>Young Children</i>, 56(5), 18-22

Objective 3. Participates cooperatively and constructively in group situations

b. Solves social problems

Children in the *orange* (1–2) band *express feelings during a conflict*. Toddlers are just beginning to learn how to solve social problems, and they use both positive as well as more negative ways to communicate their feelings (Bilmes & Welker, 2006). They may express their feelings using gestures such as pointing, shaking their heads, and pushing (Zero to Three, 2009) or by vocalizations such as screaming or crying when they encounter conflict situations (PBS, n.d.; Zero to Three, 2009). At about 18 months of age, they begin developing a vocabulary for talking about how they feel, but they are not yet skilled at using language to help them control their emotions (Berk, 2009).

Children in the *yellow* (2–3) and *green* (preschool 3) bands *seek adult help to resolve social problems*. Although toddlers and young preschool children are beginning to learn strategies for resolving social problems, they still seek out and rely on adults for help when they become distressed (PBS, n.d.) or cannot handle the situation independently. Adults serve as support or encouragement for turn taking and waiting, and they suggest ways conflicts can be resolved without the use of aggressive actions (Bilmes & Welker, 2006; Shelov, & Hannemann, 2004).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *suggest solutions to social problems*. As children gain an appreciation for the feelings and actions of others, they begin to learn how to cooperate and resolve conflicts in nonaggressive ways, particularly when interacting with their friends (Tomlinson & Hyson, 2009). They are able to manage many of their own solutions to disputes by using their words, and by about 38 months, they begin using simple negotiation strategies to resolve conflicts (Shelov & Hannemann, 2004). They can resolve conflicts using beginning understandings of moral principles and socially accepted ways of achieving what they want (Epstein, 2009). Four-year-olds are capable of participating with others in simple group decisions that solve social problems (Epstein, 2009). Kindergarten children can reflect on their own and others' motivations for actions and suggest strategies that focus on the problem rather than the emotions surrounding a situation (McAfee & Leong, 2007).

Children in the *purple* (kindergarten) band *resolve social problems through negotiation and compromise*. Kindergartners are less impulsive than younger children (McAfee & Leong, 2007), and they usually develop a reflective approach to solving social dilemmas (Riley, San Juan, Klinkner, & Ramminger, 2008). They "use proactive strategies to organize, direct, and sustain interactions with others," thus allowing them to have "more complex interactions with fewer conflicts" (Bronson, 2006, p. 48). Disputes are generally settled through negotiations (Bronson, 2006) and "friendly persuasion" (Berk, 2009). When an initial strategy does not work, kindergarten children think of alternative solutions without having to rely on adults to resolve the issue for them (Berk, 2009).

Objective 3. Participates cooperatively and constructively in group situations

b. Solves social problems

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Physical

PHYSICAL OBJECTIVES

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|---|-------------------------------|---|---|
| 4 | Demonstrates traveling skills | 6 | Demonstrates gross-motor manipulative skills |
| 5 | Demonstrates balancing skills | 7 | Demonstrates fine-motor strength and coordination |

Physical development includes children's gross-motor (large muscle) and fine-motor (small muscle) skills. Balance; coordination; and locomotion, or traveling, are part of gross-motor development. Motor development progresses predictably, from simple to complex, in a head-to-toe direction. An infant lifts his head, lifts his trunk, rolls, crawls, sits, stands, walks, and then becomes a toddler who runs. Children gain control of their bodies in a predictable sequence as well, from the center of their bodies and outward to their fingers and toes. A child first catches a ball by trapping it against her whole body, then by holding out her arms to catch it, and finally by catching it with her hands. Similarly, fine-motor skills progress from the child's grabbing an object with a whole hand, picking up a small item with thumb and index finger, and eventually controlling the fine hand muscles needed for writing. Children need many opportunities to practice their gross-motor skills, e.g., pulling, climbing, running, kicking, throwing, jumping. and their fine-motor skills, e.g., cutting, drawing, writing.

As they develop physically, children master increasingly sophisticated tasks and are able to meet more of their own physical needs, such as feeding and dressing themselves. Motor and other aspects of physical development are influenced by gender, heredity, nutrition, health, environment, economic level, experience, culture, and disabilities (McKenzie, et al., 1997; Spaulding, Gottlib, & Jensen, 2008; Trawick-Smith, 2006).

Physical development affects other areas of development. Brain research points to the importance of early, positive movement experiences to brain development (Gabbard, 1998; Robert, 1999). Physical development is linked to children's emotional development and their school performance (Pica, 2006; Rule & Stewart, 2002; Sanders, 2002; Son & Meisels, 2006). The ability to be physically active influences social well-being and mental health. Regular physical activity helps children build and maintain healthy bones, muscles, and joints. It helps them to control weight and prevents or delays health conditions such as high blood pressure (McKenzie, et al., 1997; Pica, 2006; Sanders, 2002). The more children can do physically, the more willing they are to interact with other children and to try new and challenging physical tasks (Kim, 2006). This establishes a positive cycle that affects overall learning and health.

Motor development is not automatic. If children are to develop physical competence, they need a variety of equipment and materials; planned, appropriate movement experiences; and opportunities to practice and apply previously learned skills (Barbour, 1999; Epstein, 2007; Gallahue, 1995; Manross, 2000; Sanders, 2006).

Objective 4. Demonstrates traveling skills

Infants in the *red* band (birth–1) *move to explore their immediate environment*. While they are motivated by their desire to explore (Kostelnik, Soderman, & Whiren, 2004) and master new tasks (Berk, 2009), their beginning traveling skills are rudimentary (Gallahue & Donnelly, 2003) and must be refined with a great deal of practice. Infants display a wide range of purposeful locomotion (Gallahue & Ozmun, 2006) including rolling over, bouncing forward, scooting, crawling, creeping, cruising, side-stepping while holding onto furniture, and taking unsteady steps to get where they want to go (Ahola & Kovacik, 2007; Berk, 2009; Charlesworth, 2008; Zero to Three, 2009). Their increasing mobility allows them to interact with adults and peers and to “gain in social and cognitive development as they explore and construct new knowledge about their world” (Charlesworth, 2008, p. 235).

Children in the *orange* (1–2 years) and *yellow* (2–3 years) bands *experiment with different ways of moving* as they travel from place to place. The skills they developed in the first year of life improve qualitatively and become more refined. They continue to practice and modify early traveling motions (Berk, 2009) as they explore their movement potential while traveling through space (Gallahue & Ozmun, 2006). During this period, their curiosity, together with their developing motor skills, allow them to move around their environment (Zero to Three, 2009) in new ways, such as by moving a riding toy with their feet, tromping through puddles, running, walking backwards, and marching. They “may take lots of tumbles as they misjudge distances or relative weight or strength” (Carlson, 2011, pp. 8–9).

Preschoolers in the *green* and *blue* bands (preschool 3 and pre-K 4) *move purposefully from place to place with control*. During the early part of this period children may temporarily experience some awkwardness as their bodies catch up with their new-found abilities (Beaty, 2002). They begin to know what their bodies can do, and their movement control improves greatly. Traveling skills become much more automatic, allowing them to focus intently on the activity. Children become “strong, efficient, and speedy” (Beaty, 2002, p. 198) during this period and are good at riding tricycles. They can pedal and steer a wheeled toy with confidence, frequently zooming around corners and avoiding obstacles and “oncoming traffic” (Allen & Marotz, 2007; Beaty, 2002). They can travel vertically as they climb ladders and other playground equipment with control (Allen & Marotz, 2007).

Children in the *blue* and *purple* bands (pre-K 4 and kindergarten) *coordinate complex movements in their play and games* as they “integrate previously acquired skills into more complex, dynamic ‘systems of action’” (Berk, 2009, p. 177). They fall infrequently and enjoy participating in activities and games that test their abilities (Beaty, 2002). Their running speed increases, and their galloping and skipping abilities become smooth (Allen & Marotz, 2007; Berk, 2009). They now can ride a tricycle with speed and dexterous steering (Allen & Marotz, 2007).

Objective 4. Demonstrates traveling skills

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Objective 5. Demonstrates balancing skills

Infants in the *red* band (birth–1) show *balance while exploring their immediate environment*. At first infants cannot support their head unaided, but as body proportions become more evenly distributed and muscle tone, strength, and control improve, they can balance in a sitting position. This ability gives them a new perspective of their world (Berk, 2009). “Around 4 to 5 months, when infants begin to sit up, they no longer need their arms to maintain body balance,” freeing the hands to explore objects (Berk, 2009, p. 149). Toward the end of the period, improved balance allows infants to change sitting positions without falling (Allen, 2007), making way for even greater exploration.

Toddlers in the *orange* (1–2) and *yellow* (2–3) bands *experiment with different ways of balancing*. They may fall as they try out new ways of maintaining their balance, but they gain in their abilities to maintain a steady position while the body is stationary (static balance) and while it is moving (dynamic balance) (Kostelnik et al., 2004; Sanders, 2002). They can stand on tiptoes (Carlson, 2011), bend over to retrieve an object, climb in and out of chairs (Allen & Marotz, 2007; Charlesworth, 2008), and move across different width surfaces. Younger children tend to opt for wider walking surfaces (e.g., “bridge” between two platforms, balance beam, and sandbox edge) more often than narrow ones and to choose sturdy supports (e.g., handrails) rather than wobbly ones to help balance themselves (Berger, Adolph, & Lobo, 2005).

Young children in the *yellow* (2–3), *green* (preschool 3), and *blue* (pre-K 4) bands can *sustain balance during simple movement experiences*. Balance plays a significant role in the performance of several fundamental motor skills, such as running and jumping (Zachopoulou, Tsapakidou, & Derri, 2004). Preschoolers now maintain rudimentary dynamic balance as they jump over (Copple & Bredekamp, 2006) or off low steps (Sanders, 2002) or small objects (Beaty, 2002) and walk on a straight line (Allen & Marotz, 2000) or across a wide balance beam (McAfee, 2007).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands make tremendous progress in stability skills as they *sustain balance during complex movement experiences*. Balance is a key component of most movements but is especially important for the complex movements in games or dance (Kostelnik et al., 2004). In general, children in the upper end of the age band find these balancing tasks easier and are more competent than children at the lower end of the band (Robert, 1999) as “they integrate previously acquired skills into more complex actions” (Tomlinson, 2009, p. 189).

Objective 5. Demonstrates balancing skills

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6. Demonstrates gross-motor manipulative skills

Infants in the *red* band (birth–1) *reach, grasp, and release objects*. To do this, they must be able to make successful contact with the object, retain it in their grasp, and release it at will (Gallahue & Ozmun, 2006). During this period, infants swipe at, drop, or throw objects or toys (Charlesworth, 2008) rather than intentionally putting them down (Allen & Marotz, 2007). Moderate visual stimulation (e.g., mobile over the crib) can enhance infants' early reaching abilities (Berk, 2009). Around 8–11 months reaching and grasping are well-rehearsed by the infant, which frees his attention from the motor skill itself to events that occurred before and after obtaining the object (Berk, 2009).

In the *orange* (1–2) and *yellow* (2–3) bands, infants and toddlers *manipulate balls or similar objects with stiff body movements*. Early in the period children use both forearms together to shove the ball forward with somewhat jerky movements (Beaty, 2002). Catching is more difficult than throwing, and it develops later than catching (Beaty, 2002). Early on children catch balls or other objects against their chest with a rigid upper body (Berk, 2009). Kicking is a complex visual-motor task requiring coordination of the eyes with the feet (Gallahue & Donnelly, 2003). Older toddlers learn to kick and to somewhat direct the motion of balls and other objects (Shelov & Hannemann, 2004) as they use a straight leg and little body movement (Gallahue & Ozmun, 2006; McAfee & Leong, 2007).

Children in the *green* and *blue* bands (preschool 3 and pre-K 4) *manipulate balls or similar objects with flexible body movements*. They begin to throw with more body rotation and arm range and with increased transfer of weight on their feet (Beaty, 2002; Berk, 2009; Gallahue & Donnelly, 2003). Their aim improves (Allen & Marotz, 2000), but the distance they throw is still limited (Allen & Marotz, 2000). At first they catch with slight involvement of their upper body with arms extended (Charlesworth, 2008), trapping the object against their chest in a “basket catch” fashion (Gallahue & Donnelly, 2003). Kicking abilities have improved for children in this age band. They now flex their lower leg on the backward lift and straight on the forward swing (Gallahue & Ozmun, 2006; McAfee & Leong, 2007).

In the *blue* (pre-K 4) and *purple* (kindergarten) bands children *manipulate balls or similar objects with a full range of motion* that is similar to that of older children. They now throw by stepping forward with the leg that is on the same side as the throwing arm (Beaty, 2002; Gallahue & Donnelly, 2003). Their motions are flexible, involving the shoulders, torso, trunk, and legs, which makes the ball travel faster and farther (Berk, 2009). When they catch a thrown ball in their hands, they use mature, whole-body catching patterns that require upper body maturity and eye-hand coordination to track the thrown ball (Beaty, 2002). Their kicking resembles a relatively mature pattern as they use a smooth, continuous running step (Gallahue & Ozmun, 2006; Sanders, 2006; Tomlinson, 2009).

Objective 6. Demonstrates gross-motor manipulative skills

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Objective 7. Demonstrates fine-motor strength and coordination

a. Uses fingers and hands

Infants in the *red* band (birth–1) *reach for, touch, and hold objects purposefully*. In the first several months, infants exhibit reflexive motor actions (Ahola & Kovacik, 2007). The Palmar grasp reflex, which occurs around 3–4 months, “prepares the infant for voluntary grasping” (Berk, 2009, p. 128). Being able to reach and grasp allows the child to explore the environment in new ways (Ahola & Kovacik, 2007; Berk, 2009). Infants engage in pre-reaching or swiping at an object without making contact (Ahola & Kovacik, 2007; Berk, 2009) before they can actually grasp an object. Around 3–4 months, they begin to grasp objects with the fingers closed around the palm (ulnar grasp) in an attempt to hold on to something. Between 6–8 months the grasp will improve as the infant begins to use wrist movements. Toward the end of the period, they use the thumb and index finger in opposition to one another (pincer grasp) (Berk, 2009; Shelov & Hannemann, 2004). This allows the infant to pick up finger foods or small items (Allen, K. E., & Marotz, L. R., 2007) and to manipulate objects, as in banging blocks together (Shelov & Hannemann, 2004).

Children in the *orange* (1–2) and *yellow* (2–3) bands *use fingers and whole-arm movements to manipulate and explore objects*. They can stack blocks and fill and dump containers using materials such as blocks, sand, and water (Allen & Marotz, 2007). As they progress, they better coordinate movements of the wrist, fingers, and palm, allowing them to manipulate objects as in rotating knobs (Ahola, D., & Kovacik, A., 2007; Shelov & Hannemann, 2004), unscrewing jar lids, and tearing paper (Kostelnik et al., 2004).

Children in the *yellow* (2–3), *green* (preschool 3), and *blue* (pre-K 4) bands *use refined wrist and finger movements*. Although they make tremendous progress in manual dexterity during this period, they cannot be expected to “perform tasks requiring precise control of the hand muscles, careful perceptual judgment involving eye-hand coordination, and refined movements requiring steadiness and patience” (Tomlinson & Hyson, 2009, p. 117). They enjoy pounding, rolling, and squeezing clay (Charlesworth, 2008) and become more accurate at hitting pegs with a hammer (Allen & Marotz, 2007). Younger children may use an incorrect grasp to hold scissors as they snip and cut paper with little directional control. Toward the latter part of the age band children hold the scissors correctly and cut paper using more refined movements such as cutting straight lines and turning corners (Kostelnik et al., 2004).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *use small, precise finger and hand movements* as they engage in fine-motor activities. They increasingly manipulate small items with ease as they participate in activities such as placing small pegs in pegboards, stringing small beads, or building three-dimensional structures with small cubes (Charlesworth, 2008). “A child’s attention span usually lengthens during kindergarten, and this development can lead to a greater enjoyment of and involvement in fine-motor activities” (Sanders, 2006, p. 133). They can use scissors easily and accurately and can usually cut curved shapes and pictures from magazines (Kostelnik et al., 2004).

Objective 7. Demonstrates fine-motor strength and coordination

a. Uses fingers and hands

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Objective 7. Demonstrates fine-motor strength and coordination

b. Uses writing and drawing tools

Unlike infants who watch but do not use tools for writing and drawing (Baghban, 2007), children in the *orange* (1–2) and *yellow* (2–3) bands *grasp drawing and writing tools, jabbing at the paper*. Toddlers enjoy using crayons and markers, but their actions are rudimentary, with little control as they grasp the implements with their fist (Allen & Marotz, 2000). Their movements sometimes represent physical actions such as “hopping” as they move the crayon around the paper making dots like a hopping rabbit (Berk, 2009).

Children in the *yellow* (2–3) and *green* (preschool 3) bands *grip drawing and writing tools with their whole hand but may use whole-arm movements to make marks*. Early on children may still jab at the paper but then begin to make fluid motions using their whole arm (McAfee & Leong, 2007). They are inconsistent in their hand positioning (McAfee & Leong, 2007), trying out different grips. Toward the end of the period, they experiment with grasps that more closely resemble a tripod grasp (Allen & Marotz, 2000).

Preschoolers in the *green* and *blue* bands (preschool 3 and pre-K 4) *hold drawing and writing tools by using a three-point finger grip but may hold the instrument too close to one end*. Early in this period the preschooler may experiment with hand preference and with different ways to hold tools (Ahola & Kovacic, 2007) of different kinds and sizes (e.g., large and small crayons, markers, chalk, pencils, pens, and paintbrushes). The four-year-old uses a more efficient tripod grasp to hold writing/drawing tools than do younger preschoolers (Allen & Marotz, 2000, 2007), but she may still experiment with the most comfortable and efficient hand placement.

Children in the *purple* band (kindergarten) *use a three-point finger grip and efficient hand placement when writing and drawing*. Prior experimentation with writing and drawing materials that vary in hardness, diameter, and length (Kostelnik et al., 2004) makes them skillful at gripping a crayon, pencil, markers, or other writing and drawing tools (Allen & Marotz, 2000; Tomlinson, 2009). They may have tried different ways of holding writing and drawing utensils until they gradually learned the grip and angle that maximizes stability and writing efficiency (Tomlinson, 2009).

