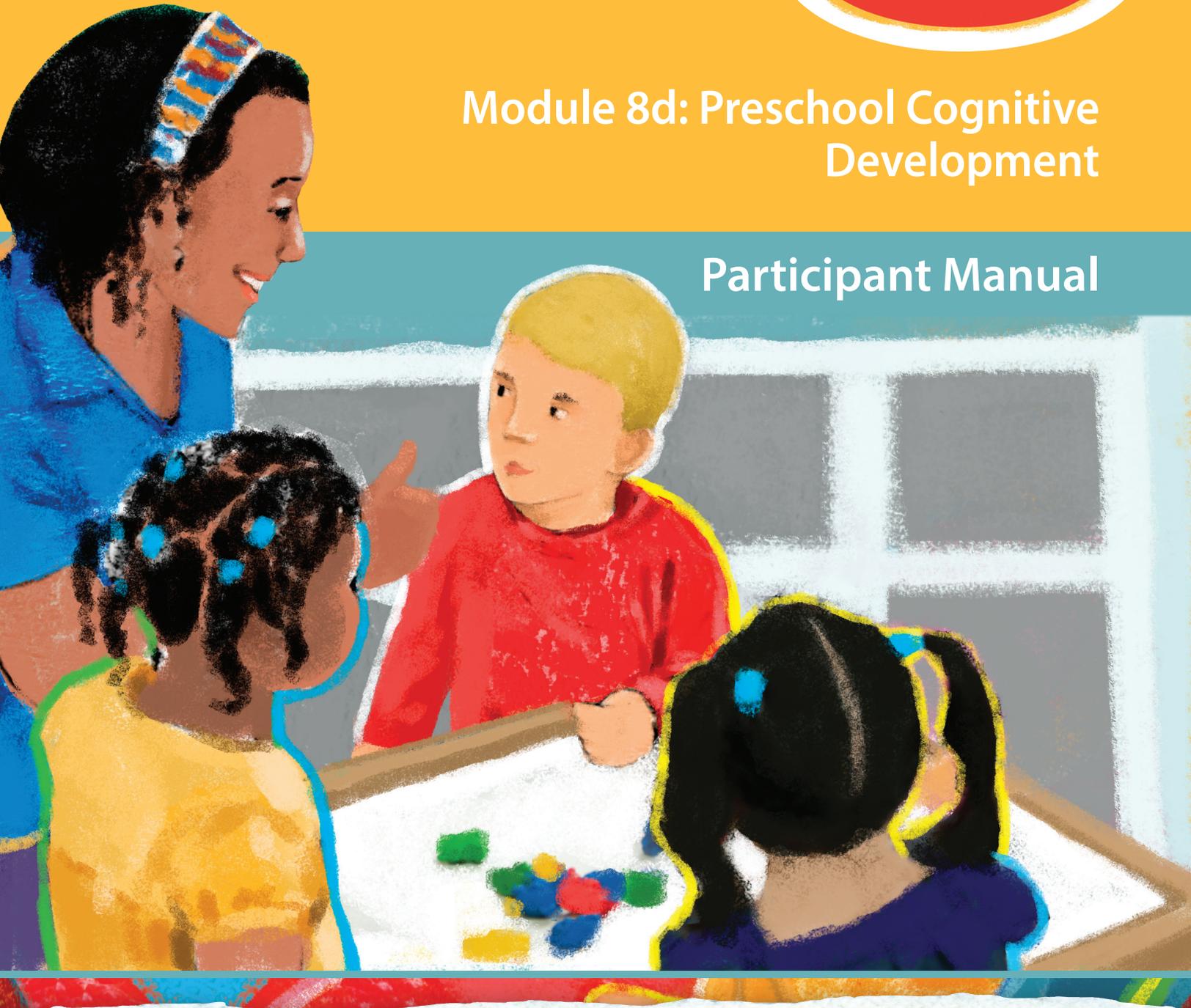# ECE Credential

Level 1

Module 8d: Preschool Cognitive Development

Participant Manual

Training brought to you by: GATEWAYS TO OPPORTUNITY®
Illinois Professional Development System

ECE Credential Level 1 Training

Module 8d: *Preschool Cognitive Development*

Participant Manual · Standardized Version

This training is Registry-approved and counts towards DCFS licensed program training hours.

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Acknowledgments

ECE Credential Level 1 Training *Module 8d:* Preschool Cognitive Development

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Resources

Learning Objectives

Following this training, participants will be able to:

- Name characteristics of cognitive development in preschool age children
- Identify ways to promote cognitive development with preschool age children
- Discuss the importance of play and exploration in a child care program

Self-Reflection

Name or topic of your last module: _____

Reflect upon the last module you attended and answer the following. If this is your first module, you are not required to complete this section.

What new skills have you started practicing or what changes have you made as a result of the training?

_____

_____

_____

What has worked? What hasn't?

_____

_____

_____

What resources did you use from the training?

_____

_____

_____

What other knowledge did you gain as a result of the training?

_____

_____

_____

Part 1: Cognitive Development and the Preschool Age Child

Brain Development and Impact on All Developmental Domains

- Physical and motor
- Cognitive
- Social and emotional
- Language and communication

As we talk about cognitive development and other domains of development, it is important to remember how each domain of development is connected with another and how a child's brain development plays an important role in the ability for children to master new skills.

When does a child's cognitive development begin?

