

**Physical Skills**

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## FOUNDATIONS FOR PHYSICAL DEVELOPMENT

Early childhood is the time for a child to begin the development of an active, healthy lifestyle. Children learn through active movement. The development of skills, knowledge, and attitudes that leads to such a lifestyle must be taught and should begin early in order to ensure a lifetime of good health. Young children need space, common materials, and opportunities for practice. Children practice movement of their large muscles (arms and legs) through pulling up, walking, balance, running, jumping, climbing, throwing, and even dancing. We want children to be physically fit because it is important to their health, now and later. Through large motor activities, children practice fundamental movement skills that help them develop positive self-esteem and physical competence. Through movement, children may make believe they are dogs, bears, snakes, butterflies, or space people!

Children move their small muscles when they grab or hold a rattle, stack blocks, string beads for necklaces, pinch, pull, stuff, and scribble. These hands-on interactions with their environment, allows children to make discoveries, e.g. how big is the ball, how tall is the tower, what does this new food taste or feel like, how deep can I dig in the sand? Young children are continually refining their senses and motor skills in preparation for the refined movement of penmanship. It is through physical activity and movement of one's own body that the human brain internalizes the conceptual foundations of laterality (left and right), directionality (up, down, in, out) and position in space (over, under, behind). All of these concepts are critical to mathematical thinking related to patterns and relationships, as well as to the foundations of reading and writing. They are necessary in order for the child to "see" how letters are formed and put together in patterns to create words and to translate this understanding into physical movements to recreate these symbols on paper in writing form.

As young children move their bodies, they learn many concepts through their senses (sensory motor integration). Children need to be provided with many experiences that integrate their body movements with their senses, including: tactile/touch, smell, hearing, taste, sight, kinesthesia (movement), and the vestibular sense (found in the inner ear, this helps maintain balance and judge a person's position in space). Young children need experiences that stimulate the inner ear's vestibular area (e.g. as rocking, swinging, rolling, turning upside down, and spinning).

## KEY FINDINGS

- **Movement increases in importance in early childhood program curricula as it is one of the multiple intelligences, kinesthetic intelligence.** (Gardner, 2000)
- **Planned movement experiences enhance play experiences** (National Association for Sport and Physical Education. (NASPE) 2011)
- **Development is bi-directional—what a child does or does not do affects the caregiver’s response, and what the caregiver does or does not do, in turn, has an effect on the child. Positive encouragement for active exploration and investigation, which builds motor and sensory pathways, is important.** [Marcon 2003]
- **Caregivers can facilitate sensory-motor development by providing activities that involve touching, feeling, holding, or exploring objects. Toys should be responsive to the child’s actions: a variety of grasping toys that require different types of manipulation; a varied selection of skill-development materials, including nesting and stacking materials, activity boxes, and containers to be filled and emptied; a variety of balls, bells, and rattles.** [Bredenkamp & Copple 1997]
- **A safe, open environment where children are most free to move is important. Playpens, infant seats, swings, and jump chairs should not be used for extended periods of time.** [Gonzalez-Mena & Eyer 1997]
- **Nutrition may affect motor development in two ways. First, inadequate nutritional intake may cause damage to the nervous system, resulting in impairment of intersensory functioning. Second, nutrition affects strength and energy level. Undernourished infants are apathetic and lack sufficient physical vigor and endurance to pursue motor activities.** [Smoll 1982]
- **When an adult provides play opportunities that are based on the interests of the child (indicated by attention and excitement he/she displays) it will encourage the child to keep exploring and learning.** [Dodge, 1999]
- **Movement builds the brain particularly during the first four years of life preparing the child for lifelong learning.** [Dodge, 1999]
- **Mobile infants begin to build an identity as an explorer. Opening and shutting, filling and dumping, and picking up and dropping are all activities that challenge infants’ mobility and dexterity as well as their ideas about objects and what they can do. Physical activity and learning are intricately connected. Through their exploration of objects and their own physical skills, babies learn rudimentary rules of cause and effect and the use of objects as tools for specific purposes, sequence, classification, and spatial relationships.** [Bredenkamp & Copple 1997]
- **The exciting result of developing new motor skills is it leads infants and toddlers to make other discoveries. As they explore, they begin to make sense of their environment. For example, as the younger infant gains control of his head, he can use his eyes and ears to locate a sound. As he learns to use fingers, hands, and wrists, he can touch, taste, and smell the pear on his highchair tray. And as he turns the pages of a book, he can identify familiar objects and recall a favorite story.** [Dombro, Colker, & Trister-Dodge 1997]
- **Children should engage in daily movement opportunities designed for their developmental levels in order to enhance the concepts of body awareness, space**