Objective 7. Demonstrates fine-motor strength and coordination

b. Uses writing and drawing tools

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Language

LANGUAGE OBJECTIVES

- | | | | |
|---|--|----|--|
| 8 | Listens to and understands increasingly complex language | 10 | Uses appropriate conversational and other communication skills |
| 9 | Uses language to express thoughts and needs | | |

Language is the principal tool for establishing and maintaining relationships with adults and other children. Children's desire to communicate their thoughts, ideas, needs, and feelings with others motivates them to develop language (Epstein, 2007). Learning to understand and use words is complex. Language also involves learning about the structure and sequence of speech sounds, vocabulary, grammar, and the rules for engaging in appropriate and effective conversation (Berk, 2003).

Language development begins at birth, but many children do not receive the ongoing experiences that support this learning. By age 3, differences in children's understanding and use of language are enormous (Berk, 2005; Strickland & Shanahan, 2004). Strong language skills are essential for children's success in school and life (Hart & Risley, 2003; Heath & Hogben, 2004; Jalongo, 2008; Kalmar, 2008). Oral language, including grammar, the ability to define words, and listening comprehension, helps provide the foundation and is an ongoing support for literacy (National Early Literacy Panel, 2008; Strickland & Shanahan, 2004).

Children use language to think and to solve problems. Because words represent objects and ideas, language development is closely related to cognitive development. Children with certain types of disabilities face particular challenges in learning to understand and use language effectively.

Family background and culture also affect how children learn language. There are differences in how much mothers talk with their children and what they talk about. Some parents focus on social norms such as turn-taking; others discuss what people are thinking and feeling. There are major differences in the kinds of questions they ask (Pena & Mendez-Perez, 2006).

Teachers are very important in helping children develop a strong foundation in language. Teachers influence language development through the language they use, the way they set up the environment, and the types of experiences they provide. The opportunities children have for sociodramatic play and the level of that play affects children's language development. Higher levels of play allow for increased language and more complex language structures (Heisner, 2005).

Objective 8. Listens to and understands increasingly complex language

a. Comprehends language

Infants and toddlers in the *red* (birth–1) and *orange* (1–2) bands *show an interest in the speech of others*. Newborns are responsive to the pitch range of the human voice (Berk, 2009) and show great pleasure in hearing language (Zero to Three, 2009). They prefer listening to familiar voices, especially their mother’s voice, and to speech in their native tongue (Berk, 2009). Early on, babies turn their eyes and head toward sounds to indicate their interest, and they begin to listen intently to the speech of others (Fahey, 2000). At 12–14 months they learn words when adults name objects that are within sight (PBS, n.d.).

Children in the *orange* (1–2) and *yellow* (2–3) bands *identify familiar people, animals, and objects when prompted*. Children comprehend more words than they can speak (Charlesworth, 2008). During this period, they are rapidly learning many nouns as well as other types of words (e.g., pronouns, verbs, and descriptive and location words) (PBS, n.d.). When asked, they can point to familiar people, body parts, toys, and other objects (Allen & Morotz, 2000; Shelov & Hannemann, 2004). They can also label familiar objects in books (Burns, Griffin, & Snow, 1999).

Preschool children in the *green* and *blue* bands (preschool 3 and pre-K 4) *respond appropriately to specific vocabulary and simple statements, questions, and stories*. The language skills of children during this time period are rapidly increasing, and their language abilities are such that they can be expected to respond to adults’ suggestions, statements, and instructions (Deak, 2003) and to comment about the literal meaning of stories (Snow, Burns, & Griffin, 1998). They comprehend many word meanings and concepts (Fahey, 2000) and show increased ability to listen to and understand conversations, stories, songs, and poems (PBS, n.d.).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *respond appropriately to complex statements, questions, vocabulary, and stories*. Children in these age bands already know the meaning of many words, and their vocabularies grow rapidly. They enjoy asking questions and having explanations provided to them (Tomlinson, 2009). Their questions and comments demonstrate their understanding of the actual meaning of stories. Four-year-olds can connect what they hear in a story being read to events in their lives, and kindergarten children can connect their life experiences to information in texts (Snow, Burns, & Griffin, 1998).

Objective 8. Listens to and understands increasingly complex language

a. Comprehends language

	<ul style="list-style-type: none">• Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston: Pearson/Allyn & Bacon.• Fahey, K.R. (2000). <i>Language development, differences, and disorders</i>. Austin: PRO-ED.
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	<ul style="list-style-type: none">• Burns, S M., Griffin, P., & Snow, C. E. (Eds.) (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• Snow, C. E., Burns, S., & Griffin, P. (Eds.) (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.• Tomlinson, H. B. (2009). Developmentally appropriate practice in the kindergarten year—Ages 5–6. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.). (pp. 187–216). Washington, DC: National Association for the Education of Young Children.

Objective 8. Listens to and understands increasingly complex language

b. Follows directions

Children in the *red* (birth–1) and *orange* (1–2) bands *respond to simple verbal requests accompanied by gestures or tone or voice*. They show sensitivity to variations in the tone of voice when others are excited, sad, angry, or playful, for example (Ahola & Kovacic, 2007; Allen & Marotz, 2007) and can respond appropriately to commands such as “No!” or “Stop!” They understand common phrases and simple directions used in everyday situations, such as “Let’s ride,” as the teacher motions to the wagon (PBS, n.d.).

Children in the *orange* (1–2), *yellow* (2–3), and *green* (preschool 3) bands *follow simple requests not accompanied by gestures*. Although adults may still use gestures, children can follow one- and two-step directions that involve familiar objects and actions (PBS, n.d.) without relying on gestures or tone of voice. They can respond appropriately to simple directives (Allen & Marotz, 2007) such as “Sit down please,” “Stand up,” or “Put the balls in the basket.” The quality of adult-child interactions (i.e., emotional availability) appears to influence toddlers’ compliance to adult requests (Lehman, Steier, Guidash, & Wanna, 2002).

Children in the *yellow* (2–3), *green* (preschool 3), and *blue* (pre-K 4) bands *follow directions of two or more steps that relate to familiar objects and experiences*. Early in the period children are better at understanding and following simple directions, but as they progress in their language and memory capacities, they can understand and follow oral directions (Burns, Griffin, & Snow, 1999) with at least three steps (CDC, 2012a; 2012b). For example, children at the upper age bands can respond appropriately to directives such as “Hang up your painting, put on your coat, and go outside.”

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *follow detailed, instructional, multistep directions*. They progress from responding appropriately to directions that relate to familiar objects and situations to those that are novel. Following directions is easier for them if the next step follows logically from the previous action (PBS, n.d.). Teachers’ perceptions of how well children follow directions upon entering kindergarten may be linked to demographic characteristics such as school district poverty level, school minority composition, and metropolitan status (Rimm-Kaufman, Pianta, & Cox, 2000). However, during the kindergarten year, children learn to follow directions and carry out assignments most of the time and to do what adults request (Allen & Marotz, 2007).

Objective 8. Listens to and understands increasingly complex language

b. Follows directions

	<ul style="list-style-type: none">• Ahola, D., & Kovacik, A. (2007). <i>Observing and understanding child development: A child study manual</i>. Clifton Park, NY: Thomson Delmar Learning.• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning.• Jalongo, M. R. (2008). <i>Learning to listen, listening to learn: Building essential skills in young children</i>. Washington, DC: National Association for the Education of Young Children.• PBS (n.d.). <i>Child Development and Early Child Development Advice/PBS parents: Child development tracker</i>. Retrieved September 7, 2007, from www.pbs.org/parents/childdevelopment/• Shelov, S. P., & Hannemann, R. E. (Eds.) (2004). <i>American Academy of Pediatrics: Caring for your baby and young child: Birth to age five</i>. New York: Bantam Books.
	<ul style="list-style-type: none">• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning.• Lehman, E. B., Steier, A. J., Guidash, K. M., & Wanna, S. Y. (2011). Predictors of compliance in toddlers: Child temperament, maternal personality, and emotional availability. <i>Early Child Development and Care</i>, 172, 301–310.• PBS (n.d.). <i>Child Development and Early Child Development Advice/PBS parents: Child development tracker</i>. Retrieved September 7, 2007, from www.pbs.org/parents/childdevelopment/
	<ul style="list-style-type: none">• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning.• Burns, S. M., Griffin, P., & Snow, C. E. (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• Centers for Disease Control and Prevention (CDC) (2012a). <i>Important Milestones: Your child at two years</i>. Retrieved from www.cdc.gov/ncbddd/actearly/milestones-2yr.html• CDC (2012b). <i>Important Milestones: Your child at three years</i>. Retrieved from www.cdc.gov/ncbddd/actearly/milestones-3yr.html• PBS (n.d.). <i>Child Development and Early Child Development Advice/PBS parents: Child development tracker</i>. Retrieved September 7, 2007, from www.pbs.org/parents/childdevelopment/
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Objective 9. Uses language to express thoughts and needs

a. Uses an expanding expressive vocabulary

Infants in the *red* band (birth–1) *vocalize and gesture to communicate* their needs and to make contact with others. They engage in behaviors such as crying, cooing (about 3 months), and babbling, (approximately 7–8 months) (Berk, 2009; Trawick-Smith, 2010). They are very skillful at attracting and maintaining the attention of familiar, responsive people (Zero to Three, 2009). They may declaratively point to share attention and interest with adults (Liszkowski, Carpenter, Henning, Striano, & Tomasello, 2004). In addition to pointing, mobile infants also learn to use simple gestures such as reaching up, pushing away, bouncing, and shaking their heads to communicate (Zero to Three, 2009).

Children in the *orange* (1–2) and *yellow* (2–3) bands *name familiar people, animals, and objects*. Beginning around 20 months, children develop a preference for using words as opposed to gesturing, and this preference and ability grows increasingly stronger (DeLoache, 2004). Vocabulary words at this time include many nouns (i.e., names of common objects and familiar people). Action words, descriptive words, pronouns, and location words also increase during this period. During this time children also normally learn quantifiers (e.g., *more, all, some*) and question words (e.g., *why, where, who, when*) (PBS, n.d.).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *describe and tell the uses of many familiar items*. During this children continue to increase their vocabularies for various types of words: nouns (e.g., common objects and familiar people), pronouns, quantifiers, interrogative, action, descriptive, connecting (e.g., *and, because, but, if*), number, location, and category (e.g., toys, furniture, clothes, fruits, and animals) (PBS, n.d.). They use functional definitions saying, for example, “a shoe is to wear” or “a marker is to draw with” (Allen & Marotz, 2007). Involvement in sociodramatic play stimulates children to use language to convey meaning and to interpret ideas (Neuman & Dickinson, 2002).

When children progress to the *purple* band (kindergarten), they *incorporate new, less familiar, or technical words in everyday conversations*. Kindergartners use their growing vocabulary in daily activities and interactions. They are better able than younger children to use their increasing vocabulary to describe an object among a group of similar objects in a way that differentiates it (Tomlinson, 2009). Between 5–6 they provide detailed descriptions of objects and their functions (Ahola & Kovacik, 2007). As they engage in inquiry, learn more about their world, and construct new concepts, they begin to use specialized vocabulary, such as, scientific words or vocabulary related to technology (Roskos, Tabors, & Lenhart, 2004).

Objective 9. Uses language to express thoughts and needs

a. Uses an expanding expressive vocabulary

	<ul style="list-style-type: none">• Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston: Pearson/Allyn & Bacon.• Liszkowski, U., Carpenter, M., Henning, A., Striano, T., & Tomasello, M. (2004). Twelve-month-olds point to share attention and interest. <i>Developmental Science</i>, 7(3), 297–307.• Trawick-Smith, J. (2010). <i>Early childhood development: A multicultural perspective</i> (5th ed.). Upper Saddle River, NJ: Pearson.• Zero to Three (2009). The infant and toddler years: Development in the first three years of life. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.). (pp. 53–73). Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Charlesworth, R. (2008). <i>Understanding child development</i>, (7th ed.). Belmont, CA: Wadsworth Thomson Delmar Learning.• DeLoache, J. S. (2004). Becoming symbol-minded. <i>Trends in Cognitive Sciences</i>, 8(2), 66–70.• Fahey, K.R. (2000). <i>Language development, differences, and disorders</i>. Austin: PRO-ED.• PBS (n.d.). <i>Child Development and Early Child Development Advice/PBS parents: Child development tracker</i>. Retrieved September 7, 2007, from www.pbs.org/parents/childdevelopment/
	<ul style="list-style-type: none">• Ahola, D., & Kovacic, A. (2007). <i>Observing and understanding child development: A child study manual</i>. Clifton Park, NY: Thomson Delmar Learning.• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning.• Neuman, S.B. & Dickinson, D.K. (2002). <i>Handbook of early literacy research</i>. New York: Guildford Press.• PBS (n.d.). <i>Child Development and Early Child Development Advice/PBS parents: Child development tracker</i>. Retrieved September 7, 2007, from www.pbs.org/parents/childdevelopment/
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Objective 9. Uses language to express thoughts and needs

b. Speaks clearly

Infants in the *red* band (birth–1) *babble strings of single consonant sounds and combine sounds*. During this period infants engage in repetitive vocalizations or babbling that increasingly become more elaborate and influenced by the speech of others (Trawick-Smith, 2006). At about 11 months they use multiple-syllable babbling such as saying “dadada” (Roskos, Tabors, & Lenhart, 2004). They soon begin to put together the familiar sounds of the languages in their environment into “expressive jargon” or “gibberish” that sounds like sentences but does not contain meaningful words (Zero to Three, 2009).

Children in the *orange* (1–2) and *yellow* (2–3) bands *use some words and word-like sounds and are understood by most familiar people*. Babies’ earliest words may not be understood even by familiar people (Trawick-Smith, 2006). The more familiar the person becomes with the child and the more communicative interactions they have, the more the child’s speech efforts will be understood. Some word misunderstandings result from the child’s overextensions (applies a word to a wider set of objects and events than is appropriate), underextensions (applying words too narrowly), or word coinage (making up new words to replace words not yet mastered) (Berk, 2009). Around 13–24 months a child’s speech production is usually 25% to 50% intelligible (Fahey, 2000).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *are understood by most people; they may mispronounce new, long, or unusual words*. Children now articulate clearly enough to be understood by peers (Fahey, 2000; Trawick-Smith, J., 2010), and by 47 months they can be understood by strangers most of the time (Roskos, Tabors, & Lenhart 2004). However, some mispronunciations are still common in the preschool years, primarily because of their lack of auditory discrimination (Kostelnik et al., 2004).

As children proceed to the *purple* band (kindergarten), *they can pronounce multisyllabic or unusual words correctly*. In general, they have mastered complicated syllable arrangements of long words (Fahey, K.R., 2000), and they pronounce most words with little difficulty (Bredekamp & Copple, 1997). Their burgeoning interest in their world propels them to ask questions, conduct explorations, and to “read” books about particular topics of interest. During project study young investigators often copy and save words about things in which they are interested (Helm & Katz, 2011), propelling them to learn new and unusual words not part of their everyday vocabulary.

Objective 9. Uses language to express thoughts and needs

b. Speaks clearly

	<ul style="list-style-type: none">• Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston: Pearson/Allyn & Bacon.• Trawick-Smith, J. (2006). <i>Early Childhood Development: A multicultural perspective</i>. (4th ed.). Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.• Roskos, K., Tabors, P., & Lenhart, L. (2004). <i>Oral language and early literacy in preschool</i>. Newark, DE: International Reading Association.• Zero to Three (2009). The infant and toddler years: Development in the first three years of life. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.). (pp. 53–73). Washington, DC: National Association for the Education of Young Children.
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Objective 9. Uses language to express thoughts and needs

c. Uses conventional grammar

Children in the *orange* (1–2) and *yellow* (2–3) bands use *one- or two-word sentences or phrases* to express their thoughts and needs. Young children’s development of grammatical function words (e.g., prepositions, determiners, and pronouns) emerge later in lexical development than concrete nouns (Conboy & Thal, 2006). Between 1 1/2 and 2 1/2 years children can form two-word utterances as they shift from previous word-gesture combinations to joining two words such as “Daddy ball” or “More juice” (Berk, 2009; Roskos, Tabors, & Lenhart, 2004; Trawick-Smith, 2010). Children as young as 24 months can learn novel nouns in both context-rich and context-sparse settings. However, it appears that a context-rich setting is required for them to learn the meanings of novel verbs (Arunachalam & Waxman, 2011).

Children in the *yellow* (2–3) and *green* (preschool 3) bands use *three- to four-word sentences; may omit some words, or use some words incorrectly*. During these age bands children communicate using a series of simple sentences to relate their ideas (PBS, n.d.). In the third year, three-word sentences appear in which English-speaking children follow a specific word order (i.e., subject-verb-object) (Berk, 2009). Most preschoolers will still make some grammatical mistakes involving plurals (e.g., “mices”) or past-tense irregular verbs (“I goed”) (Tomlinson & Hyson, 2009).

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands use *complete, four- to six-word sentences*. As children gain vocabulary and more experience with language, they are better able to use words that do grammatical work (Conboy & Thal, 2006). During this period children produce more complex constructions (Allen & Marotz, 2000; Hulit & Howard, 2002), and their language usage increasingly conforms to the grammatical rules of their home language (Berk, 2009).

Children in the *purple* (kindergarten) band use *long, complex sentences and follow most grammatical rules*. By this age, children’s language and the language of adults are similar. Their language is complex and intricate (Strickland & Morrow, 1989). They produce involved sentences (Berk, 2009) of five to seven words, and it is not uncommon for their sentences to be even longer (Allen & Marotz, 2000). Kindergartners understand much about the structure of sentences, and they use correct grammatical structures most of the time (Tomlinson, 2009).

