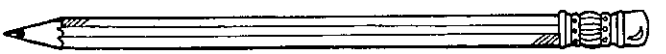
Introduction to Fine Motor Skills

Fine Motor Fun is a large educational resource written especially for early childhood professionals, kindergarten, first grade, and special education teachers, as well as occupational therapists. Teachers will be delighted with the wealth of instructional suggestions, ideas, and reproducible activities designed to help develop and improve fine motor and visual-perception skills of young children.

For some children fine motor skills are easily learned. Art projects and paper and pencil assignments are viewed as fun and rewarding. However, for many other children, learning how to color, hold a pencil, cut with a pair of scissors, complete a maze, or putting together a puzzle can become an overwhelming task.

The development of fine motor skills is necessary for learning how to read and to write. Children who have poor handwriting find copying from the board difficult, struggle with low visual-perceptual skills, and have trouble identifying letters and numerals will benefit from daily fine motor instruction. Fine motor difficulties could actually be eliminated before they have even been identified, and children with identified fine motor difficulties may experience successful remediation.

All young children will experience greater success in school when they are provided with educationally sound activities that promote the development of fine motor skills. *Fine Motor Fun* can help all of the children in your class develop these important skills.



Definitions and Activity Ideas

Fine Motor Skills – This term refers to the ability to use the small or fine muscles that control the movements of fingers, hands, and wrists. Acquiring fine motor skills is necessary for learning how to properly use writing tools, scissors, and for the ability to throw and catch objects. Fine motor skills are developed as the neurological system matures and through time and practice.

Eye-Hand Coordination – In order for a child to develop effective fine motor skills, the child must also acquire the ability to integrate and coordinate visual information. Eye-hand coordination is a common term that refers to the child's ability to coordinate the information that is seen with what the child tells his hands to do. Eye-hand coordination is obviously needed for throwing and catching a ball. As the ball is thrown, the child must make visual judgements about how fast and how high the ball has been thrown, and then make an appropriate and accurate motor response.

The following are some fun ideas to help increase eye-hand coordination:

- Bat balloons to music.
- Use a toy bowling game and practice rolling the ball to knock down the pins.
- Play catch with a soft "Nerf®" ball.
- Play bean bag games and toss to a specified target.
- Blowing and then trying to catch or pop bubbles.

Visual-Motor Integration – In early childhood, young children use visual-motor skills to put together puzzles, stack blocks, and play with balls. Children are learning how to accurately reproduce shapes. They are learning to link what they see with what their hands are producing. Without the development

Fine Motor Skills
A Developmental Checklist

Between Ages of Two and Three:

- ☐ Imitates circular scribble and horizontal and vertical lines
- ☐ Builds a tower of 6 blocks
- ☐ Holds crayon with thumb and fingers *(not fist)*
- ☐ Snips with scissors
- ☐ Puts tiny objects in small containers
- ☐ Folds paper in half
- ☐ Pulls toys with strings
- ☐ Strings 1 to 4 large beads
- ☐ Uses a spoon
- ☐ Turns single pages of a book
- ☐ One hand begins to be dominant
- ☐ Paints with some wrist action
- ☐ Pounds, rolls, pulls, and squeezes play dough

Between Ages of Three and Four:

- ☐ Builds a tower of 9 blocks
- ☐ Snips with scissors
- ☐ Completes a 5–6 piece puzzle
- ☐ Holds a crayon with three fingers
- ☐ Copies a circle
- ☐ Copies vertical and horizontal lines
- ☐ Draws a person with a head
- ☐ Uses a spoon and fork with little spillage
- ☐ Opens rotating door handles
- ☐ Strings ½ inch beads
- ☐ Traces a square
- ☐ Unzips separating zipper; zips and unzips non-separating zipper
- ☐ Unbuttons large and small buttons
- ☐ Identifies body parts

Between Ages of Four and Five:

- ☐ Builds a tower of 10 blocks
- ☐ Strings ¼ inch beads
- ☐ Scissor skills improved – cuts on lines and cuts simple shapes
- ☐ Copies a cross and a square
- ☐ Can independently button and unbutton
- ☐ Laces shoes
- ☐ Uses dominant hand with better coordination
- ☐ Able to do 6–10 piece puzzles
- ☐ Can print some uppercase letters
- ☐ Draws a person with 2 to 4 body parts
- ☐ Holds writing tools with three fingers – control increasing
- ☐ Dresses and undresses independently – managing buttons and zippers
- ☐ No longer switches hands in the middle of an activity
- ☐ Builds a 6 block pyramid