**awareness, effort, and relationships and to develop competence in a variety of manipulative, locomotor, and non-manipulative skills.** [National Association for Sport and Physical Education, 2000]

- **Young children learn and develop in an integrated fashion; thus, learning experiences in movement should encompass and interface with other areas of development.** [National Association for Sport and Physical Education, 2000]
- **Adults help children understand the satisfaction and joy that results from regular participation in physical activity.** [National Association for Sport and Physical Education, 2000]
- **Adults use observational assessment of each child’s progress to plan and adapt curriculum to meet individual developmental and learning needs.** [Bredenkamp, S. & Copple, C., (Eds.), 1997]
- **Adults provide a variety of novel learning experiences that emphasize the same motor skill, across different environmental contexts, allowing for the gradual development of desired movement patterns and the development of confidence.** [National Association of Sport and Physical Education, 2000]

## GLOSSARY:

**Fine Motor:** Refers to the control of the hand muscles with careful perceptual judgment involving eye-hand coordination, sometimes referred to as small muscle control.

**Gross Motor:** Refers to the functional use of the limbs (arms and legs) for such activities as jumping, hopping, skipping, running, and climbing, sometimes referred to as large muscle control.

## RESOURCES AND REFERENCES

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## PHYSICAL STANDARD AREA SENSORY INTEGRATION

### ❖ COMMON CORE STATE STANDARD: NONE

Indiana Academic Standards for Physical Education can be found here:  
[http://dc.doe.in.gov/Standards/AcademicStandards/PrintLibrary/docs-physed/2010\\_Physical\\_Education\\_Standards.pdf](http://dc.doe.in.gov/Standards/AcademicStandards/PrintLibrary/docs-physed/2010_Physical_Education_Standards.pdf)

### ❖ ISTAR-KR: Sensory Integration

The ability to take in information through all five senses (touch, hearing, sight, taste, smell) is present at birth. Along with their five senses, the infant can also notice changes in body position (kinesthetic) at birth. Most babies can also recognize and integrate information from more than one sensory system early in life. Over time and with experience, the young child gains a feeling of mastery and pleasure from body movement, sensation, and can effectively communicate their comfort or discomfort to information received through the senses.

#### Young Children are Learning When They:

- P.1.1 Responds to sensory input with a variety of behaviors.
- P.1.2 Tolerates a variety of sensory of input.
- P.1.3 Regulates sensory input with assistance.
- P.1.4 Applies a strategy to regulate sensory input.
- P.1.5 Explore objects, people, and things by kicking, reaching, grasping, and pulling.
- P.1.6 Hear and feel through their activities.
- P.1.7 Explore the environment using the five senses.
- P.1.8 Explore the people and objects around them using all of their senses.
- P.1.9 Enjoy movement activities.
- P.1.10 Participate in a variety of gross/fine motor and sensory activities.

#### A child can be supported by an adult who:

- Talks and sings to infant, smiles, coos, sways, swings.
- Offers finger or rattle for grasping.
- Offers opportunities for child to imitate sounds and movements.
- Provides the child with age-appropriate gross/fine motor and sensory activities that are fun, yet challenging.
- Incorporates various motor/sensory experiences while transitioning from one activity to another or from one place to another.
- Provides the child with age-appropriate gross/fine motor and sensory activities that are fun, yet challenging.
- Talks with the child about feelings while participating in gross/fine motor and sensory activities.