Objective 9. Uses language to express thoughts and needs

c. Uses conventional grammar

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Objective 9. Uses language to express thoughts and needs

d. Tells about another time or place

Children in the *orange* (1–2) and *yellow* (2–3) bands *make simple statements about recent events and familiar people and objects that are not present*. At first they comprehend words for present people or objects and actions and then understand words that represent absent people and objects (Miller, Chapman, Branston, & Reichle, 1980). “As early as 1 1/2 to 2 years, children start to talk about the past” (Berk, 2009, p. 297). This new accomplishment may be relatively simple, such as going to the classroom door and saying, “Nana!” “Nana!” when told her grandmother will be picking her up. The ability to understand what another is talking about and to communicate it when the topic of conversation is not present (Jalongo, 2008) is a major achievement in children’s language and cognitive development (Allen & Marotz, 2000).

As children progress to the *yellow* (2–3) and *green* (preschool 3) bands, they *tell simple stories about objects, events, and people not present; they lack many details and a conventional beginning, middle, and end*. Children begin to tell about personal experiences by offering the main events at first, leaving out much of the contextual details necessary for a non-participant to understand the story (PBS, n.d.). Early during this period their “storylike” narratives are rather primitive (Strickland & Schickendanz, 2004) and may not appear to be real stories (Hulit & Howard, 2002). Children may repeat the same words over and over and be playful or even silly as they tell their stories (Morrow, 2007).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *tell stories about other times and places that have a logical order and that include major details*. When children have been read many stories, their narratives begin to resemble the formal structures of stories (Schickendanz, 1999). Children begin telling stories from their personal experiences. Prompts may be required for the child to provide the major details to someone unfamiliar with the event so the child will not omit important elements or include superfluous details (PBS, n.d.). Older preschool and kindergartners will state the “who,” “when,” and “where” in their narratives about occurrences outside of school most of the time (Bowman, Donovan, & Burns, 2001).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *tell elaborate stories that refer to other times and places*. Between 4 1/2 and 5, children begin to create chronological narratives that build to a high point (Berk, 2009). Although the stories of kindergartners have a coherent plot, structure, and theme (Curenton, 2006), they still lack the intricate plots and particulars evidenced by older children and adults (Hulit & Howard, 2002). The setting (i.e., home, school, or car) can influence children’s topics of conversation (e.g., persons, school projects, and play) and time referents (i.e. past, present, or future events) (Marvin, 1994, 1995).

Objective 9. Uses language to express thoughts and needs
d. Tells about another time or place

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	<ul style="list-style-type: none"> • Schickendanz, J. A. (1999). <i>Much more than the ABC's</i>. Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none"> • Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston: Pearson/Allyn and Bacon. • Curenton, S. M. (2006). Research in review - Oral storytelling: A cultural art that promotes school readiness. <i>Young Children</i>, 61(5), 78–89. • Fahey, K.R. (2000). <i>Language development, differences, and disorders</i>. Austin: PRO-ED.
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Objective 10. Uses appropriate conversational and other communication skills

a. Engages in conversations

Infants and toddlers in the *red* (birth–1) and *orange* (1–2) bands *engage in simple back-and-forth exchanges with others*. During the first few months of life, infants participate as a conversational partner (Zero to Three, 2009) as they imitate the sounds and vocalizations made by others (Fahey, 2000). By 3 months, a time when many infants are placed in out-of-home care settings, they are quite adept at catching and maintaining the attention of familiar, responsive people. They smile, laugh, cuddle, coo, reach out, and hold tight and engage with others “in back-and-forth exchanges of gazes, grimaces, and grins” (Zero to Three, 2009, p. 55). They take vocal turns (Fahey, 2000), and during the first year, babies begin to babble with inflection (Shelov & Hannemann, 2004). During the second year, they begin to repeat the words they hear during a conversation (Shelov & Hannemann, 2004).

Children in the *orange* (1–2) and *yellow* (2–3) bands *initiate and attend to brief conversations*. Early during this period children show an awareness of the back and forth aspects of conversational exchanges. They engage in vocal interactions by making and imitating sounds (Allen & Marotz, 2007). As they begin to participate in true conversations, these are brief, with about two exchanges per conversational topic (Hulit & Howard, 2002; McAfee & Leong, 2007). Children may maintain the conversation by repeating the words or phrases of their conversational partner.

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands *engage in conversations of at least three exchanges*. Many preschoolers use narratives to begin a conversation (Bowman, Donovan, & Burns, 2001). Play settings may promote language that is longer and representative of preschoolers’ true conversational abilities (Schober-Peterson & Johnson, 1989). They change their speech as they assume different roles (e.g., firefighter, mother, or teacher) (McAfee & Leong, 2007). Enacting scenarios, describing, and problem solving seem to elicit longer conversations with 4-year-old children than other types of situations (Schober-Peterson & Johnson, 1989).

Children in the *purple* band (kindergarten) *engage in complex, lengthy conversations (five or more exchanges)*. They are skillful at sustaining conversations that are long and involved as they converse with both peers and adults (Tomlinson, 2009). They draw upon their conversational repair abilities to maintain conversations by changing words and asking their speech partner for clarification (Hulit & Howard, 2002). During their conversations, kindergartners change or modify the topic gradually and adjust their speech to the need of the listener (e.g., adding additional information, simplifying language) (McAfee & Leong, 2007).

Objective 10. Uses appropriate conversational and other communication skills

a. Engages in conversations

	<ul style="list-style-type: none">• Fahey, K.R. (2000). <i>Language development, differences, and disorders</i>. Austin: PRO-ED.• Shelov, S. P., & Hannemann, R. E. (Eds.) (2004). <i>American Academy of Pediatrics: Caring for your baby and young child: Birth to age five</i>. New York: Bantam Books.
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Objective 10. Uses appropriate conversational and other communication skills

b. Uses social rules of language

Children in the *orange* band (1–2) *respond to speech by looking toward the speaker; watch for signs of being understood when communicating.* During this period children extend their joint attention and culturally derived (Trawick-Smith, 2006) social interactions begun earlier (Berk, 2009). They use gestures (e.g., pointing toward the object of conversation) and other behaviors (e.g., pulling at the adult's coat sleeve) to direct attention or to clarify messages not clearly communicated (Berk, 2009). Children in this age band appear to be aware of the back and forth aspects of conversational exchanges, and they engage in some turn-taking (Allen & Marotz, 2007).

Children in the *orange* (1–2), *yellow* (2–3), and *green* (preschool 3) bands *use appropriate eye contact, pauses, and simple verbal prompts when communicating.* Culture influences children's facial expressions and the meanings of timing and pauses, which may be different from those in mainstream American culture (Trawick-Smith, 2006). Children in these age bands generally look at the speaker to indicate they are listening (Trawick-Smith, 2006). At about 35–40 months they begin to understand the meaning and probable consequences of short and long pauses in conversations (i.e., conversation continues or conversation ends) (Hulit & Howard, 2002). During this period, children, particularly in the younger age bands, sometimes have difficulty waiting for their turn and may need verbal prompts as reminders (Bredenkamp & Copple, 1997).

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands *use acceptable language and social rules while communicating with others; may need reminders.* Preschoolers have learned many language conventions that govern the social situations (Strickland, 2006) of their culture (Trawick-Smith, 2006). They enjoy having their turn to talk, and they typically do not interrupt an individual speaker. However, they may find it difficult to wait their turn in group conversation (PBS, n.d.), and reminders may be needed. Preschoolers generally use acceptable volume, tone, and inflection in their conversations (PBS, n.d.). They can "use polite language forms to request (*please*), interrupt (*excuse me*), or thank others" (Fahey, 2000, p. 111).

Children in the *purple* band (kindergarten) *use acceptable language and social rules during communication with others.* They are skillful at using different voice levels, phrasing, and rate of speech appropriate to the audience, purpose, and situation (Fahey, 2000; McAfee & Leong, 2007; PBS, n.d.; Tomlinson, 2009). They use suitable language when answering and talking on the telephone (Allen & Marotz, 2007) and when responding to greetings and conversational initiations such as *Hi.* and *How are you?*

Objective 10. Uses appropriate conversational and other communication skills

b. Uses social rules of language

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Cognitive

COGNITIVE OBJECTIVES

- | | | | |
|----|--|----|--|
| 11 | Demonstrates positive approaches to learning | 13 | Uses classification skills |
| 12 | Remembers and connects experiences | 14 | Uses symbols and images to represent something not present |

Cognitive development, also called intellectual development, is influenced by the child's approaches to learning as well as his or her biological makeup and the environment. A child's background knowledge, or knowledge base, also affects the way a child thinks. This background knowledge influences the child's information processing, memory, classification, problem solving, language acquisition, and reading and mathematics learning (Bjorklund, 2005; McAfee & Leong, 1994). What and how children learn often varies considerably from culture to culture, and minor variations exist in the ways children within a cultural group perform specific cognitive tasks (Trawick-Smith, 2006). Some children have disabilities that interfere with the development of their conceptual and reasoning skills (Cook, Klein, & Tessier, 2004).

Children who have positive approaches to learning are more likely to succeed academically and to have more positive interactions with peers (Fantuzzo, Perry, & McDermott, 2004; Hyson, 2005, 2008; McWayne, Fantuzzo, & McDermott, 2004; Yen, Konold, & McDermott, 2004). These dispositions and behaviors must be nurtured by effective curriculum and intentional teaching methods (Hyson, 2005, 2008; Hyson, Buch, Fantuzzo, & Scott-Little, 2006).

The physical environment of the classroom and the kinds of interactions children have with adults and other children influence the way children approach learning and influence other aspects of their cognitive development. Play is important for learning; researchers have found many connections between cognitive competence and play, particularly high-quality dramatic play. The benefits of play include self-regulation; memory development; divergent thinking; problem solving; language development; and academic skill development in literacy, math, social studies, and science (Bergen, 2002; Bodrova & Leong, 2004; Charlesworth, 2007; Krafft & Berk, 1998; Fantuzzo & McWayne, 2002; Howes & Matheson, 1992; Klein, Wirth, & Linas, 2004; Newman, 1990; Nourot & Van Hoorn, 1991; O'Reilly & Bornstein, 1993; Smilansky & Shefatya, 1990; Steglin, 2005).

Objective 11. Demonstrates positive approaches to learning

a. Attends and engages

Infants and toddlers in the *red* (0–1) and *orange* (1–2) bands *pay attention to sights and sounds*. Infants and toddlers attend to and engage with things they find interesting (Hyson, 2008; PBS, n.d.). At first infants participate in very basic engagement, such as looking (Hyson, 2008). They like to watch nearby people, objects, and activities (Allen & Marotz, 2007). Young infants will stare intently at mobiles with highly contrasting colors and geometric designs (Allen & Marotz, 2007; Berk, 2009). Human faces, including their own, capture their attention (Berk, 2009), and they enjoy unbreakable crib and wall mirrors by focusing attention on the reflection of the “baby” (Bronson, 1995). They also attend to the sounds around them. Young infants listen longer to human speech sounds than to similar non-human sounds (Berk, 2009), and they enjoy listening to live or recorded music. Many of the activities during which children of these ages attend are those experiences shared with adults (Hyson, 2008). Babies several months old become absorbed in mutual gazing, cooing, and smiling behaviors (Berk, 2009). Older infants and toddlers enjoy joint activities, such as looking at picture books (Hyson, 2008) and listening to rhymes and songs, occasionally joining in the activity (Allen & Marotz, 2007).

Children in the *yellow* (2–3) and *green* (preschool 3) bands *sustain interest in working on a task, especially when adults offer suggestions, questions, and comments*. Signs of attending include the ability to ignore distractions and to respond to adults’ gestural and verbal cues for attention (McAfee & Leong, 2007). Two-year-olds look at things for long moments and become engrossed in trying to understand a situation, such as figuring out what is making a particular sound (Allen & Marotz, 2007). Children’s attention is longer, and they can remain focused for longer periods of time when they select activities for themselves (Charlesworth, 2008). Adult guidance and adequate time for sustained play also contribute to children’s attention and engagement (Tomlinson & Hyson, 2009). Three-year-olds are better able than younger children to ignore distractions while playing and to focus on the current task (Hyson, 2008).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *sustain work on age-appropriate, interesting tasks; can ignore most distractions and interruptions*. Older preschool and kindergarten children have an increased ability to focus their attention. They can ignore more distractions and interruptions than previously and can communicate to others their desire not to be interrupted (Hyson, 2008). Their attention and engagement vary as a function of different factors: global classroom quality, setting type/group configurations (i.e., whole group, small group, or individual) and teacher behaviors/interactions (e.g., positive affirmations, social talk, and directions and instructions). Children in high-quality kindergarten programs have higher behavioral engagement and spend less time “off-task” than children in programs of lower quality (Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009; Rimm-Kaufman, LaParo, Downer, & Pianta, 2005), and they tend to be more engaged when they are in small versus whole group settings (Rimm-Kaufman et al., 2005). The teacher’s positive affirmations and monitoring behaviors can increase preschool children’s engagement, whereas whole group settings where teachers mainly provide directions are less likely to encourage children’s attention and engagement (Powell, Burchinal, File, & Kontos, 2009).

Children in the *purple* (kindergarten) band *sustain attention to tasks or projects over time (days to weeks); can return to activities after interruptions*. Although older preschool children begin to carry over topics and projects from one day to the next (Copple & Bredekamp, 2006), kindergarten children are able to maintain longer-term, more complex activities and projects. They “still have limited attention spans when compared with older children or adults unless they are pursuing self-chosen goals in play, which are highly motivating” (Berk, 2006, p. 15). Advances in the brain development of fives provide them with greater cognitive inhibition that allow kindergartners to stay focused for longer periods of time without becoming distracted and drifting to alternative thoughts (Berk, 2006). They can attend and work on activities for about 20 minutes (Tomlinson, 2009) and for much longer if it is something that they have selected and in which they have great interest (Hyson, 2008), such as projects or in-depth studies (Katz & Chard, 1995). Kindergarten children can also follow through on new tasks that they themselves have chosen and that may take several days, such as learning to ride a bike (Hyson, 2008; PBS, n.d.).

Objective 11. Demonstrates positive approaches to learning

a. Attends and engages

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	<ul style="list-style-type: none">• Berk, L. E. (2006). Looking at kindergarten children. In D. F. Gullo (Ed.), <i>K today: Teaching and learning in the kindergarten year</i> (pp. 11–25). Washington, DC: National Association for the Education of Young Children.• Copple, C., & Bredekamp, S. (2006). <i>Basics of developmentally appropriate practice: An introduction for teachers of children 3 to 6</i>. Washington, DC: National Association for the Education of Young Children.• Hyson, M. (2008). <i>Enthusiastic and engaged learners: Approaches to learning in the early childhood classroom</i>. New York: Teachers College Press.• Katz, L. G., & Chard, S. C. (1995). <i>Engaging children's minds: The project approach</i>. Norwood, NJ: Ablex.• Public Broadcasting System (PBS) (n.d.) <i>Child development and early child development advice/PBS parents: Child development tracker</i>. Retrieved May 8, 2007, from www.pbs.org/parents/childdevelopment/• Tomlinson, H. B. (2009). Developmentally appropriate practice in the kindergarten year – Ages 5–6. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8 (3rd ed.)</i>, (pp. 187–216). Washington, DC: National Association for the Education of Young Children.

Objective 11. Demonstrates positive approaches to learning

b. Persists

Children in the *red* (0–1) and *orange* (1–2) bands *repeat actions to obtain similar results*. Beginning in their first year, children show persistence as they repeat actions to make pleasurable sights, sounds, and interactions continue (Bredekamp & Copple, 1997; Zero to Three, 2009). Younger infants may coo or smile at people with whom they have had pleasurable communicative exchanges, or they may kick to see the mobile move and then do it over again (Zero to Three, 2009). Toddlers are intrigued by words and the responses they get when using them. They may continue to search for a hidden object in the same location where they previously found it (Allen & Marotz, 2007).

Children in the *orange* (1–2), *yellow* (2–3), and *green* (preschool 3) bands *practice an activity many times until successful*. One-year-old children show pleasure, such as by clapping, when they complete simple tasks (PBS, n.d.). Twos begin to persist with a wider range of tasks and will carry out an activity many times in order to master it (Hyson, 2008; PBS, n.d.). Three-year-olds repeat activities to test their skill (Copple & Bredekamp, 2006). They expand their abilities to independently complete a variety of self-help tasks and may refuse adult assistance (e.g., try repeatedly to put on a coat) (PBS, n.d.).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *plan and pursue a variety of appropriately challenging tasks*. Preschool and kindergarten children engage in not only tasks that are easy for them to accomplish, but they also persist at a challenging task that requires them “to tolerate frustration and to work through it to achieve a positive outcome” (Hyson, 2008, p. 17). Threes will persist in completing a task that is somewhat difficult, and fours increasingly can make simple plans and complete challenging tasks (Hyson, 2008; PBS, n.d.). Four-year-olds also show interest in a variety of different things, and they increasingly engage in content-related tasks (e.g., literacy, mathematics, and science) or other activities that may challenge their abilities (Copple & Bredekamp, 2006). Kindergartners are increasingly capable of using their planning abilities to pursue challenging tasks (Berk, 2006).

Children in the *purple* (kindergarten) band *plan and pursue their own goal until it is reached*. Fives are gaining in their ability to plan ahead, and they frequently pursue activities with a result or end product in mind (Berk, 2006; Copple & Bredekamp, 2006). They can plan for familiar events (i.e., going grocery shopping), including making plans to prevent mishaps and finding solutions if they should occur (Hudson, Shapiro, & Sosa, 1995). They show interest and skill in learning tasks of their choosing and can follow them through to completion (PBS, n.d.).

Objective 11. Demonstrates positive approaches to learning

b. Persists

	<ul style="list-style-type: none">• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning.• Bredekamp, S., & Copple, C. (Eds.) (1997). <i>Developmentally appropriate practice in early childhood programs</i> (Revised ed.). Washington, DC: National Association for the Education of Young Children.• Zero to Three (2009). The infant and toddler years: Development in the first three years of life. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 53–73). Washington, DC: National Association for the Education of Young Children.
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Objective 11. Demonstrates positive approaches to learning

c. Solves problems

Children in the *red* (0–1) and *orange* (1–2) bands *react to a problem; seek to achieve a specific goal*. Problem-solving abilities generally begin during the later part of the first year of life (Bjorklund, 2005). Children use various physical or motor-based strategies to solve problems and reach simple goals (Hyson, 2008; McMullen & Darling, 2003). Although children develop new problem-solving techniques during this period, they still depend almost exclusively on trial and error (Bjorklund, 2005). Toddlers can recognize a problem and their physical limitations in reaching their desired goal. By gathering information through exploration and utilizing trial and error strategies, they can select the more effective solution (Berger, Adolph, & Lobo, 2005).