Between Ages of Five and Six:

- ☐ Bounces and catches balls
- ☐ Builds a tower of 12 blocks
- ☐ Can build 3 steps from 6 blocks
- ☐ Draws angles, triangles, and other geometric shapes
- ☐ Draws a complete person with a head, body, legs, arms, and a face
- ☐ Can color within lines
- ☐ Cutting skills improved - can cut along lines and can cut out a circle
- ☐ Holds a knife in the dominant hand
- ☐ Copies first name
- ☐ Has mastered an adult grasp of a pencil
- ☐ Hand dominance is well-established
- ☐ Can use paste and glue appropriately
- ☐ Prints numerals 1 to 5
- ☐ Enjoys working with a variety of mediums: paint, clay, glitter, chalk, glue, etc.
- ☐ Begins to tie shoes
- ☐ Can "sew" lacing cards
- ☐ Completes a 12–15 piece puzzle
- ☐ Learning how to print upper- and lowercase letters

children can experiment and be creative with the skills they are learning.

A teacher's role as guide and facilitator must be both knowledgeable and proactive, and should include the following practices:

Link physical education activities to other curricular areas

Developmentally appropriate physical education programs do not isolate the teaching of movement skills from other parts of the curriculum. Rather, they improve children's depth of learning by helping them apply physical education concepts in different contexts and practice specific skills that incorporate other forms of learning.

Here are some examples: When children are learning to strike a balloon, a teacher can provide lots of different balloons so they can learn about color and size at the same time. Children can practice locomotor skills at the same time as they are developing spatial awareness by moving along a variety of pathways and in different directions.

Or children doing a project about newspapers might discuss how the papers are delivered, as a tie-in to a physical education activity. Giving the children a chance to try delivering papers themselves would be an occasion to teach the steps basic to throwing. After the teacher has taught the skills, children can have fun practicing tossing rolled-up newspapers (fastened with rubber bands) into a large box that they have built to look like someone's front porch (Sanders 2002).

Children can learn to use movement to solve classroom academic challenges, too. When they are learning to print the letters of the alphabet, encourage them to form the letters on the floor using a rope or their bodies. Or invite them to use their imaginations as they practice physical movements in a variety of musical and expressive dance experiences. And don't forget to talk about the importance of physical activity and fitness. For example, after a period of continuous movement, engage children in a discussion about what was happening to their bodies during the exercise and afterward.

Develop fine motor skills

The development of fine motor skills is an important part of every kindergartner's growth and competency. A child's attention span usually lengthens during kindergarten, and this can lead to a greater enjoyment of and involvement in fine motor activities. However, children's preschool experiences do not guarantee their great comfort and agility with fine motor work. Many young children struggle with tasks that require detail, patience, steadiness, and small-muscle coordination, such as writing, drawing, and cutting with precision.

Kindergartners still need and benefit from activities that develop hand muscles and fine motor skills—drawing and painting, working with playdough, and constructing with Legos. In developmentally appropriate environments, teachers include daily activities that foster fine motor skill development. As with gross motor activities, kindergartners need open-ended opportunities to experiment with and explore both materials and their abilities. These explorations may include sorting small objects; stringing beads; zipping, buttoning, and tying various articles of clothing; using scissors; pouring milk or juice at snack; or setting the table for snack.

If children are going to enjoy participating in physical movement activities, now and as adults, they must develop a foundation of physical skills.

Children with disabilities can also practice fine motor skills, using assistive technology such as Velcro shoes and weighted bowls and utensils. When children are unable to use their hands to draw and build, assistive technologies such as modified keyboards, switches, point devices, and graphics programs can help.

Individualize for all children

A teacher should assess all children's development for information that will help her individualize instruction, plan appropriate lessons, identify children with special needs, and communicate with family members about children's progress. As

with all best practices in education, expectations must be in sync with children's developmental readiness and tailored to meet each child's individual needs. Readiness resides within the child and cannot be rushed. Each child needs support and encouragement as he or she negotiates learning at a personal pace. For example, if a teacher has a five-step plan for teaching children to throw a ball correctly, she must remember that not every child will learn best by following that plan. One child may begin with step four. Still another may need to begin with step one, go to step two, and then return to step one for more practice.