## PHYSICAL STABILITY

### ❖ ISTAR-KR Area: Physical Stability

Beginning at birth, young children start the process of gaining control over their bodies. As muscles strengthen and coordination improves, gains are seen in the ability to control the head, trunk, and arms. Their strength allows young infants to transition to movement while their tummy or back to the ability to sustain balance in an upright position, e.g. sit, pulling to stand, reaching while sitting. Their new found physical stability provides children the competence in fine and gross motor skills, to be able to use new capacities for fun in play and to become more self-sufficient.

#### Young Children are Learning When They:

- P.2.1 Demonstrates strength in resisting gravity (e.g. controls head, turns head, sits momentarily with support).
- P.2.2 Demonstrates movement with strength (e.g. moves when on stomach or back; raises head and chest when on tummy; moves arms and legs when on back or tummy).
- P.2.3 Demonstrates stability and balance in upright position with assistance (e.g. sits with support; stands a few moments with help; pulls to stand holding onto something)
- P.2.4 Demonstrates stability, balance and control in upright position (e.g. bears weight on a variety of body parts; stands from sitting; stoops and picks up object and regains stand; transitions from sit back or tummy; sits independently).
- P.2.5 Develop increased control over their body parts.
- P.2.6 Open doors and cabinets
- P.2.7 Try putting on clothing
- P.2.8 Throw a ball
- P.2.9 Identify and use a variety of spatial relationships with objects (e.g., the child will move self and/or an object over, under, beside, and through as directed).
- P.2.10 Apply movement concepts to specific movement situations (e.g., bend knees to soften the landing).
- P.2.11 Integrate a variety of educational concepts in games and rhythmic/fitness activities (e.g., child moves like a lion and roars as he/she moves).

#### A child can be supported by an adult who:

- Facilitates maximum freedom of movement by limiting clothing and providing open area for movement.
- Gives older infants space and time to practice crawling, creeping, pulling up, and walking.
- Places the child on the floor and joins in play with him/her (rolling back and forth, sharing a toy, finger plays).
- Provides opportunities for the child to jump off of and over things and/or equipment.
- Supports the child's rhythm and movement experiences by providing pots, pans, bowls, and kitchen utensils as musical instruments.



## GROSS MOTOR SKILLS

### ❖ ISTAR-KR Area: Gross Motor Skills

Movement skills young infants' progresses rapidly from maintaining head control, to movement while on their tummy or back, to being able to roll, crawl or creep. They observe, practice, demonstrate, and compare fundamental movements while learning to control their bodies in relation to other individuals and independent objects. Gross motor skill become refined as they now are motivated to move in an upright position, e.g. walking with hands held or holding onto furniture. Navigating differences in surface levels also provides new challenges in gross motor skill development, e.g. stairs. A toddler's independent walking quickly expands to walking hurriedly to running, The preschool child continues to build strength in their large muscles as they practice riding a tricycle, hopping, jumping, and simple tumbling movements.

Young children begin to develop movement vocabulary and to use terminology accurately. The children apply movement concepts to motor skills by responding appropriately to direction (front/back, side/side, left/right, personal and general space, effort and force (hard/soft), and speed and flow (fast/slow).

#### Young Children are Learning When They:

- P.3.1 Roll side to side.
- P.3.2 Crawl, creep on knees.
- P.3.3 Move in upright position.
- P.3.4 Regulate forward movement.
- P.3.5 Sustain physical activity.
- P.3.6 Perform motor skills in progression of head control, rolling, sitting, standing, walking, running, climbing.
- P.3.7 Explore the environment (e.g., banging, shaking, throwing, dropping, climbing).
- P.3.8 Repeat actions and gain strength.
- P.3.9 Display protective responses. (ie. Hands out to catch self)
- P.3.10 Use objects as tools.
- P.3.11 Initiate motor play.
- P.3.12 Perform locomotor and non-locomotor skills at a basic level (e.g., marching, walking, running, hopping, kicking, crawling, jumping forward with feet together, sliding, stretching, climbing, and walking in a line one behind the other).