Children in the *yellow* (2–3) and *green* (preschool 3) bands observe and imitate how other people solve problems, ask for a solution, and use it. Children now are beginning to work out problem solutions mentally rather than by relying exclusively on trial and error (Bronson, 1995). During this period, by observing others, children can imitate the way they solve problems. For example, they may watch how an older child or adult balances a simple house of blocks and then copy the structure themselves (Bjorklund, 2005). Children begin to think more systematically, and they benefit from conversations with adults and peers (Hyson, 2008). They increasingly are able to ask for help on tasks they find demanding (Hyson, 2008), but they may not accept the assistance (PBS, n.d.).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *solve problems without having to try every possibility*. Preschoolers are more flexible in their thinking than younger children and can draw on varied resources to help them solve problems (Hyson, 2008). Threes begin to anticipate the consequences of their actions (Tomlinson & Hyson, 2009) and to internalize and utilize symbols to solve problems without having to rely upon sensorimotor and trial and error strategies (McMullen & Darling, 2003). Although older preschool children can be taught problem-solving skills (Joseph & Strain, 2010), children's play provides many dilemmas for them to solve (Smith & Dutton, 1979). Play is one of the first real opportunities for problem solving and can produce faster problem solving for innovative tasks than training can (Smith & Dutton, 1979). Toward the later part of the period, fours and kindergartners begin to employ strategies to generate solutions to problems (e.g., self-correcting, correcting others, and checking) and to monitor their success (Roskos & Christie, 2002).

Children in the *purple* (kindergarten) band *think problems through, considering several possibilities and analyzing results*. Kindergarten children become increasingly able to think of different possibilities and solutions to problems. A child can "use varied and flexible approaches to solve longer-term or more abstract challenges (e.g., when planning to have friends over on a rainy day, thinks about how to deal with a limited space to play)" (Hyson, 2008, p. 137). Children can analyze multifaceted problems more precisely to identify the type of help needed (Hyson, 2008). With teacher support kindergartners can utilize strategies to help them solve problems (e.g., think aloud, work backwards, trial and error, and breaking the problem into smaller steps (McAfee & Leong, 2007) and to find ways to record and analyze results (Linder, 2012).

Objective 11. Demonstrates positive approaches to learning
c. Solves problems

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	<ul style="list-style-type: none"> • Bronson, M. B. (1995). <i>The right stuff for children birth to 8: Selecting play materials to support development</i>. Washington, DC: National Association for the Education of Young Children. • Hyson, M. (2008). <i>Enthusiastic and engaged learners: Approaches to learning in the early childhood classroom</i>. New York: Teachers College Press. • Public Broadcasting System (PBS) (n.d.). <i>Child development and early child development advice/PBS parents: Child development tracker</i>. Retrieved May 8, 2007, from www.pbs.org/parents/childdevelopment/
	<ul style="list-style-type: none"> • Hyson, M. (2008). <i>Enthusiastic and engaged learners: Approaches to learning in the early childhood classroom</i>. New York: Teachers College Press.
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	<ul style="list-style-type: none"> • Hyson, M. (2008). <i>Enthusiastic and engaged learners: Approaches to learning in the early childhood classroom</i>. New York: Teachers College Press. • Linder, S. M. (2012). Interactive whiteboards in early childhood mathematics: Strategies for effective implementation in pre-K– grade 3. <i>Young Children</i>, 67(3), 26–35. • McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.

Objective 11. Demonstrates positive approaches to learning

d. Shows curiosity and motivation

Children in the *red* (birth–1) and *orange* (1–2) bands *use senses to explore the immediate environment*. Infants and young children appear to be driven by their curiosity and an intense need to explore their world. From birth to 6 months, infants explore with their eyes and ears and then begin to investigate with their hands, feet, and mouth (Bronson, 1995). They actively participate in various sensory experiences (e.g., tastes, touches, pats, and shakes) (Hyson, 2008), and they discover that they can alter what they see, hear, or feel through their own actions (Zero to Three, 2012). Increased motor abilities during the first year allow infants to gain access to more interesting objects and events in their environment (Garner & Bergen, 2006), and they enthusiastically use their senses to purposefully explore everything within reach (Hyson, 2008). Toddlers continue to obtain information about their world through their senses (PBS, n.d.). They show curiosity by constantly experimenting with and exploring objects (Bronson, 1995).

Children in the *yellow* (2–3) and *green* (preschool 3) bands *explore and investigate ways to make something happen*. Twos continue to show curiosity and enjoyment in their daily explorations (PBS, n.d.). They become very interested in the processes involved in creative activities and exploring materials to see what they can do with them (Bronson, 1995). They now understand simple cause and effect relationships and enjoy acting on objects to see the results (Bronson, 1995). Threes continue to explore and investigate using all their senses, seek new challenges, and ask questions (Hyson, 2008).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *show eagerness to learn about a variety of topics and ideas*. Preschool and kindergarten children are curious about the things in their world. Threes like to take things apart to see what's inside and how it works, and they experiment with cause and effect relationships (Copple & Bredekamp, 2006). Fours want to try new experiences and may ask to participate in activities like those of other children (Hyson, 2008). They are interested in shapes, colors, and textures and want to try different ways to do things and to use tools (Copple & Bredekamp, 2006). Kindergarten children have many questions for which they want to find answers. They are eager to learn to read and write and to pursue mathematical challenges they encounter in their world (Tomlinson, 2009).

Children in the *purple* (kindergarten) band *use a variety of resources to find answers to questions*. Kindergarten children can analyze complex problems fairly accurately and determine the type of help or resources they need (Hyson, 2008). As with preschoolers and younger children, they still explore firsthand, utilize books (story and informational) and ask questions. Many kindergarteners are “technoliterate” and find answers to their queries by searching the web (Spink, Danby, Mallan, & Butler, 2010). Age-appropriate Web sites and software programs provide information where children can research topics in which they are interested (Murphy, DePasquale, & McNamara, 2003). Peer collaboration and teacher input assist children's use of computer technology as a viable resource (Hyun & Davis, 2005). Digital imagery and interactive whiteboards are other resources kindergartners can use to help them record, remember, and ponder their experiences (Linder, 2012; Murphy et al., 2003).

Objective 11. Demonstrates positive approaches to learning
d. Shows curiosity and motivation

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Objective 11. Demonstrates positive approaches to learning

e. Shows flexibility and inventiveness in thinking

Children in the *orange* (1–2) and *yellow* (2–3) bands *imitate others in using objects in new and/or unanticipated ways*. Early in this period children imitate others using materials for their intended purposes (Berk, 2009). At about 12–18 months they begin to imitate novel actions with objects, even after a long time interval (Berk, 2002). As children observe others using materials in new ways, they begin to combine objects with other objects (Bronson, 1995). Around age 2 children begin to expand the ways they use objects, art materials, and toys and to use them in novel ways (Allen & Marotz, 2007; Hyson, 2008; PBS, n.d.).

Children in the *yellow* (2–3) and *green* (pre-K 3) *continue to develop their creativity by using greater flexibility and inventiveness*. Two-year-olds begin to exhibit their creativity using art materials (Bronson, 1995), and they expand their use of toys and other materials in new and unanticipated ways (Hyson, 2008). Threes begin to play creatively with language and to make up nonsense words (Hyson, 2008), and they start to come up with unusual ways to approach tasks or to make something (PBS, n.d.). Four-year-olds show greater flexibility and inventiveness. Their “play is typically full of wild imaginings” (Bronson, 1995, p. 86), and they offer “creative, unusual ideas about how to do a task, how to make something, or how to get from one place to another” (Hyson, 2008, p. 138).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *change plans if a better idea is thought of or proposed*. Preschool and kindergarten children are increasingly capable of using intersubjectivity (i.e., a shared understanding) as they interact with partners (Goncu, 1993). They insist less frequently on sticking with their own ideas than they did previously and can accept and extend the ideas proposed by others (Berk, 2006; Goncu, 1993). Kindergarten children can mentally reorganize or change their thoughts and actions as they think of multiple ways to accomplish something, and “they can identify a possible course of action and evaluate how well a solution is working” (Golbeck, 2006, p. 42). If the first strategy doesn’t work, they can modify their approach or start again with a new method (Golbeck, 2006).

Children in the *purple* (kindergarten) color band *think through possible long-term solutions and take on more abstract challenges*. Kindergartners are gaining in their ability to think about and plan in advance. They brainstorm effectively about class projects and activities and engage in projects with an end result or product in mind (Copple & Bredekamp, 2006). They offer increasingly unique ideas about how to perform a task, make something, or get from one location to another (Hyson, 2008). Kindergartners’ thinking becomes less rigidly fixed, and they begin to take on multiple perspectives, looking at things from different vantage points (Golbeck, 2006). Given a set of objects, they can generate interesting questions to guide their explorations (Linder, 2012). Their ability to think more abstractly than previously allows them to pursue more advanced mathematics and literacy related activities expected in kindergarten.

Objective 11. Demonstrates positive approaches to learning
e. Shows flexibility and inventiveness in thinking

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	<ul style="list-style-type: none"> • Bronson, M. B. (1995). <i>The right stuff for children birth to 8: Selecting play materials to support development</i>. Washington, DC: National Association for the Education of Young Children. • Hyson, M. (2008). <i>Enthusiastic and engaged learners: Approaches to learning in the early childhood classroom</i>. New York: Teachers College Press. • Public Broadcasting System (PBS) (n.d.). <i>Child development and early child development advice/PBS parents: Child development tracker</i>. Retrieved May 8, 2007, from www.pbs.org/parents/childdevelopment/
	<ul style="list-style-type: none"> • Bronson, M. B. (1995). <i>The right stuff for children birth to 8: Selecting play materials to support development</i>. Washington, DC: National Association for the Education of Young Children. • Hyson, M. (2008). <i>Enthusiastic and engaged learners: Approaches to learning in the early childhood classroom</i>. New York: Teachers College Press. • Public Broadcasting System (PBS) (n.d.). <i>Child development and early child development advice/PBS parents: Child development tracker</i>. Retrieved May 8, 2007, from www.pbs.org/parents/childdevelopment/
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	<ul style="list-style-type: none"> • Golbeck, S. L. (2006). Developing key cognitive skills. In D. F. Gullo (Ed.), <i>K today: Teaching and learning in the kindergarten year</i> (pp. 37–46). Washington, DC: National Association for the Education of Young Children.
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	<ul style="list-style-type: none"> • Copple, C., & Bredekamp, S. (2006). <i>Basics of developmentally appropriate practice: An introduction for teachers of children 3 to 6</i>. Washington, DC: National Association for the Education of Young Children. • Golbeck, S. L. (2006). Developing key cognitive skills. In D. F. Gullo (Ed.), <i>K today: Teaching and learning in the kindergarten year</i> (pp. 37–46). Washington, DC: National Association for the Education of Young Children. • Hyson, M. (2008). <i>Enthusiastic and engaged learners: Approaches to learning in the early childhood classroom</i>. New York: Teachers College Press. • Linder, S. M. (2012). Interactive whiteboards in early childhood mathematics: Strategies for effective implementation in pre-K – grade 3. <i>Young Children</i>, 67(3), 26–35.

Objective 12. Remembers and connects experiences

a. Recognizes and recalls

Children in the *red* (birth–1), *orange* (1–2), and *yellow* (2–3) bands *recognize familiar people, places, and objects; look for a hidden object where it was last seen*. Young infants (birth–6 months) begin to recognize (i.e., show awareness that it is someone or something they have seen previously) people they see regularly (Bronson, 1995). At about 11 months they begin to recall (i.e., generate “a mental representation of an absent stimulus” [Berk, 2009, p. 292]) and look for people and objects that are out of sight (Bronson, 1995). As infants learn to crawl, their memory retrieval becomes somewhat more flexible than previously (Herbert, Gross, & Hayne, 2007). Between 12 and 18 months children search for toys or objects in the last place where they saw them disappear (Schickedanz, Schickedanz, Forsyth, & Forsyth, 2001). Two-year-olds recognize and name familiar objects in their environment and in picture books (CDC, 2012). They notice when familiar people are not present, know where they should be, and search for them in that location (Allen & Marotz, 2007).

Children in the *yellow* (2–3) and *green* (preschool 3) bands *recall familiar people, places, objects, and actions from the past (a few months before); recall 1 or 2 items removed from view*. During this period, children can recall things that happened many weeks before (Tomlinson & Hyson, 2009). However, what young children think is important about the event may be different from what the adult thinks is important (Bjorklund, 2005). They can communicate remembered events verbally, in simple pictures, and/or reenact them in their play (Zero to Three, 2012). When items are removed from their view, they recall 1 or 2 of the missing ones (Berk, 2009).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *tell about experiences in order, provide details, and evaluate the experience; recall 3 or 4 items removed from view*. Children are more likely to remember accurately those things that they experience firsthand and that are meaningful to them (Tomlinson & Hyson, 2009). Three- and 4-year-olds develop “scripts” for routine events that help them relate experiences more accurately than younger children (Tomlinson & Hyson, 2009), and they remember novel information within those scripts (Bjorklund, 2005). Older fours and fives can “give chronologically organized, detailed, and evaluative accounts of personal experiences” (Tomlinson, 2009, p. 204). By age 4, children can recall about 3 or 4 items removed from sight (Berk, 2009).

Children in the *purple* (kindergarten) band *use a few deliberate strategies to remember information*. Even though younger children may use very simple strategies for remembering (Barry, 2006), it is not until kindergarten age that children have some ideas about their methods of memorizing (Charlesworth, 2011). They begin to intentionally use a few memory strategies, but they need adult support (e.g., questioning, reminding of the task at hand, and modeling how to rehearse and organize for memory) to develop those strategies (Tomlinson, 2009). It is only after much practice that children can both remember to use the strategy and be able to use it successfully (Barry, 2006).

Objective 12. Remembers and connects experiences

a. Recognizes and recalls

	<ul style="list-style-type: none">• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning.• Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston: Pearson/Allyn & Bacon.
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	<ul style="list-style-type: none">• Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston: Pearson/Allyn & Bacon.• Bjorklund, D. F. (2005). <i>Children's thinking: Cognitive development and individual differences</i>. Belmont, CA: Wadsworth Thomson Learning.• Tomlinson, H. B. (2009). Developmentally appropriate practice in the kindergarten year – Ages 5–6. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 187–216). Washington, DC: National Association for the Education of Young Children.• Tomlinson, H. B., & Hyson, M. (2009). Developmentally appropriate practice in the preschool years – ages 3–5. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 111–148). Washington, DC: National Association for the Education of Young Children.
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Objective 12. Remembers and connects experiences

b. Makes connections

Children in the *orange* (1–2) and *yellow* (2–3) bands *look for familiar persons when they are named; relate objects to events*. When asked, toddlers can point to familiar people and other familiar things (Allen & Morotz, 2000; Shelov & Hannemann, 2004). Mobile infants' imitative actions of others indicate their ability to remember and to make connections between objects and events (e.g., putting the brush to their hair) (Zero to Three, 2009). "They are developing increasingly sophisticated mental representations of the real world and mastering them through using them in play" (Zero to Three, 2009, p. 67).

Children in the *yellow* (2–3) and *green* (preschool 3) bands *remember the sequence of personal routines and experiences with teacher support*. Two-year-old children are familiar with their established daily routines. They know what comes next, how to do it, and expect it to be followed without changes (Allen & Marotz, 2007). Preschool children know their own established routines and show interest in learning about the routines of others (Beaty, 2002; Shelov, 2004). They know what will come next in the daily schedule, especially if the routine is consistent and the teacher offers support, such as advance notice of changes in the routine, transition reminders, and the posting of the daily schedule on the door (Beaty, 2002). Children remember experiences and events better when adults and children engage in conversations about the event while it is happening (Bjorklund, 2005; Haden, Ornstein, Eckerman, & Didow, 2001)

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *draw on everyday experiences and apply this knowledge to a similar situation*. Preschool and kindergarten children can make predictions about what might happen in stories and connect these predictions to their own life experiences (Copple & Bredekamp, 2006). They can generate simple causal explanations of events and make comparisons (Copple & Bredekamp, 2006), drawing upon the knowledge they have acquired and constructed in their everyday experience (Golbeck, 2006). Kindergarten children's observational ability skills increase, and they are more likely than younger children to connect related information (Copple & Bredekamp, 2006).

Children in the *purple* (kindergarten) band *generate a rule, strategy, or idea from one learning experience and apply it in a new context*. Kindergartners begin to combine and to relate concepts (Golbeck, 2006) and to make connections with other things they have learned (Tomlinson, 2009). Their increased experiences and observational skills assist them in noticing patterns and regularities in the things around them (Golbeck, 2006) and in making predictions with greater accuracy than they could previously. They discover principles of number as they count, and they begin to apply spatial visual strategies and mental images to solve problems in their everyday world (Golbeck, 2006). Firsthand knowledge about events and the ability to reflect upon this knowledge assist kindergarten children in planning for a familiar event and in developing plans to prevent mishaps and to provide solutions to problems which might occur at the event (Hudson, Shapiro, & Sosa, 1995).