However, physical educators believe that sequential skill development is at the center of young children's physical growth. No matter what the physical activity, a child cannot take part successfully if the essential fundamental movement skills basic to that activity have not been mastered (Gallahue 1995). Teachers are essential in this process.

Instill healthy habits

It's important for kindergarten children to begin to understand the relationship between physical activity and good nutrition. School is an ideal place for children to learn nutritious habits.

A teacher should model and teach nutrition in the classroom so that children understand the relationship between good nutrition and the phrase "physically active and healthy for life." She should guide them to discover a variety of nutritious foods, develop a willingness to taste new foods, and recognize that a variety of foods can help them grow and stay healthy. She can help develop their confidence, independence, and even the motor skills associated with preparing nutritious foods, as well as teach them the importance of cleanliness when working with foods. These are worthy lifelong habits.

Create appropriate environments

The role of kindergarten teachers in physical education is to create positive and success-based environments in which children can develop fundamental motor skills through play-based learning activities. Although a teacher may not be teaching motor skills in an ideal situation, he (and the school) can strive to create an environment that includes the following:

- Inside and outside physical activity areas with adequate space for children to move freely and safely without bumping into each other
- Opportunities for daily, high-quality movement instruction with plenty of time for practice—exclusive of free play sessions
- Appropriate equipment so that each child benefits from maximum participation

The ideal environment offers children opportunities to develop both fine and gross motor skills. Children naturally learn and practice fine motor skills daily in classroom writing centers and with drawing activities, puzzles, and manipulatives. However, learning and practicing gross motor skills requires open space, such as a large room, a gym, or a spacious hallway or outdoor area, so that children can throw, kick, strike, run, and skip. There must also be enough equipment so that many children can participate in similar physical education activities at the same time (for example, every child has a ball to work on different ways to dribble, or every child has a jump rope to practice jumping). If space is a problem, setting up physical education stations (supervised by adults such as trained parent volunteers) can allow children to move from place to place to practice a variety of skills.

Another good idea is a physical education center, a semi-permanent space similar to a reading or science center. Here, small groups of children can practice developing a specific movement skill, deepen their understanding of movement and movement concepts, and use their physical education skills in ways that link to other areas of the curriculum. For example, in a center where children are learning about moving through space, they might plot a route on a map they have created, construct a miniature obstacle course using playdough and props, or measure various lengths of jumps and leaps using rope segments.

Engage children's families

Teachers should provide families with information about the physical skill development cur-

sake; even though preschoolers appear a bit uncoordinated or kinesthetically unaware at times, they have fun using and exploring their body's capacity for movement (Sanders 2002).

Fine Motor Development

Given opportunities to practice, preschoolers do make gains in their fine motor skills, but they do not attain any kind of sophisticated manual dexterity. Writing, drawing, and cutting with precision are activities that can be difficult for many preschoolers, who are still developing comfort and agility with fine motor work. They may experience failure and frustration if they often are 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.

Handedness is fairly well established around age 4, although the wrist contains some cartilage that will not harden into bone until about age 6, placing some constraint on fine motor capacity (Berk 2008). As a result, most preschoolers cannot make fully circular wrist motions, such as those needed for cursive writing (neither do they have the wrist strength to propel themselves on overhead horizontal bars).

They make progress through opportunities for open-ended activities that develop their hand muscles and fine motor skills, such as exploring drawing and painting, working with playdough and clay, or constructing with Duplos or Legos. Such activities—along with plenty of time and encouragement—engage children and prepare them for the demands of handwriting and other skills developed later. Children at this age can also learn to use their hands and fingers by watching others.

Promoting Physical Development in Preschool

Becoming more adept, coordinated, and skillful involves an interplay between children's emerging physical capacities, resulting from growth and maturation, and the skills that develop from adult instruction (physical education) and opportunities to practice specific new skills (recess, free play). While children may develop many of their physical capabilities through play, they also need planned movement activities, explicit instruction (both verbal and modeled), and structured physical skill development opportunities to guide them in becoming physically active and healthy for a lifetime (NASPE 2002; Sanders 2002).

The National Association for Sport and Physical Education (2002) recommends that preschoolers accumulate daily at least 60 minutes of structured