#### A child can be supported by an adult who:

- Places babies in new positions so they can see others from different angles.
- Provides opportunities to explore through movement, creeping, crawling, climbing, and walking.
- Exposes children to different play/physical settings and new experiences; i.e., blankets on the floor, play gyms, outdoors, play groups, “Mommy and me” groups.
- Provides opportunities for the child to participate in simple games without rules with peers.
- Offers playthings such as scooters, baby buggies/carts to push.
- Encourages the child to walk, run, hop, and jump on the lines of a sidewalk or drawn lines on a hard surface.
- Provides materials and equipment for encouraging body movements (e.g., bean bags, a wagon and/or doll stroller to push or pull).
- Provides opportunities to climb, hop on one or two feet, lie on a skateboard and push with one's hands, or play outside.

## Young Children are Learning When They:

- P.3.13 Perform stability skills alone and/or with a partner. (e.g., transferring weight so as to rock, roll, stand on one foot for six seconds and walk up and down steps with alternating feet, tumbling skill of somersaults and log rolls, and walking on a balance beam forward and backward).
- P.3.14 Manipulate objects by throwing, catching large balls with two hands, striking, swinging, and pulling at a basic level. (e.g., throws an object at a target with an overhand motion and trunk rotation, throws something upward and catches it, and jumps over a stationary object).
- P.3.15 Perform basic rhythmical skills alone and/or with a partner. (e.g., the child marches and dances to music or rhythmical sounds in free form or with simple adult directions).

## A child can be supported by an adult who:

- Provides physical activities in which only one side of the body is used at a time (e.g., hopping on one foot).
- Provides activities that promote crossing the midline of the body (e.g., moving limbs and eyes across the middle of the body from right to left or left to right to perform a task).



## **How it looks in everyday activities:**

### **Scarf Dancing**

Mrs. Madison places a large box on the floor and calls her class over to the circle time area. “Today we have a surprise. It is inside this box,” she says with a smile. “Who would like to guess what is in the box?” Carmindy raises her hand and says, “Is it something to eat?” “No, not something to eat,” answers Mrs. Madison. The other children take turns guessing. Mrs. Madison gives them some clues as they go along. She writes the guesses on the board to help everyone remember what has already been guessed.

Finally, Mrs. Madison opens the box and the children are excited to see many colored and textured scarves. Each child is able to choose a scarf and there are still some left over. Mrs. Madison explains that they will use the scarves to dance. She shows them how to move with the scarves floating up and down, around, between legs, and behind backs. Carmindy and her friend Tessa, who uses a wheelchair, try to toss the scarves back and forth between them. They giggle when Carmindy misses the scarf and has to chase it down.

Mrs. Madison puts on a CD that she has prepared with several different kinds of music: country, jazz, and classical. As the music plays, Mrs. Madison asks the children to describe it, “Does the music sound happy? Is it slow or fast?” she asks them. They match their movements to the different music.

## ***Development of a skill in one area is related to and influences other developmental areas:***

### **Adaptation:**

- Can substitute plastic grocery sacks for scarves.
- Think about ways to involve children with special needs.
- Can be an inside or outside activity.

### **Extension:**

- While moving with scarves, run, hop, jump, skip, or slide feet.

### **Physical:**

- Coordinates eye-hand movements.
- Discriminates differences in texture.
- Builds strength, flexibility, coordination in hands and fingers.
- Uses large muscles (gross motor skills).

### **Self-help:**

- Chooses scarf.
- Moves without adult assistance.

### **Communication/Literacy:**

- Repeats simple directions.
- Uses words to describe motions, needs, and how music makes them feel.
- Talks with friends.

## OBJECT CONTROL

### ❖ ISTAR-KR Area: Object Control

The child's world is full of interesting things to reach out and touch, hold and explore, thus the need for vigilant baby proofing of rooms. Grasping an adult finger and later an adult's eye glasses or earrings is an infant's demonstration of their desire to reach and hold onto something with their hands. Intentional grasping develops before intentional releasing of objects. The ability to use both hands in the middle of the body is not only an essential neurological ability, but allows for efficient use of hands to explore objects, e.g. throwing, catching and kicking balls.