Objective 12. Remembers and connects experiences

b. Makes connections

	<ul style="list-style-type: none">• Allen, K. E., & Marotz, L. R. (2000). <i>By the ages: Behavior & development of children pre-birth through eight</i>. Albany, NY: Thomson Delmar Learning.• Shelov, S. P., & Hannemann, R. E. (Eds.) (2004). <i>American Academy of Pediatrics: Caring for your baby and young child: Birth to age five</i>. New York: Bantam Books.
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	<ul style="list-style-type: none">• Allen, K. E., & Marotz, L. R. (2007). <i>Developmental profiles: Pre-birth through twelve</i>. Clifton Park, NY: Thomson Delmar Learning.• Beaty, J. J. (2002). <i>Observing development of the young child</i> (5th ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.• Bjorklund, D. F. (2005). <i>Children's thinking: Cognitive development and individual differences</i>. Belmont, CA: Wadsworth Thomson Learning.• Haden, C. A., Ornstein, P. A., Eckerman, C. O., & Didow, S. M. (2001). Mother-child conversational interactions as events unfold: Linkages to subsequent remembering. <i>Child Development</i>, 72, 1016–1031.• Shelov, S. P., & Hannemann, R. E. (Eds.) (2004). <i>Caring for your baby and young child: Birth to age five</i> (4th ed.). New York: Bantam Books.
	<ul style="list-style-type: none">• Copple, C., & Bredekamp, S. (2006). <i>Basics of developmentally appropriate practice: An introduction for teachers of children 3 to 6</i>. Washington, DC: National Association for the Education of Young Children.• Golbeck, S. L. (2006). Developing key cognitive skills. In D. F. Gullo (Ed.), <i>K today: Teaching and learning in the kindergarten year</i> (pp. 37–46). Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Golbeck, S. L. (2006). Developing key cognitive skills. In D. F. Gullo (Ed.), <i>K today: Teaching and learning in the kindergarten year</i> (pp. 37–46). Washington, DC: National Association for the Education of Young Children.• Hudson, J. A., Shapiro, L. R., & Sosa, B. B. (1995). Planning in the real world: Preschool children's scripts and plans for familiar events. <i>Child Development</i>, 66, 984–998.• Tomlinson, H. B. (2009). Developmentally appropriate practice in the kindergarten year – Ages 5–6. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 187–216). Washington, DC: National Association for the Education of Young Children.

Objective 13. Uses classification skills

Children in the *orange* (1–2) and *yellow* (2–3) bands *match similar objects*. Children must first notice similarities and differences among objects. They then match or separate objects from the group (Copley, 2000). Adults play a key role in helping children develop taxonomic categories during rich interactions in everyday settings (e.g., discussing storybook pictures in more detail than simple labeling) (Gelman, Coley, Rosengren, Hartman, & Pappas, 1998). Toddlers enjoy simple sorting toys. By 18 months to 2 years they begin to match or group similar objects (Bronson, 1995) and may put them in pairs (Bjorklund, 2005). Two- to 3-year-olds show increased interest in the characteristics of objects, such as color, size, shape, and texture. They may match a group of similar objects (Bronson, 1995) based on one of these characteristics, but they are not methodical or consistent in forming their groups (McAfee & Leong, 2007).

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands *place objects in 2 or more groups based on differences in a single characteristic, e.g., color, size, or shape*. Preschoolers group items together based on their perceptual characteristics (Bjorklund, 2005). They organize objects into logical groups according to a given attribute to form categories, generally selecting the salient features of color or size as the basis for their early classifications as opposed to a more abstract characteristic such as function (Deak, Ray, & Pick, 2002). They may switch attributes during their sorting if they forget their categorizing “rule” (e.g., begin sorting with color and during the task switch to sorting by size) (Beaty, 2002; Clements & Sarama, 2009). However, once they begin sorting by one characteristic and have that rule in mind, it is difficult for them to switch to another attribute when asked to do so (Charlesworth, 2011).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *group objects by one characteristic; then regroup them using a different characteristic and indicate the reason*. Unlike younger preschool children, 4-year-olds can classify according to a single characteristic based on a more abstract “rule,” such as an object’s function (Deak, Ray, & Pick, 2002). They can readily switch between abstract rules even if the second rule requires ignoring obvious perceptual information (Deak, Ray, & Pick, 2004). Fives begin to more consistently group by one characteristic and then to re-classify by different attributes (Charlesworth, 2011; Clements & Sarama, 2009), giving the reason for their thinking.

Children in the *purple* (kindergarten) band *group objects by more than one characteristic at the same time; switch sorting rules when asked, and explain the reasons*. Kindergarten children are more flexible in their thinking (Golbeck, 2006) and are able to sort and classify by more than one attribute at a time (Bronson, 1995; Tomlinson & Hyson, 2009). Not until age 5 or 6 years do children usually sort consistently by a single characteristic and then re-classify by different attributes (Clements & Sarama, 2009). They have the flexibility to switch from sorting by a simpler rule based on perception to classifying by a more difficult rule based on function (Deak, Ray, & Pick, 2004). They are able to reflect on how they know something and communicate their thinking to others (Tomlinson, 2009).

Objective 13. Uses classification skills

	<ul style="list-style-type: none"> • Bjorklund, D. F. (2005). <i>Children's thinking: Cognitive development and individual differences</i>. Belmont, CA: Wadsworth Thomson Learning. • Bronson, M. B. (1995). <i>The right stuff for children birth to 8: Selecting play materials to support development</i>. Washington, DC: National Association for the Education of Young Children. • Copley, J. V. (2000). <i>The young child and mathematics</i>. Washington, DC: National Association for the Education of Young Children.
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	<ul style="list-style-type: none"> • Deak, G. O., Ray, S. D., & Pick, A. D. (2002). Matching and naming objects by shape or function: Age and context effects in preschool children. <i>Developmental Psychology</i>, 38(4), 503–518. • Deak, G. O., Ray, S. D., & Pick, A. D. (2004). Effects of age, reminders, and task difficulty on young children's rule-switching flexibility. <i>Cognitive Development</i>, 19(3), 385–400.
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Objective 14. Uses symbols and images to represent something not present

a. Thinks symbolically

Children in the *orange* (1–2) and *yellow* (2–3) bands *recognize people, objects, and animals in pictures or photographs*. Toddlers enjoy seeing pictures of themselves and things familiar to them. When requested, toddlers can point out objects in photos or illustrations of objects in books (Zero to Three, 2009). At about 18 months toddlers begin to understand the symbolic nature of pictures (Preissler & Carey, 2004). Twos name objects they see in books and have no difficulty grasping the relationship between a picture and its referent (DeLoache, 1991; 2004).

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands *draw or construct and then identify what it is*. Around age 3 children become aware that an object can serve both as an object in its own right and as a symbol of something else (e.g., pot as pot and pot as hat). This shift in cognitive thinking indicates a remarkable “increase in children’s ability to mentally or symbolically represent concrete objects, actions, and events” (Tomlinson & Hyson, 2009, p. 134). They now realize that a symbol does not need to have a close resemblance to what it represents. Stacks of blocks and marks on paper can stand for or represent something else (Tomlinson & Hyson, 2009). For preschool children, this realization frequently happens after making their handiwork. For example, they may make marks and notice they remind them of something and decide to label it (Berk, 2009; Copple & Bredekamp, 2006; Tomlinson & Hyson, 2009). Both 3- and 4-year-old children make better drawings when they know that their drawings will be used to communicate to an adult (DeLoache, 2004).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *plan and then use drawings, constructions, movements, and dramatizations to represent ideas*. Older preschool and kindergarten children are beginning to plan ahead (Copple & Bredekamp, 2006). Four-year-olds enjoy representing songs through drama (Copple & Bredekamp, 2006), and about that time they start to make representational drawings (Schickedanz, Schickedanz, Forsyth, & Forsyth, 2001). Fours and fives like to write for real purposes such as making signs for play activities or writing messages to friends (Copple & Bredekamp, 2006; McAfee & Leong, 2007), and they may use their creations and constructions as part of a larger play theme (Morgenthaler, 2006). Kindergartners frequently engage in activities with an end product in mind (Copple & Bredekamp, 2006). Older preschool and kindergarten children can, with adult help, use abstract tools, such as concept maps to help them symbolically represent their understandings and ideas (Birbili, 2006).

Children in the *purple* (kindergarten) band *represent objects, places, and ideas with increasingly abstract symbols*. Kindergarten children tell, retell, and dramatize stories (Copple & Bredekamp, 2006). They use increasingly abstract symbols in their play, such as words or actions to represent physical objects (Trawick-Smith, 2006). Kindergartners can create graphs by using real objects (e.g. red, green, and yellow apples), pictures, or manipulatives, and later tally marks to represent the objects (McAfee & Leong, 2007; Sarama & Clements, 2006). They can discuss and answer questions about their graphs (Sarama & Clements, 2006).

Objective 14. Uses symbols and images to represent something not present

a. Thinks symbolically

	<ul style="list-style-type: none">• DeLoache, J. S. (1991). Symbolic functioning in very young children: Understanding pictures and models. <i>Child Development</i>, 62, 736–752.• DeLoache, J. S. (2004). Becoming symbol-minded. <i>Trends in Cognitive Sciences</i>, 8(2), 66–70.• Preissler, M. A., & Carey, S. (2004). Do both pictures and words function as symbols for 18- and 24-month-old children? <i>Journal of Cognition and Development</i>, 5(2), 185–212.• Zero to Three (2009). The infant and toddler years: Development in the first three years of life. In C. Copple & S. Bredekamp (Eds.), <i>Developmentally appropriate practice in early childhood programs serving children from birth through age 8</i> (3rd ed.), (pp. 53-73). Washington, DC: National Association for the Education of Young Children.
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Objective 14. Uses symbols and images to represent something not present

b. Engages in sociodramatic play

Children in the *orange* (1–2) and *yellow* (2–3) bands *imitate actions of others during play; use real objects as props*. Toddlers watch others intently and copy the actions of important people in their lives. They seem especially interested in the daily activities in which they see adults engage, such as caregiving, housekeeping, and making repairs (Bronson, 1995; Zero to Three, 2009). Toddlers reenact these activities over and over again in their play (Zero to Three, 2009) using real objects (or close replicas) for play props (Garner & Bergen, 2006). Objects become increasingly important in children’s play, extending social interactions and lengthening the time they engage with peers (Garner & Bergen, 2006).

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands *act out familiar or imaginary scenarios; may use props to stand for something else*. Preschoolers continue to reenact the roles of people who are important to them and to increasingly involve other children in their play scenes (Hyson, 2008). They now take on more imaginary and fanciful roles in their pretend play (Tomlinson & Hyson, 2009). They use a variety of less realistic personal objects as props (Garner & Bergen, 2006) around which they develop a “shared understanding” with peers as to the objects’ meanings (Morgenthaler, 2006).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *interact with 2 or more children during pretend play, assigning and/or assuming roles and discussing actions; sustain play scenario for up to 10 minutes*. Four-year-olds seek out 2 or 3 children with whom to engage in their play episodes (Copple & Bredekamp, 2006). Children’s imaginary play with others becomes more complex (Hyson, 2008) and can be sustained for extended periods of time (Levy, Wolfgang, & Koorland, 1992; Trawick-Smith, 2006) to create long play scenarios. Much of their time is spent in the planning of the episode (Brodova & Leong, 2006), discussing their plans, roles, and needed props (Deak, 2003).

Children in the *purple* (kindergarten) band *plan and negotiate complex role-playing; join in detailed conversation about roles and actions; play may extend over several days*. Kindergarten children enjoy elaborate dramatic play (Copple & Bredekamp, 2006) and engage in collaborative discussions with their peers about their play (Hyson, 2008). Children this age “organize, direct, and sustain interactions with others [,] making initial suggestions about what to do, continuing suggestions about how to proceed, assigning roles or resources to participants, and laying out the rules or constraints of a proposed activity” (Tomlinson, 2009, pp. 192–193). They frequently revise their play themes and carry them over to another day or for several days (Bodrova & Leong, 2006).

Objective 14. Uses symbols and images to represent something not present

b. Engages in sociodramatic play

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Literacy

LITERACY OBJECTIVES

- | | | | |
|----|--|----|---|
| 15 | Demonstrates phonological awareness | 18 | Comprehends and responds to books and other texts |
| 16 | Demonstrates knowledge of the alphabet | 19 | Demonstrates emergent writing skills |
| 17 | Demonstrates knowledge of print and its uses | | |

The early years are critical for literacy development. Children who do not learn to read and write by the end of the primary grades are at risk for school failure. Children who are especially likely to have difficulty learning to read in the primary grades are those who begin school with less prior knowledge, verbal abilities, phonological sensitivity, familiarity with the basic purposes and mechanisms of reading, and letter knowledge (National Early Literacy Panel, 2008; Snow, Burns, & Griffin, 1998). The level to which a child progresses in reading and writing is one of the best predictors of whether the child will function competently in school and in life (Neuman, Copple, & Bredekamp, 2000).

Literacy learning begins at birth. During the early childhood years, children engage in emergent reading and writing behaviors that form the foundation for conventional literacy, but many children do not receive the ongoing experiences that support this learning. By age 3, differences in children's understanding and use of literacy skills are enormous. Reading aloud to children appears to be one of the most important activities for building the understandings and skills needed for reading success (Neuman et al., 2000). Children from middle-class families have been read to for about 1,000 hours before beginning kindergarten. Children from families living in poverty have been read to for about 25 hours (Berk, 2006; Neuman, 2003). When children enjoy having books read to them, and when they are excited about what they are hearing and learning, they are motivated to learn to read, and later, to read to learn (Heroman & Jones, 2004).

Listening, speaking, reading, and writing develop interdependently in children, and each contributes to development of the other. Children's literacy development may be negatively affected by factors including poverty; limited English proficiency; visual, hearing, and language impairments; cognitive deficiencies; and parents who have had difficulty reading (National Early Literacy Panel, 2008; Snow et al., 1998).

Effective instruction in the early years can have a large impact on children's literacy development. Children who would otherwise be most at risk for school failure stand to benefit the most from high-quality experiences (Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002). Teachers are critical and can inspire children to read, write, and learn through thoughtful planning and developmentally appropriate literacy instruction (Neuman et al., 2000).

Objective 15. Demonstrates phonological awareness

a. Notices and discriminates rhyme

Children in the *orange* (1–2) and *yellow* (2–3) bands *join in rhyming songs and games*. The early vocalization play of infants gives way to enjoyment of word play such as rhyming language (Burns, Griffin, & Snow, 1999). Toddlers like being read books with simple rhyming words (Schickedanz & Collins, 2013). At about 19 months, they begin to repeat simple rhymes with adults (Bronson, 1995).

Children in the *yellow* (2–3), *green* (preschool 3), and *blue* (pre-K 4) bands *fill in the missing rhyming word; generate rhyming words spontaneously*. Children now begin to more closely attend to rhyming sounds (McAfee & Leong, 2007). They enjoy hearing stories with rhymes and participating in rhyming songs, chants, finger plays, and games (Tomlinson & Hyson, 2009). Older toddlers enjoy playing games when adults read, such as filling in the missing rhyming word in familiar books (Schickedanz, 1999). Young preschool children understand that words rhyme (Burns, Griffin, & Snow, 1999), and at about age 3, they begin spontaneous rhyming word play (Strickland & Schickedanz, 2004).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *decide whether two words rhyme*. Four- and 5-year-old children can identify rhymes when they are presented with several rhyming words or with rhyming words within a poem, story, or finger play (McAfee & Leong, 2007). They play around with words and will change their own names to create new names that rhyme with theirs (Schickedanz, Schickedanz, Forsyth, & Forsythe, 2001). Their sensitivity to and familiarity with rhymes (Neuman, Copple, & Bredekamp, 2000) pave the way for more advanced phonemic awareness skills (Bjorklund, 2005; Bryant, MacLean, Bradley, & Crossland, 1990).

Children in the *purple* (kindergarten) band *generate a group of rhyming words when given a word*. As do younger children, kindergartners still enjoy playing with rhyming words (Copple & Bredekamp, 2006), and during this period they are expected to develop a “conscious awareness of rhyming words” (McGee & Morrow, 2005, p. 46). When they are presented with a word, kindergartners can produce another word that rhymes with it (Burns, Snow, & Griffin, 1999; McAfee & Leong, 2007; Snow, Burns, & Griffin, 1998).

Objective 15. Demonstrates phonological awareness

a. Notices and discriminates rhyme

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	<ul style="list-style-type: none"> • Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.
	<ul style="list-style-type: none"> • Copple, C., & Bredekamp, S. (2006). <i>Basics of developmentally appropriate practice: An introduction for teachers of children 3 to 6</i>. Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none"> • McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.
	<ul style="list-style-type: none"> • McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.
	<ul style="list-style-type: none"> • Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.

Objective 15. Demonstrates phonological awareness

b. Notices and discriminates alliteration

Children in the *yellow* (2–3) and *green* (preschool 3) bands *sing songs and recite rhymes and refrains with repeating initial sounds*. Teachers can involve children in various activities that promote awareness of the sounds of language (Copple & Bredekamp, 2009) such as singing songs, reciting rhymes, chants, and finger plays. As children participate in these activities, 3-year-olds begin to pay attention to discrete and repeating sounds in language (Burns, Griffin, & Snow, 1999; Snow, Burns, & Griffin, 1998), particularly if adults scaffold their budding phonological awareness behaviors.

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *show awareness that some words begin the same way*. Phonological awareness is related to age (Chaney, 1992), but most phonemic awareness skills do not develop automatically (Goswami, 2003). This process is difficult for some children and is related to various factors, such as general language capability, experience, and appropriate instruction (Snow, Burns, & Griffin, 1998). With adult guidance, children build on their initial understandings of phonological awareness, such as their ability to recognize that some words start with the same sound (Strickland & Schickedanz, 2004). Older preschool and kindergarten children can isolate the beginning sound of a word (McAfee & Leong, 2007).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *match beginning sounds of some words*. For children to match beginning sounds, they must have a basic understanding of the phonemic structure of language (Snow, Burns, & Griffin, 1998). Older preschool and kindergarten children show increasing awareness of the beginning sounds of words (Neuman, Copple, & Bredekamp, 2000) and can isolate the first sound of a salient word (McAfee & Leong, 2007).

Children in the *purple* (kindergarten) band *isolate and identify the beginning sound of a word*. With appropriate literacy-related experiences, kindergartners' phonological awareness increases as they exhibit knowledge about the beginning sounds of words (Burns, Griffin, & Snow, 1999; Charlesworth, 2011). They experiment with initial sounds, and when they delete a word's beginning sound, they can pronounce the rest of the word (McAfee & Leong, 2007).

Objective 15. Demonstrates phonological awareness

b. Notices and discriminates alliteration

	<ul style="list-style-type: none">• Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• Copple, C., & Bredekamp, S. (Eds.). (2009). <i>Developmentally appropriate practice in early childhood programs serving children from birth to age 8</i> (3rd ed.). Washington, DC: National Association for the Education of Young Children.• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.
	<ul style="list-style-type: none">• Chaney, C. (1992). Language development, metalinguistic skills, and print awareness in 3-year-old children. <i>Applied Psycholinguistics</i>, 13(4), 485–514.• Goswami, U. (2003). Early phonological development and acquisition of literacy. In S. B. Neuman & D. K. Dickinson (Eds.), <i>Handbook of early literacy research</i>, pp. 111–125. New York: Guilford Press.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.• Strickland, D. S., & Schickedanz, J. A. (2004). <i>Learning about print in preschool: Working with letters, words, and beginning links with phonemic awareness</i>. Newark, DE: International Reading Association.
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	<ul style="list-style-type: none">• Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• Charlesworth, R. (2011). <i>Understanding child development</i> (8th ed.). Belmont, CA: Cengage Learning.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.

Objective 15. Demonstrates phonological awareness

c. Notices and discriminates smaller and smaller units of sound

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands *hear and show awareness of separate words in sentences*. During the preschool years, children develop the concept of what a word is (Strickland & Schickedanz, 2004). They may demonstrate this awareness in their early writings by using a single letter to stand for an entire word (Schickedanz & Casbergue, 2004). Fours can point to individual words or the first word in a line of text (McAfee & Leong, 2007).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *hear and show awareness of separate syllables in words*. With the teacher assuming the lead, preschool children can clap out the syllables in their name (Copple & Bredekamp, 2009). Kindergartners can tap out each syllable in words, and they can take away the first syllable and say the rest of the word (McAfee & Leong, 2007). When preschool and kindergarten children write, each syllable in a word may be represented by a single letter (Schickedanz & Casbergue, 2004).

Children in the *purple* (kindergarten) band *verbally separate and blend onset and rime*. Phonological tasks related to onset (i.e., the initial consonant/consonant cluster of a word – “c” in the word *cat*) and rime (i.e., the vowel and final consonant/consonant cluster in the word – “at” in *cat*) are more difficult for kindergarten children than understanding the concepts of word and syllable (Goswami, 2003; Whitehurst & Lonigan, 2003). To successfully blend spoken onsets and rimes, children must “consciously hold smaller-than-word sound units (including single phonemes) in memory, blend them together, and retrieve from memory a meaningful word matching the blended product” (McGee & Richgels, 2003, p. 23). Although challenging, kindergarten children can be taught these skills through appropriate activities and instruction (McGee & Morrow, 2005).

Children in the *purple* (kindergarten) band *verbally separate and blend individual phonemes in words*. Awareness of the individual sounds which comprise words begins to emerge during the preschool years (Schickedanz, Schickedanz, Forsyth, & Forsyth, 2001). In general, children can notice phonological information before they can manipulate it by blending and segmenting (Anthony, Lonigan, Driscoll, Phillips, & Burgess, 2003). Kindergarten children who are somewhat proficient at blending onsets with rimes may already be starting to learn how to blend phonemes (i.e., the smallest speech sounds in words) (Anthony et al., 2003). Although blending and separating tasks at the phoneme level are difficult for children under 5 ½ or 6 years of age (Schickedanz, Schickedanz, Forsyth, & Forsyth, 2001), kindergarten children can attain these phonological skills with appropriate experiences and guided instruction (McGee & Morrow, 2005; Snow, Burns, & Griffin, 1998).

Objective 15. Demonstrates phonological awareness

c. Notices and discriminates smaller and smaller units of sound

	<ul style="list-style-type: none">• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Schickedanz, J. A., & Casbergue, R. M. (2004). <i>Writing in preschool: Learning to orchestrate meanings and marks</i>. Newark, DE: International Reading Association.• Strickland, D. S., & Schickedanz, J. A. (2004). <i>Learning about print in preschool: Working with letters, words, and beginning links with phonemic awareness</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• Copple, C., & Bredekamp, S. (Eds.). (2009). <i>Developmentally appropriate practice in early childhood programs serving children from birth to age 8</i> (3rd ed.). Washington, DC: National Association for the Education of Young Children.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Schickedanz, J. A., & Casbergue, R. M. (2004). <i>Writing in preschool: Learning to orchestrate meanings and marks</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• Goswami, U. (2003). Early phonological development and acquisition of literacy. In S. B. Neuman & D. K. Dickinson (Eds.), <i>Handbook of early literacy research</i>, pp. 111–125. New York: Guilford Press.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• McGee, L. M., & Richgels, D. J. (2003). <i>Designing early literacy programs: Strategies for at-risk preschool and kindergarten children</i>. New York: Guilford Press.• Whitehurst, G. J., & Lonigan, C. J. (2003). Emergent literacy: Development from prereaders to readers. In S. B. Neuman & D. K. Dickinson (Eds.), <i>Handbook of early literacy research</i>, pp. 11–29. New York: Guilford Press.
	<ul style="list-style-type: none">• Anthony, J. L., Lonigan, C. J., Driscoll, K., Phillips, B. M., & Burgess, S. R. (2003). Phonological sensitivity: A quasi-parallel progression of word structure units and cognitive operations. <i>Reading Research Quarterly</i>, 38, 470–487.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• Schickedanz, J. A., Schickedanz, D. I., Forsyth, P.D., & Forsyth, G.A. (2001). <i>Understanding children and adolescents</i> (4th ed.). Boston: Allyn & Bacon.• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.

Objective 16. Demonstrates knowledge of the alphabet

a. Identifies and names letters

Children in the *yellow* (2–3), *green* (preschool 3), and *blue* (pre-K 4) bands *recognize and name a few letters in own name*. Early on, children begin attending to print that is important to them, such as the letters in their name (Snow, Burns, & Griffin, 1998) and highly salient environmental print (Vukelich, & Christie, 2004). As the letter identification abilities of 2-year-olds begin to emerge (Strickland & Schickedanz, 2004), they are highly dependent upon their in- and out-of-home experiences that support literacy (Snow et al., 1998). Some children may recognize up to a third of the alphabet by the time they turn 3 (Vukelich & Christie, 2004), but this is not the case for most children of this age. Preschool children identify some alphabet letters (Neuman, Copple, & Bredekamp, 2000), letters in their name (Strickland, & Schickedanz, 2004), letters in the names of people important to them (McGee & Morrow, 2005), or salient letters in the environment (McGee & Morrow, 2005; Vukelich & Christie, 2004).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *recognize as many as 10 letters, especially those in own name*. Children’s letter recognition abilities continue to increase throughout the preschool and kindergarten years (Snow, Burns, & Griffin, 1998; Strickland & Schickedanz, 2004). Preschool children can identify 10 alphabet letters (Snow et al., 1998; Strickland & Schickedanz, 2004), and kindergarten children can identify considerably more letters (Snow et al., 1998). Letters in children’s names, persons special to them, and salient environmental print continue to be the most important letters for children (McAfee & Leong, 2007; McGee & Morrow, 2005).

Children in the *purple* (kindergarten) band *identify and name 11–20 upper- and 11–20 lowercase letters when presented in random order*. When preschool children attend a literacy-rich preschool program, they may enter kindergarten with the ability to name at least 18 or 19 uppercase letters and 16 or 17 lowercase letters (Piasta, Petscher, & Justice, 2012; Schickedanz & Collins, 2013). Kindergartners recognize most letters of the alphabet (Charlesworth, 2011), but at first their abilities may be somewhat inconsistent. They may still confuse some letters that are similar in appearance, such as b and d, m and n, or p and q (McAfee & Leong, 2007). During the year they gain accuracy and proficiency.

Children in the *purple* (kindergarten) band *identify and name all upper- and lowercase letters when presented in random order*. The alphabet naming abilities of kindergarten children increase appreciably during the year (Strickland & Schickedanz, 2004). By the end of kindergarten, it is expected that children will recognize and name (McAfee & Leong, 2007) all upper- and lowercase letters with accuracy and quickness (McGee & Morrow, 2005), regardless of the order in which they are presented (Copple & Bredekamp, 2009).

Objective 16. Demonstrates knowledge of the alphabet

a. Identifies and names letters

	<ul style="list-style-type: none">• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• Neuman, S., Copple, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.• Strickland, D. S., & Schickedanz, J. A. (2004). <i>Learning about print in preschool: Working with letters, words, and beginning links with phonemic awareness</i>. Newark, DE: International Reading Association.• Vukelich, C., & Christie, J. (2004). <i>Building a foundation for preschool literacy: Effective instruction for children's reading and writing development</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.• Strickland, D. S., & Schickedanz, J. A. (2004). <i>Learning about print in preschool: Working with letters, words, and beginning links with phonemic awareness</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• Charlesworth, R. (2011). <i>Understanding child development</i> (8th ed.). Belmont, CA: Cengage Learning.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Piasta, S. B., Petscher, Y. & Justice, L. M. (2012). How many letters should preschoolers in public programs know? The diagnostic efficiency of various preschool letter-naming benchmarks for predicting first-grade literacy achievement. <i>Journal of Educational Psychology</i>, 104, 945–958.• Schickedanz, J. A., & Collins, M. F. (2013). <i>So much more than the ABCs: The early phases of reading and writing</i>. Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Copple, C., & Bredekamp, S. (Eds.). (2009). <i>Developmentally appropriate practice in early childhood programs serving children from birth to age 8</i> (3rd ed.). Washington, DC: National Association for the Education of Young Children.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• Strickland, D. S., & Schickedanz, J. A. (2004). <i>Learning about print in preschool: Working with letters, words, and beginning links with phonemic awareness</i>. Newark, DE: International Reading Association.

Objective 16. Demonstrates knowledge of the alphabet

b. Uses letter–sound knowledge

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *identify the sounds of a few letters*. Preschool children begin to make some letter-sound matches (Neuman, Copple, & Bredekamp, 2000; Strickland, & Schickedanz, 2004). By the time they enter kindergarten, children are likely to be able to connect additional letters with their corresponding sounds (Copple & Bredekamp, 2009).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *produce the correct sounds for 10–20 letters*. Older preschool and kindergarten children can provide the sound for some initial consonants (McAfee & Leong, 2007). Once children begin to match letters to their sounds, they begin to provide other symbol-to-sound correspondences. By the end of kindergarten, children are expected to recognize most letter-sound associations (Charlesworth, 2011; McAfee & Leong, 2007; McGee & Morrow, 2005).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *show understanding that a sequence of letters represents a sequence of spoken sounds*. Children gradually develop the awareness that letters represent the sounds that make up spoken words (Strickland, & Schickedanz, 2004). This understanding (i.e., the alphabetic principle) is fundamental to many other literacy abilities. For most children this appreciation begins during the latter part of the preschool period, and by the end of kindergarten, children comprehend the principle (McAfee & Leong, 2007; Snow, Burns, & Griffin, 1998).

Children in the *purple* (kindergarten) band *apply letter–sound correspondence when attempting to read and write*. Kindergarten children use their letter-sound correspondence abilities in both self-selected and teacher-guided activities. During choice time/center activities, they may apply their knowledge as they use invented or creative spelling (Snow, Burns, & Griffin, 1998) such as to write a sign for the block center (McGee & Morrow, 2005), or they may attempt to sound out an unfamiliar word in a storybook (McGee & Richgels, 2003). During teacher-guided activities kindergartners may demonstrate their abilities as they work with the teacher on spelling words that are important to them (Burns, Griffin, & Snow, 1999) or in activities geared at creating and reading rhyming words (McGee & Morrow, 2005).

Objective 16. Demonstrates knowledge of the alphabet

b. Uses letter–sound knowledge

	<ul style="list-style-type: none">• Cople, C., & Bredekamp, S. (Eds.). (2009). <i>Developmentally appropriate practice in early childhood programs serving children from birth to age 8</i> (3rd ed.). Washington, DC: National Association for the Education of Young Children.• Neuman, S., Cople, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.• Strickland, D. S., & Schickedanz, J. A. (2004). <i>Learning about print in preschool: Working with letters, words, and beginning links with phonemic awareness</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• Charlesworth, R. (2011). <i>Understanding child development</i> (8th ed.). Belmont, CA: Cengage Learning.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.
	<ul style="list-style-type: none">• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.• Strickland, D. S., & Schickedanz, J. A. (2004). <i>Learning about print in preschool: Working with letters, words, and beginning links with phonemic awareness</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• McGee, L. M., & Richgels, D. J. (2003). <i>Designing early literacy programs: Strategies for at-risk preschool and kindergarten children</i>. New York: Guilford Press.• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.

Objective 17. Demonstrates knowledge of print and its uses

a. Uses and appreciates books

Children in the *red* (birth–1), *orange* (1–2), and *yellow* (2–3) bands *show interest in books*. Within the first few months, infants begin making eye contact and looking intently at the pictures in books that have simple pictures with sharp color contrast (Schickedanz, 1999). During the first year they may cuddle on an adult's lap or sit nearby as they look at books together (Schickedanz, 1999). Mobile infants and toddlers indicate their interest by bringing books to an adult to read (Schickedanz & Collins, 2013), and they often indicate they want the book to be read again (Schickedanz, 1999). Two-year-olds enjoy books (Strickland, & Morrow, 2000), especially those books with their photos, textures to feel, and holes where they can peek through or push their fingers into the opening (Copples & Bredekamp, 2009). Books with familiar objects and activities and repetitive text encourage the 2-year-old to participate by pointing to pictures, labeling, making sounds, answering simple questions, and repeating words and phrases (Copples & Bredekamp, 2009).

Children in the *yellow* (2–3), *green* (preschool 3), and *blue* (pre-K 4) bands *orient books correctly; turn pages from the front of the book to the back; recognize familiar books by their covers*. The book-related behaviors of twos and preschool children are appreciably more advanced than those of younger children. Two-year-olds recognize when a book is oriented correctly and when it is not, even when illustrations are intentionally placed in an upside-down position (Schickedanz, 1999). The size and the material from which book pages are made influence toddlers' abilities to independently turn book pages. Children younger than 2 usually gather several pages of the book at a time (Schickedanz & Collins, 2013) and do not turn the pages from front to back. As children have more experiences with books they begin to look for their favorite ones (Schickedanz & Collins, 2013) and recognize them by their covers (Burns, Griffin, & Snow, 1999; McAfee & Leong, 2007).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *know some features of a book (title, author, illustrator); connect specific books to authors*. As adults talk with older preschool and kindergarten children about the features of books and their functions, children begin to recognize their specific aspects (Morrow, 2007). They understand that books have titles, authors, and illustrations that convey meaning but that illustrations cannot be read (Ahola & Kovacik, 2007; Burns, Griffin, & Snow, 1999; Copples & Bredekamp, 2009; Morrow, 2007). Kindergarten children "can name some book titles and authors" (Burns et al., 1999, p. 85) and make connections with illustrations found in other books (McGee & Morrow, 2005).

Children in the *purple* (kindergarten) band *use various types of books for their intended purposes*. Kindergartners demonstrate their familiarity with various types or genres of books, including storybooks, poetry, and expository or informational text (Ahola & Kovacik, 2007; Duke & Kays, 1998; Snow, Burns, & Griffin, 1998). The more experience they have with the different genres, the more they use the language specific to particular genres in their book retellings (Duke & Kays, 1998) and in other activities such as dramatic play or writing (McGee & Morrow, 2005).

Objective 17. Demonstrates knowledge of print and its uses

a. Uses and appreciates books

	<ul style="list-style-type: none">• Copple, C., & Bredekamp, S. (Eds.). (2009). <i>Developmentally appropriate practice in early childhood programs serving children from birth to age 8</i> (3rd ed.). Washington, DC: National Association for the Education of Young Children.• Schickedanz, J. A. (1999). <i>Much more than the ABCs: The early stages of reading and writing</i>. Washington, DC: National Association for the Education of Young Children.• Schickedanz, J. A., & Collins, M. F. (2013). <i>So much more than the ABCs: The early phases of reading and writing</i>. Washington, DC: National Association for the Education of Young Children.• Strickland, D. S., & Morrow, L. M. (Eds.). (2000). <i>Beginning reading and writing</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Schickedanz, J. A. (1999). <i>Much more than the ABCs: The early stages of reading and writing</i>. Washington, DC: National Association for the Education of Young Children.• Schickedanz, J. A., & Collins, M. F. (2013). <i>So much more than the ABCs: The early phases of reading and writing</i>. Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Ahola, D., & Kovacic, A. (2007). <i>Observing and understanding child development: A child study manual</i>. Clifton Park, NY: Thomson/Delmar Learning.• Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• Copple, C., & Bredekamp, S. (Eds.). (2009). <i>Developmentally appropriate practice in early childhood programs serving children from birth to age 8</i> (3rd ed.). Washington, DC: National Association for the Education of Young Children.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• Morrow, L. M. (2007). <i>Developing literacy in preschool</i>. New York: Guilford Press.
	<ul style="list-style-type: none">• Ahola, D., & Kovacic, A. (2007). <i>Observing and understanding child development: A child study manual</i>. Clifton Park, NY: Thomson/Delmar Learning.• Duke, N. K., & Kays, J. (1998). "Can I say, 'Once upon a time'?" : Kindergarten children developing knowledge of information book language. <i>Early Childhood Research Quarterly</i>, 13, 295–318.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.