#### Young Children are Learning When They:

P.4.1 Reaches for, grasps and releases objects.

P.4.2 Releases objects with control.

P.4.3 Uses both hands in the midline of body.

P.4.4 Throws, catches, and kicks objects.

P.4.5 Throws, catches, kicks objects with control.

P.4.6 Use objects as tools.

P.4.7 Manipulate objects by throwing or catching (ie., large balls with two hands, striking, swinging)

#### A child can be supported by an adult who:

- Provides opportunities for games of throwing the ball between children and/or adults.
- Has tools available for children to utilize in different ways (ie., bats, jump ropes).
- Allows children to use objects in non-traditional ways.
- Provides target games (toss across, "corn hole" game)
- Provides stationary objects for children to attempt to jump over and climb.
- Play games that children pass an object around the circle (hot potato).
- Provides various size containers to drop objects into.
- Allow children to practice feeding themselves, drinking from a cup and give strategies or assistance as needed.

## PRECISION HAND SKILLS

### ❖ ISTAR-KR Area: Precision Hand Skills

The early ability to grasp and explore and object with their hands, transitions into the ability to manipulate objects by using the muscles of the arms, hands, and isolating fingers. These skills are the foundation to the later academic skills of cutting with scissors, writing, and completing mathematical tasks.

#### Young Children are Learning When They:

- P.5.1 Grasps small objects.
- P.5.2 Isolates one or two fingers.
- P.5.3 Uses fingers of two hands to complete activities.
- P.5.4 Explore the environment (e.g., banging, shaking, throwing, dropping, climbing).
- P.5.5 Use objects as tools.
- P.5.6 Manipulate objects by throwing, catching large balls with two hands, striking, swinging, and pulling at a basic level. (e.g., throws an object at a target with an overhand motion and trunk rotation, throws something upward and catches it, and jumps over a stationary object).

#### A child can be supported by an adult who:

- Encourages exploration through various stimuli and objects.
- Makes available different materials for learning and exploring (sand, water, rice pans etc.).
- Offers toys for digging, sifting, cups, water play, outdoor chalk.
- Gives opportunities for self feeding, wiping the table, pouring etc.
- Provides large boxes for stacking, pushing, pulling, hiding in.
- Makes up motions of clapping, stomping, marching to accompany nursery rhymes or other rhyming verses/chants and music.
- Encourages the child's participation in art activities that utilize pincer grasp of thumb/forefinger (e.g., gluing small pieces of paper, peeling/sticking stickers, picking up small objects with fingers or tweezers).
- Provides activities that strengthen hand grasp (e.g., squeezing clay and play dough, squeezing water out of sponges, using a hand held hole punch to punch holes in paper of various thickness).

## How it looks in everyday activities:

### Follow the Leader

Mr. Adams and his 3 and 4 year old class are enjoying a beautiful fall day in the play area. He shouts to the children, "Follow the leader," a favorite game. Mr. Adams gives the directions for what to do next in a clear voice. He uses lots of direction words, such as "Let's go under the branches" and "Jump up over this rock." The boys and girls follow Mr. Adams, hopping three times on the hopscotch board, picking up and throwing leaves in the air, and swaying their bodies left and right.

There is lots of laughter as the boys and girls have to think and move fast to keep up with their energetic teacher. "New leader" Mr. Adams shouts and points to Keith. Keith turns to the front of the line to take his turn. He leads the group around the play area efficiently. Mr. Adams assists Kimbra, who has some vision impairment, with some of the actions and through some of the areas. After his turn, Keith chooses the next leader.

## *Development of a skill in one area is related to and influences other developmental areas:*

### **Social/Emotional:**

- Maintains acceptable personal boundaries.
- Takes turns.

### **Cognitive:**

- Follows directions/verbal.
- Counts a number of objects.
- Asks and responds to questions and statements.
- Uses creativity and imagination.

### **Physical:**

- Imitates body movements.
- Tolerates textures.
- Initiates body movements.

### **Self-help:**

- Completes activities independently.

### **Literacy:**

- Understands verbal directions.
- Verbalizes directions to others.