Objective 17. Demonstrates knowledge of print and its uses

b. Uses print concepts

Children in the *yellow* (2–3) and *green* (preschool 3) bands *show understanding that text is meaningful and can be read*. Children’s understanding that text has meaning and can be read does not require letter naming ability or actual word reading (Schickedanz, Schickedanz, Forsyth, & Forsyth, 2001). Rather, this understanding is dependent upon the child differentiating the general features of print from other displays (Schickedanz, Schickedanz, Forsyth, & Forsyth, 2001). Older toddlers make a distinction between the print and the pictures in books (McAfee & Leong, 2007), and 3-year-old children know that what is read in stories is the print (Burns, Griffin, & Snow, 1999). Children may demonstrate their understanding of print and its uses by indicating words in their environment, such as words on signs (e.g., traffic signs or restaurants), on food (e.g., cereal boxes), or by asking, “What does this say?” (Vukelich & Christie, 2004).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *indicate where to start reading and the direction to follow*. Older preschool and kindergarten children understand basic print concepts, including orientation and directionality (Charlesworth, 2011). When the placement of text is conventional, they know where to begin reading, proceeding from top to bottom and left to right (Charlesworth, 2011; Copple & Bredekamp, 2009; McAfee & Leong, 2007; Neuman, Copple, & Bredekamp, 2000).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *show awareness of various features of print: letters, words, spaces, upper- and lowercase letters, some punctuation*. Fours and kindergarten children understand various aspects of print. They appreciate that letters are grouped together to make words, that words have separations or spaces between them, and that words make up sentences (Strickland & Schickedanz, 2004). When they pretend to read, they may point to each word as they vocalize what they think it says, stopping at the end of the sentence (McGee & Morrow, 2005) and sometimes using vocal inflection to denote punctuation.

Children in the *purple* (kindergarten) band *match a written word with a spoken word, but it may not be the actual written word; track print from the end of a line of text to the beginning of the next line*. Kindergartners can match spoken words with written words (Charlesworth, 2011; Neuman, Copple, & Bredekamp, 2000). They often memorize a favorite book and pretend to read it as they match the story line to the printed words (McAfee & Leong, 2007). They may “pretend read” (McGee & Morrow, 2005, p. 50) by running their fingers across the text in a sweeping motion from the end of one line to another or by “fingerpoint reading” (McGee & Morrow, 2005, p. 50) by pointing to each individual word as they articulate what they think it says (McAfee & Leong, 2007).

Objective 17. Demonstrates knowledge of print and its uses

b. Uses print concepts

	<ul style="list-style-type: none">• Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.
	<ul style="list-style-type: none">• Schickedanz, J. A., Schickedanz, D. I., Forsyth, P. D., & Forsyth, G. A. (2001). <i>Understanding children and adolescents</i> (4th ed.). Boston: Allyn & Bacon.• Vukelich, C., & Christie, J. (2004). <i>Building a foundation for preschool literacy: Effective instruction for children's reading and writing development</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• Charlesworth, R. (2011). <i>Understanding child development</i> (8th ed.). Belmont, CA: Cengage Learning.• Copple, C., & Bredekamp, S. (Eds.). (2009). <i>Developmentally appropriate practice in early childhood programs serving children from birth to age 8</i> (3rd ed.). Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Neuman, S., Copple, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• Strickland, D. S., & Schickedanz, J. A. (2004). <i>Learning about print in preschool: Working with letters, words, and beginning links with phonemic awareness</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• Charlesworth, R. (2011). <i>Understanding child development</i> (8th ed.). Belmont, CA: Cengage Learning.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• Neuman, S., Copple, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.

Objective 18. Comprehends and responds to books and other texts

a. Interacts during read-alouds and book conversations

Children in the *yellow* (2–3) and *green* (preschool 3) bands *contribute particular language from the book at the appropriate time*. Toddlers and young preschoolers are learning how to take part in book-reading activities (Strickland, & Morrow, 2000; Strickland & Schickedanz, 2004). When adults pause at appropriate times as they read familiar books, children often fill in the missing word or phrases (Schickedanz, 1999). They also may use the language from a particular story in other contexts, such as during play (Schickedanz & Collins, 2013).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *ask and answer questions about the text; refer to pictures*. Preschool and kindergarten children enjoy listening to and talking about the stories and pictures in books (Neuman, Copple, & Bredekamp, 2000). Big Books (i.e., books with enlarged pictures and print) facilitate active involvement of children when the teacher reads aloud (Morrow, 2007). Preschool and kindergarten children make factual comments and ask literal questions related to the story (Vukelich & Christie, 2004), often using the illustrations as references (Snow, Burns, & Griffin, 1998).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *identify story-related problems, events, and resolutions during conversations with an adult*. Teachers play an important role in helping children develop a strong sense of story as they read books and discuss them with the children. When teachers use story language (e.g., characters, setting, problem, actions, and events), it helps children to “recall the main characters, identify the problem in the story, and notice changes in the settings” (McGee & Morrow, 2005, p. 71). Older preschool children talk about and retell stories putting the sequence of events in order and supplying many details. They may, however, go back and insert additional details as they organize their thoughts (PBS, n.d.). Kindergarten children, given their more advanced language and cognitive abilities, can discuss and provide story-related information more coherently and with greater detail and accuracy than preschool children (PBS, n.d.).

Children in the *purple* (kindergarten) band *reconstruct story, using pictures, text, and props; begin to make inferences and draw conclusions*. Kindergartners enjoy dramatizing stories (McAfee & Leong, 2007) and can reenact whole stories or parts of them (Burns, Griffin & Snow, 1999). They use descriptive language to explain the story (Neuman, Copple, & Bredekamp, 2000). They make evaluative comments (PBS, n.d.), and make predictions based on inferences gleaned from the story (McAfee & Leong, 2007) or from the illustrations (Snow, Burns, & Griffin, 1998).

Objective 18. Comprehends and responds to books and other texts

a. Interacts during read-alouds and book conversations

	<ul style="list-style-type: none">• Schickedanz, J. A. (1999). <i>Much more than the ABCs: The early stages of reading and writing</i>. Washington, DC: National Association for the Education of Young Children.• Schickedanz, J. A., & Collins, M. F. (2013). <i>So much more than the ABCs: The early phases of reading and writing</i>. Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Strickland, D. S., & Morrow, L. M. (Eds.) (2000). <i>Beginning reading and writing</i>. Newark, DE: International Reading Association.• Strickland, D. S., & Schickedanz, J. A. (2004). <i>Learning about print in preschool: Working with letters, words, and beginning links with phonemic awareness</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• Morrow, L. M. (2007). <i>Developing literacy in preschool</i>. New York: Guilford Press.
	<ul style="list-style-type: none">• Neuman, S., Copple, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.• Vukelich, C., & Christie, J. (2004). <i>Building a foundation for preschool literacy: Effective instruction for children's reading and writing development</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.
	<ul style="list-style-type: none">• Public Broadcasting System (PBS) (n.d.). <i>Child development and early child development advice/PBS parents: Child development tracker</i>. Retrieved September 7, 2007, from www.pbs.org/parents/childdevelopment/
	<ul style="list-style-type: none">• Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Neuman, S., Copple, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.• PBS (n.d.). <i>Child development and early child development advice/PBS parents: Child development tracker</i>. Retrieved September 7, 2007, from www.pbs.org/parents/childdevelopment/• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.

Objective 18. Comprehends and responds to books and other texts

b. Uses emergent reading skills

Children in the *yellow* (2–3) and *green* (preschool 3) bands *pretend to read a familiar book, treating each page as a separate unit; name and describe what is on each page, using pictures as cues*. Toddlers and young preschoolers enjoy looking at familiar books and attempting to read (Burns, Griffin, & Snow, 1999; Neuman, Copple, & Bredekamp, 2000). They turn pages, label objects, and mimic adults' reading behaviors (McAfee & Leong, 2007). At first, their story is not formed, and children treat each page as independent of the overall story (Schickedanz, 1999; Sulzby, 1991). Their speech is guided by the pictures or "picture governed" as they use the pictures to recall the story's text, looking at each page and labeling or describing what they see (Schickedanz, 1999; Schickedanz, Schickedanz, Forsyth, & Forsyth, 2001; Sulzby, 1991).

Children in the *blue* (pre-K 4) band *pretend to read, using some of the language from the text; describe the action across pages, using pictures to order the events; may need prompts from adult*. Older preschool children engage in reading attempts (McAfee & Leong, 2007; Neuman, Copple, & Bredekamp, 2000). They begin to understand that the story comes from the print, although pictures provide clues as to story text (Schickedanz, 1999). Predictable books with repetitive text assist children in their story "reading" attempts (Schickedanz, 1999).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *pretend to read, reciting language that closely matches the text on each page and using reading-like intonation*. Older preschool and kindergarten children read familiar books emergently, recalling the text, although not necessarily word for word (Burns, Griffin, & Snow, 1999; McAfee & Leong, 2007; McGee & Morrow, 2005). They can read aloud a very familiar predictable book, missing only a few words printed on the page (Schickedanz, Schickedanz, Forsyth, & Forsyth, 2001), sometimes with sufficient accuracy and book-like intonation that others may think they are actually reading (Sulzby, 1991).

Children in the *purple* (kindergarten) band *try to match oral language to words on page; point to words as read; use different strategies (e.g., sounding out words, known words, and patterns in text) to make meaning from print*. Kindergartners can match spoken words to print (Neuman, Copple, & Bredekamp, 2000). With familiar texts they can point to each word as they say the word (McAfee & Leong, 2007) or sweep their hand from left to right for each line of text (McGee & Morrow, 2005). By the end of kindergarten, children should be able to recognize some common words by sight (Tomlinson, 2009), to "read words by blending new consonant letters to familiar word families" (McGee & Morrow, 2005, p. 93) or by using symbol-to-sound correspondences (McAfee & Leong, 2007).

Objective 18. Comprehends and responds to books and other texts

b. Uses emergent reading skills

	<ul style="list-style-type: none">• Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Neuman, S., Copple, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.• Schickedanz, J. A. (1999). <i>Much more than the ABCs: The early stages of reading and writing</i>. Washington, DC: National Association for the Education of Young Children.• Schickedanz, J. A., Schickedanz, D. I., Forsyth, P. D., & Forsyth, G. A. (2001). <i>Understanding children and adolescents</i> (4th ed.). Boston: Allyn & Bacon.• Sulzby, E. (1991). Assessment of emergent literacy: Storybook reading. <i>The Reading Teacher</i>, 44, 498–500.
	<ul style="list-style-type: none">• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• Neuman, S., Copple, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.• Schickedanz, J. A. (1999). <i>Much more than the ABCs: The early stages of reading and writing</i>. Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• Schickedanz, J. A., Schickedanz, D. I., Forsyth, P. D., & Forsyth, G. A. (2001). <i>Understanding children and adolescents</i> (4th ed.). Boston: Allyn & Bacon.• Sulzby, E. (1991). Assessment of emergent literacy: Storybook reading. <i>The Reading Teacher</i>, 44, 498–500.
	<ul style="list-style-type: none">• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.• Neuman, S., Copple, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.• Tomlinson, H. B. (2009). Developmentally appropriate practice in the kindergarten year – ages 5–6. In C. Copple & S. Bredekamp (Eds.). <i>Developmentally appropriate practice in early childhood programs serving children from birth to age 8</i> (3rd ed.), (pp. 187–216). Washington, DC: National Association for the Education of Young Children.

Objective 18. Comprehends and responds to books and other texts

c. Retells stories

Children in the *yellow* (2–3), *green* (preschool 3), and *blue* (pre-K 4) bands *retell some events from a familiar story with close adult prompting*. Very basic storytelling appears at about age 2 (Strickland & Schickedanz, 2004) as children comment on the pictures and characters in the book (McAfee & Leong, 2007). Preschoolers are aware of events in stories (Burns, Griffin, & Snow, 1999; Snow, Burns, & Griffin, 1998). They can summarize the story when asked and retell it in vignettes, although their retellings may not be in the exact order as the action occurs in the story (McAfee & Leong 2007).

Children in the *green* (preschool 3), *blue* (pre-K 4), and *purple* (kindergarten) bands *retell familiar stories using pictures or props as prompts*. Preschool and kindergarten children enjoy acting out familiar stories, but it is not easy for all children (Morrow, 2007). Their story retellings are enhanced by adult interactions and the provision of props (Charlesworth, 2008) such as a felt board with story characters, stuffed animals, puppets, and pictures (McGee & Morrow, 2005; Morrow, 2007).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands *retell a familiar story in proper sequence, including major events and characters*. With increased exposure to books and practice, preschool and kindergarten children improve in their story retelling abilities. Older preschool children portray their characters in terms of physical characteristics and actions with some understanding of the beliefs and motivation behind the characters' behaviors (Nicolopoulou & Richner, 2007). Kindergarten children can dramatize stories or parts of stories (Neuman, Copple, & Bredekamp, 2000; Snow, Burns, & Griffin, 1998) and retell most familiar stories with accuracy (McAfee & Leong, 2007).

Children in the *purple* (kindergarten) band *retell stories with many details about characters, events, and storylines*. Kindergarten children show much progress in their story retelling abilities over the year (Sulzby, 1985). They use increasingly sophisticated vocabulary (McGee & Morrow, 2005). The characters of kindergartners are more developed than those of younger children, and much of their reenactments focus upon the beliefs, desires, intentions, and emotions that motivate or guide the characters' actions (Nicolopoulou & Richner, 2007).

Objective 18. Comprehends and responds to books and other texts

c. Retells stories

	<ul style="list-style-type: none">• Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). <i>Starting out right: A guide to promoting children's reading success</i>. Washington, DC: National Academy Press.
	<ul style="list-style-type: none">• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.
	<ul style="list-style-type: none">• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.
	<ul style="list-style-type: none">• Strickland, D. S., & Schickedanz, J. A. (2004). <i>Learning about print in preschool: Working with letters, words, and beginning links with phonemic awareness</i>. Newark, DE: International Reading Association.
	<ul style="list-style-type: none">• Charlesworth, R. (2008). <i>Understanding Child Development</i> (7th ed.). Clifton Park, NY: Thomson/Delmar Learning.
	<ul style="list-style-type: none">• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.
	<ul style="list-style-type: none">• Morrow, L. M. (2007). <i>Developing literacy in preschool</i>. New York: Guilford Press.
	<ul style="list-style-type: none">• McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children's development and learning</i> (4th ed.). Boston: Pearson.
	<ul style="list-style-type: none">• Neuman, S., Copple, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.
	<ul style="list-style-type: none">• Nicolopoulou, A., & Richner, E. S. (2007). From actors to agents to persons: The development of character representation in young children's narratives. <i>Child Development</i>, 78, 412–429.
	<ul style="list-style-type: none">• Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.
	<ul style="list-style-type: none">• McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.
	<ul style="list-style-type: none">• Nicolopoulou, A., & Richner, E. S. (2007). From actors to agents to persons: The development of character representation in young children's narratives. <i>Child Development</i>, 78, 412–429.
	<ul style="list-style-type: none">• Sulzby, E. (1985). Children's emergent reading of favorite storybooks: A developmental study. <i>Reading Research Quarterly</i>, 20, 458–481.

Objective 19. Demonstrates emergent writing skills

a. Writes name

Children in the *orange* (1–2) and *yellow* (2–3) bands make *scribbles or marks*. Children’s names hold special meaning for them (Haney, 2002), and the ability to write their first name is generally one the first writing attempts in which children engage (Mayer, 2007). At first, however, children’s attention is focused on the activity itself rather than on the product which they are producing (Baghban, 2007). The early writing of toddlers involves primarily experimentation with writing tools and surfaces as they create scribbles and marks (Baghban, 2007). “They move the writing tool in a flurry, back and forth, round and round, jab, jab, jab” (Schickedanz, & Casbergue, 2009, p. 9). Later they may point to their creation and indicate that it is their name.

Children in the *yellow* (2–3) and *green* (preschool 3) bands make *controlled linear scribbles*. During this period, children’s scribbling becomes more purposeful (Snow, Burns, & Griffin, 1998). With practice and greater fine-motor control, children’s scribbles take on a linear appearance with repeated features (McAfee & Leong, 2007) more closely resembling the left to right progression of name writing. Three-year-olds seem to comprehend the differences between writing and drawing and will demonstrate their newfound understanding as they show you how they “wrote” their name (Schickedanz & Casbergue, 2009).

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands write *mock letters or letter-like forms*. Children gradually evolve from producing scribble marks to forming marks that have a letter-like quality (McAfee & Leong, 2007). The name-writing abilities of preschool children vary (Saracho, 2006; Snow, Burns, & Griffin, 1998), but at about age 3 children begin to make mock letters and approximations of some of the letters in their names (Neuman, Copple, & Bredekamp, 2000).

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands write *letter strings*. By this time, children have a greater awareness of the numerous functions of writing and aspects of its form, such as linearity (Bloodgood, 1999). They experiment with forming random strings of letters (Snow, Burns, & Griffin, 1998) and with individual forms arranged in a line (Berk, 2009; Schickedanz & Collins, 2013).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands write a *partially accurate name*. By this time, children know how their names should look (Schickedanz & Collins, 2013). They attempt to write their names (Baghban, 2007) although their skills may be limited in various ways. Some of the letters may be oriented in the wrong direction, the size of the letters may vary, and their print directionality may be inaccurate (McGee & Morrow, 2005; Schickedanz & Casbergue, 2004; Schickedanz & Collins, 2013).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands write *accurate name*. Older preschool children are expected to be able to print their first name independently (McAfee & Leong, 2007; Roskos, Tabors, & Lenhart, 2004; Strickland & Schickedanz, 2004). By the end of the kindergarten year, most children can write upper- and lowercase letters (Copple & Bredekamp, 2009), and they should be able to write their first and last names as well as the names of some of their friends (McAfee & Leong, 2007).

Objective 19. Demonstrates emergent writing skills

a. Writes name

	<ul style="list-style-type: none"> • Baghban, M. (2007). Scribbles, labels, and stories: The role of drawing in the development of writing. <i>Young Children</i> 62(1), 22–26. • Haney, M. R. (2002). Name writing: A window into the emergent literacy skills of young children. <i>Early Childhood Education Journal</i>, 30(2), 101–105.
	<ul style="list-style-type: none"> • Mayer, K. (2007). Research in review: Emerging knowledge about emergent writing. <i>Young Children</i> 62(1), 34–40. • Schickedanz, J. A., & Casbergue, R. M. (2009). <i>Writing in preschool: Learning to orchestrate meaning and marks</i> (2nd ed.). Newark, DE: International Reading Association.
	<ul style="list-style-type: none"> • Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.
	<ul style="list-style-type: none"> • McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children’s development and learning</i> (4th ed.). Boston: Pearson. • Schickedanz, J. A., & Casbergue, R. M. (2009). <i>Writing in preschool: Learning to orchestrate meaning and marks</i> (2nd ed.). Newark, DE: International Reading Association.
	<ul style="list-style-type: none"> • McAfee, O., & Leong, D. J. (2007). <i>Assessing and guiding young children’s development and learning</i> (4th ed.). Boston: Pearson. • Saracho, O. N. (2006). Developmental sequences in three-year-old children’s writing. <i>Early Child Development and Care</i>, 56(1), 1–10.
	<ul style="list-style-type: none"> • Neuman, S., Copple, C., & Bredekamp, S. (2000). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children. • Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.
	<ul style="list-style-type: none"> • Berk, L. E. (2009). <i>Child development</i> (8th ed.). Boston: Pearson/Allyn & Bacon. • Bloodgood, J. W. (1999). What’s in a name? Children’s name writing and literacy acquisition. <i>Reading Research Quarterly</i>, 34, 342–367.
	<ul style="list-style-type: none"> • Schickedanz, J. A., & Collins, M. F. (2013). <i>So much more than the ABCs: The early phases of reading and writing</i>. Washington, DC: National Association for the Education of Young Children. • Snow, C. E., Burns, S. M., & Griffin, P. (Eds.). (1998). <i>Preventing reading difficulties in young children</i>. Washington, DC: National Academy Press.
	<ul style="list-style-type: none"> • Baghban, M. (2007). Scribbles, labels, and stories: The role of drawing in the development of writing. <i>Young Children</i> 62(1), 22–26. • McGee, L. M., & Morrow, L. M. (2005). <i>Teaching literacy in kindergarten</i>. New York: Guilford Press.
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	<ul style="list-style-type: none"> • Copple, C., & Bredekamp, S. (Eds.). (2009). <i>Developmentally appropriate practice in early childhood programs serving children from birth to age 8</i> (3rd ed.). Washington, DC: National Association for the Education of Young Children.
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Objective 19. Demonstrates emergent writing skills

b. Writes to convey meaning

Children in the *orange* (1–2) and *yellow* (2–3) bands make *scribbles or marks*. “Children’s writing development rests on the gradual coming together of various strands of knowledge and skill” (Schickedanz & Casbergue, 2009, p. 6). As they begin to write to convey meaning, children’s early levels of writing are very similar to those observed in early name writing. Toddlers’ initial writing attempts are primarily experimentation (Baghban, 2007). They use different writing tools and surfaces as they create scribbles and marks (McAfee & Leong, 2007), paying greater attention to the activity than to the product (Baghban, 2007). “They move the writing tool in a flurry, back and forth, round and round, jab, jab, jab” (Schickedanz, & Casbergue, 2009, p. 9). Children may point to their creations and ask, “What did I write?” This is an important step in development and signals understanding that their “writing” carries meaning rather than simply being a pleasurable physical activity (Baghban, 2007).

Children in the *yellow* (2–3) and *green* (preschool 3) bands make *controlled linear scribbles*. As children are exposed to various types of print in their environments, they begin to notice some of its characteristics (e.g., writing is lined up and the lines are separated from one another) (Schickedanz, & Casbergue, 2009). Their scribbling now becomes more purposeful (Snow, Burns, & Griffin, 1998) as they write out a grocery list or take phone messages (Schickedanz & Collins, 2013; Vukelich & Christie, 2004). With experience and with increased cognitive and fine-motor abilities, children’s scribbles take on a linear appearance with repeated features (McAfee & Leong, 2007). Their scribbles now more closely resemble the linear writing they frequently observe in the environment.

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands write *mock letters or letter-like forms*. Preschool children have a greater awareness of the various functions of writing and the elements of its form (e.g., variable units, linearity, and spelling) than they did previously (Bloodgood, 1999). “As children begin to notice print in their environments, they try to create products that look like real writing in an attempt to communicate messages” (Mayer, 2007, p. 34). They may write as part of play (Snow, Burns, & Griffin, 1998) and experiment with mock letters and produce “mock words” (Schickedanz & Casbergue, 2009). They frequently show off their writing attempts by asking others to look at what they wrote (Snow, et al., 1998).

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands write *letter strings*. Preschool children use known letters and letter approximations to represent written language (Neuman, Copple, & Bredekamp, 2000). Once children begin making mock letters and simple approximations of a few letters, they begin to put their letter-like marks together to make “words” (Schickedanz & Casbergue, 2009). They may string together words copied from their environment (McAfee & Leong, 2007) or the letters in their name, which they repeat over and over again (Schickedanz & Casbergue, 2004).

Children in the *blue* (pre-K 4) and *purple* (kindergarten) bands use *early invented spelling*. By age 4 children attempt to spell words as they write to communicate their thoughts and ideas (Roskos, Tabors, & Lenhart, 2004). They spell according to how words sound, focusing on the most salient sounds, such as beginning or ending sounds (semiphonemic spelling) (Schickedanz & Casbergue, 2004). Initial sounds (especially initial consonants) and/or final sounds may be used to represent entire words (Baghban, 2007; Copple & Bredekamp, 2009). Most preschool children will not progress beyond semiphonemic spelling (Schickedanz & Casbergue, 2004), and kindergarten children who are early phonemic spellers will continue to represent only the most prominent sounds in words (Schickedanz & Casbergue, 2009).

Children in the *purple* (kindergarten) band use *late invented spelling*. As children progress from semiphonemic spelling, they begin to incorporate additional sounds (e.g., medial sounds and long vowels) into the words they write (McAfee & Leong, 2007; Schickedanz & Casbergue, 2004). During this period they may integrate some high frequency words into their writings (Burns, Griffin, & Snow, 1999; Neuman, Copple, & Bredekamp, 2000). Familiar, conventionally spelled words and words which are important to them may also be added to their repertoire as they write to express meaning (McAfee & Leong, 2007).

Objective 19. Demonstrates emergent writing skills

b. Writes to convey meaning

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Mathematics

MATHEMATICS OBJECTIVES

- | | | | |
|----|---|----|------------------------------------|
| 20 | Uses number concepts and operations | 22 | Compares and measures |
| 21 | Explores and describes spatial relationships and shapes | 23 | Demonstrates knowledge of patterns |

Children slowly construct informal mathematical knowledge, beginning in the first few months of life. First-hand exploration is important for learning mathematics. As infants, children begin to use their everyday experiences to construct a variety of fundamental mathematical concepts and strategies. The knowledge children acquire informally provides the foundation for the concepts and skills that they later learn formally in school. Through the essential process skills of problem solving, reasoning, communicating, making connections, and representing, children learn mathematics content (Copley, 2000; Geist, 2009).

Research has made a clear link between early math skills and later school reading and math achievement. An analysis of six longitudinal studies showed that early math skills have the greatest predictive power, followed by reading and then attention skills (Duncan et. al., 2007). Children's knowledge at kindergarten entry is considered predictive of future mathematics success throughout their years in school. Evidence shows that high-quality early childhood education programs can make a difference in children's mathematical learning (Clements & Sarama, 2009).

Regardless of social class, culture, or disability, most children develop mathematical skills. However, there are gaps in some children's informal knowledge that make it difficult for them to understand school mathematics (Benigno & Ellis, 2004; Klein & Starkey, 2004).

Language plays a central role in teaching and learning mathematics. For a child with a disability, the environment or materials may need to be adapted, routines adjusted, or an activity modified. The teacher's role is to determine what special supports a child needs to participate fully (Copley, Jones, & Dighe, 2007).

Adults play a significant role in helping children learn mathematical vocabulary, concepts, and process skills. If children are to develop the knowledge needed for later formal learning, they need frequent practice with materials in play settings and adult-guided activities that include meaningful discussions and applications (Varol & Farran, 2006).

In the last few years researchers have examined the development of mathematics knowledge and skills in young children (National Research Council, 2009). The National Research Council, in particular, has focused on the importance of establishing learning goals for young children and improving the quality of instruction that they receive. Many organizations (the National Council of Teachers of Mathematics, the National Association for the Education of Young Children) and individual researchers have furthered our understanding of the foundational knowledge young children acquire before formal schooling as well as the need to focus on the core concepts of number, geometry, and measurement in the early years, whether in child care or public school settings (National Council of Teachers of Mathematics, 2006). This research informed Teaching Strategies' development of the mathematics objectives and enabled us to create a sequence of development and learning with clear expectations for each age and grade level. The important process skills necessary for mathematics learning are addressed as part of the cognitive objectives because they are essential for learning across all content areas.

Objective 20. Uses number concepts and operations

Numbers are abstract symbols used to describe and explain objects and events. In order to understand numbers, children need to learn about counting, quantity, and how to represent numbers in the form of numerals (National Research Council, 2009). Children's understanding of counting, number operations, and number symbols is fundamental to their success with more complex mathematics (Ginsburg & Baroody, 2003; Zur & Gelman, 2004). Just as early literacy development requires that children learn to recognize and name the letters of the alphabet, understand the alphabetic principle, and develop phonological awareness, early mathematical development requires that children build their understanding of number by learning to recognize numbers (numerals) and associate each one with a particular quantity, thus connecting the symbol with its meaning (Copley, 2000).

a. Counts

As toddlers in the *orange* (1–2) and *yellow* (2–3) bands begin to demonstrate oral language skills, they begin to use number words (Clements & Sarama, 2009).

Young children in the *yellow* (2–3) and *green* (preschool 3) bands begin by learning the counting sequence as a memory task without understanding its meaning (Clements & Sarama, 2009; National Research Council, 2009); next, they can learn to count accurately.

The teen numbers are a new challenge for young children and the pre-K year sees the beginning of this skill developing. Starting around age 4 (*blue* band) and continuing through the kindergarten year (*purple* band), young children can be expected to develop the concept of cardinality (Clements & Sarama, 2009): that is, the last number named when counting objects tells how many there are in all.

By the end of the kindergarten year (*purple* band), children can be expected to know the counting sequence to 100 (Clements & Sarama, 2009; National Research Council, 2009). If they have learned strategies to keep track of what they have counted, they can demonstrate one-to-one correspondence as they count objects and are able to count objects accurately to 30 (Clements & Sarama, 2009). With many opportunities to count and talk about numbers, they demonstrate their understanding of the counting sequence and teen numbers by identifying the number that comes before or after numbers to 20.

Objective 20. Uses number concepts and operations

a. Counts

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Objective 20. Uses number concepts and operations

b. Quantifies

While infants begin to distinguish very small collections of objects (e.g., they indicate they want “more” cereal Os), beginning around age 1 (*orange* band) and continuing throughout the second and third years (*yellow* band), children begin to compare collections.

As children in the *green* (preschool 3) and *blue* (pre-K 4) bands have experiences in which small groups of objects are labeled with number names, e.g., “You have 4 peas,” they learn the meaning of number words and they compare quantities (Clements & Sarama, 2009). In addition, they learn to recognize small groups of objects instantly, e.g., 3 balls (Clements & Sarama, 2009).

In the prekindergarten and kindergarten years (*blue* and *purple* bands), children can learn strategies (National Research Council, 2009), including representing (drawing) (Clements, 2004), using concrete objects (manipulatives), touching, comparing, and counting techniques (counting on, counting all) to manipulate objects and learn about quantity.

By the end of the kindergarten year (*purple* band), children can learn the patterns of counting (particularly teen numbers), as well as additional strategies that enable them to work with quantities above 10, such as counting by groups or skip counting by twos, fives, and tens (Clements, 2004). They also learn to “read” numerals, which assists with solving problems related to quantity.

Objective 20. Uses number concepts and operations

b. Quantifies

	<ul style="list-style-type: none">• Clements, D. H. (2004). Major themes and recommendations. In D. H. Clements & J. Sarama, (Eds.), <i>Engaging young children in mathematics: Standards for early childhood mathematics education</i> (pp. 7–72). Mahwah, NJ: Lawrence Erlbaum Associates.• Clements, D. H., & Sarama, J. (2009). <i>Learning and teaching early math: The learning trajectories approach</i>. New York: Routledge.
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Objective 20. Uses number concepts and operations

c. Connects numerals with their quantities

Children in the *yellow* (2–3) and *green* (preschool 3) bands are just beginning to show an interest in recognizing letters and numbers (National Research Council, 2009).

When children in the *green* (preschool 3) and *blue* (pre-K 4) bands have many opportunities to connect set sizes with written numerals, they can learn to identify numerals (Clements, 2004).

During the pre-K 4 year (*blue* band) children can be expected to learn to read the numerals to 10 (Clements, 2004). Writing will come later in the kindergarten year (*purple* band), as it is a much more difficult skill. It is helpful for children to learn to count objects and connect the numeral with the counted objects at the same time. This helps with learning the correct language of counting and with a conceptual understanding of the cardinality principle.

Numerals serve a purpose for children in the kindergarten year (*purple* band) by helping them keep track of what they are counting and record information (Clements & Sarama, 2009).

Objective 20. Uses number concepts and operations
c. Connects numerals with their quantities

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Objective 21. Explores and describes spatial relationships and shapes

In order to navigate the world successfully, children need to learn about spatial thinking. Navigation requires knowing which way, how far, and where to go, as well as considering the objects on the way, and perhaps, in the way. Learning about shapes helps children identify objects in their environment and is a “fundamental concept in cognitive development” (Clements & Sarama, 2009, p. 123). “The *goal* of increasing children’s knowledge of geometry and space is second in importance only to numerical goals and all these are (or should be) strongly interrelated” (Clements & Sarama, 2009, p. 116).

a. Understands spatial relationships

As young children in the *orange* (1–2) and *yellow* (2–3) bands explore their environment, they learn about objects in space. If they hear language that describes objects in space, they develop the vocabulary associated with spatial relationships.

In an environment where children have many sensory opportunities, three-year-olds in the *yellow* (2–3) and *green* bands (preschool 3) can work on learning to follow directions related to objects around them.

In the prekindergarten year and beyond (*blue* and *purple* bands), children can gain increasing sophistication in the language they use about objects in space.

In the kindergarten year (*purple* band), children can begin to locate objects on maps by using the previously learned language to explain location, direction, distance, and proximity.

Objective 21. Explores and describes spatial relationships and shapes

a. Understands spatial relationships

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Objective 21. Explores and describes spatial relationships and shapes

b. Understands shapes

In the *orange* (1–2) and *yellow* (2–3) bands, children are beginning the process of comparing shapes and classifying them. This enables them to begin to match identical shapes.

By the end of the three-year-old year (*green* band), children who have been exposed to a variety of shapes and to their names can both match a variety of shapes and name basic ones.

During the prekindergarten year and beyond (*blue* and *purple* bands), the goal is to help children learn to “...name, describe, analyze, and classify shapes” (Clements & Sarama, 2009, p. 136).

It is important for children to be exposed to many different examples of a given shape, e.g., not just equilateral triangles with an angle on top. They need to learn, for example, that a square is a particular kind of rectangle and be able to explain why.

By the end of the kindergarten year (*purple* band), children can identify and explore a great variety of shapes and can compose, combine, and build shapes using other shapes and the classification skills they have been taught.

Objective 21. Explores and describes spatial relationships and shapes

b. Understands shapes

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	<ul style="list-style-type: none">• Clements, D. H., & Sarama, J. (2009). <i>Learning and teaching early math: The learning trajectories approach</i>. New York: Routledge.• National Research Council. (2009). <i>Mathematics learning in early childhood</i>. Washington, DC: National Academies Press.
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Objective 22. Compares and measures

Through the study of measurement, children make connections about and expand their understanding of both number concepts and geometry. As they describe objects in space and the attributes of objects, they make comparisons and learn to use words related to number. They investigate quantity as well. Children have to reason, represent, and solve problems (National Research Council, 2009).

In the *orange* (1–2), *yellow* (2–3), and *green* (preschool 3) bands, children can be expected to use their perceptual skills and their beginning understanding of quantity to compare objects related to length (longer), height (taller), and size (bigger).

During the preschool years (*green* and *blue* bands), children can be expected to begin to learn the attributes of measurement—length, weight, area, and volume—and use that information to compare objects by using the same attribute.

The major development at the *blue* (pre-K 4) and *purple* (K) levels is the ability to use the language of number when making comparisons. Although children may use standard measuring tools, they might not do so with accuracy.

By the end of the kindergarten year (*purple* band), children who have been given sufficient experiences can be expected to use basic measurement tools appropriately and understand and use ordinal numbers when speaking.

Objective 22. Compares and measures

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Objective 23. Demonstrates knowledge of patterns

“Mathematics is the science and language of patterns” (Copley, 2000, p. 83). The concept of patterns is an enormous part of all domains of mathematics, and children must be taught to look for patterns throughout their mathematical explorations. The kinds of specific pattern work typically explored in early childhood classrooms, the sequential repeated patterns done with small colored blocks or other objects, is but one aspect of this larger study of patterns (Clements & Sarama, 2009.) In the previous mathematics objectives there were references to counting and number patterns, spatial and shape patterns, and the patterns found in organizing objects for seriation. Familiarity with patterning is thought to be the beginning of algebra, because when children explain their patterns by naming them (e.g., AAB,AAB,AAB; down, up, down, up, down, up), they are “having one thing stand for another” (Clements & Sarama, 2009, p. 190-191).

In the *orange* (1–2) and *yellow* (2–3) bands, children may talk about seeing patterns but may not be accurate in their judgments of what is or is not a pattern, and they are not yet able to copy patterns.

Children in the *green* (preschool 3) and *blue* (pre-K 4) bands are very attentive to the patterns in their lives. They are aware of changes in their schedules, such as not going outside after snack or not hearing a story read aloud after lunch. At that point, they are ready for an important next step: to go from recognizing patterns to being able to copy patterns. Teachers engage children in physically copying patterns by demonstrating and asking them to join in hand patterns, e.g., clap, tap; clap, tap; clap, tap (Taylor-Cox, January, 2003). Next, teachers are likely to start repeating color patterns. Children may have to be right next to the pattern being observed when first working on imitating them.

In the *blue* (pre-K 4) and *purple* (kindergarten) bands, children demonstrate an understanding of the structure of the pattern. This important step shows a new level of conceptual knowledge.

In the *purple* band (kindergarten), children demonstrate the ability to use language to explain more complex patterns. They can describe the core unit and translate the pattern from one set of objects or materials to another or use different attributes, e.g., from color to size.

Objective 23. Demonstrates knowledge of patterns

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