_____

_____

_____

When does it end?

_____

_____

_____

What have you observed in your setting?

_____

_____

_____

Meaningful Learning

What makes learning meaningful for children?

- Relates to the child's _____
- Driven from their interests
- Through _____ with others

Children build their knowledge through active and meaningful experiences as well. As they participate in something, they try it out, sometimes fail, adjust their approach, and try it again; all this is a part of constructing knowledge.

Meaningful experiences are experiences which relate to the child's world. Experiences need to be something that is part of home, school, or the world between home and school. It needs to be real and something the child can relate to from their culture. These experiences should also be driven from their interests.

How Children Learn

Conditions That Help Children

- Children learn best when they can move around, test, and experiment.

- When we sit still, we see only one side of an object. By moving around, we see many sides.

- We can feel, hear, smell, and taste.

- Children learn best when they feel good about themselves. Self-acceptance and self-confidence encourage children to improve their skills, to try something harder, and to become more self-reliant.

- Children learn as whole persons. Their physical, mental, social, spiritual, and emotional development interact with their environment to influence their perception of self and of the situation.

- Learning takes time. A pattern of behavior must be reinforced by repetition. Facts must be related to experiences, and mistakes must be recognized.

- Learning is FUN

How Children Learn

- By experiences: Through their senses, failure and success, and culture.

- By association, and words associated with an experience

- By interactions with parents/guardians, teachers and other children.

- Through play: Play allows children to express the things they feel. Through activity children use excess energy and work off pent-up feelings. Play is the way children work out problems during a relationship,and learn how to cope with experiences of conflict, strange situations, or illness.

- By asking questions: Questioning allows children to keep their natural curiosity alive.

- By hearing stories: Hearing stories not only helps children understand more about their present situation, it also helps them relate present experiences to their past heritage.

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Elements of Child Learning

- Children have a natural desire to make sense of their world

- Children develop understanding by acting upon their world

- Thinking will contain errors

- Development is interrelated

- Adult's role

Roles

- Evaluator
  It is very important for child care providers to keep track of the activities they present and do with the children. By doing this, you have a way to reflect and see if the early learning standards are being included in your planning.
    - Illinois Early Learning Guidelines (for birth to age three)
    - Illinois Early Learning and Development Standards
      (for ages three to five)
    - Illinois Early Learning Project website: www.illinoisearlylearning.org

- Questioner

  _____

  _____

- Facilitator
  You assist the children in getting materials, guide discussion, and ask thought-provoking questions.

- Role model
  Model appropriate behavior and ways to use tools and materials in experiences.

Play

Play is:

- _____ and _____ is playing

- vital in _____ development

- fostering creativity and _____ thinking

- fostering social and emotional development

- laying the _____ for reading success

- helping with visual _____, eye-hand coordination

- encouraging flexibility and versatility

- the work of children

- offering numerous opportunities for children to understand _____ _____ experiences and events

- how children can see that _____ experiences are related to previous learning

- an active form of learning that unites the _____, _____ and spirit

Play Basics

The children in your care probably spend much of their time playing.

- Play is the primary way they learn and develop in the early years.

- Play is active and fun. Children play for the joy of the activity itself.

- Play affects all areas of development. Through play children become more skilled at math, language, cooperation, and problem solving.

- Play develops curiosity, self-esteem, strength and coordination, self-direction and values.

Pretend Play Impacts All Areas of Development

Language

Children will:

- Use words to represent objects, people and events.

- Pretend to be a superhero or community helper, thus develop the same skills needed to write a poem or story.

Cognitive

Children will:

- Understand relationships of objects and people and discover how things work.

- Develop persistence, increase their attention span, and the ability to focus—skills essential for success in school.

Social-Emotional

Children will:

- Promote their attachment with you. A strong attachment helps them be self-confident and secure enough to enjoy playing with peers.

- Cooperate, take another's perspective, share, negotiate, and help others.

Physical

Children will:

- Practice both large and small muscle skills.

Functions of play

Play is the work of children. It provides them the opportunity to learn concepts, practice new words, practice roles, and make sense of their world, gain self-confidence, gain a sense of independence, and become decision makers and problem solvers.

Play offers numerous opportunities for children to act to objects and experience events.

Through play, children can see how new experiences are related to previous learning.

Play is an active form of learning that unites the mind, body and spirit.

Play is learning.

Types of play

Children engage in many kinds of play experiences. During the first year of life, much of their play is exploratory. They repeat new skills such as reaching, grasping, hitting, patting, and babbling to themselves and to those around them. This is valuable play. It is through this repetition that brain cell connections multiply and become more efficient.

Around their first birthday, children engage in simple pretend activities such as feeding a baby or talking on a phone. This is called relational play and is characterized by children using real materials and objects.

From about 18 months and beyond, children begin to represent objects in their minds and engage in symbolic thinking. This is called symbolic play. This ability allows children's thinking to go beyond the limitations of what is immediately occurring. They begin to use mental images to represent past events and experiences, and to imagine future possibilities. During this time, they take on familiar roles and substitute words for actions or objects.

Around 2 years of age, you may notice the children in your care involved in constructive play. In this type of play, children use materials, such as play dough, blocks, or paper to build, create, or construct something new. A stack of blocks is now a house, a smear of paint on a piece of paper, a flower. Often pretend play overlaps with constructive play. Children may pretend to build a road like the one they observed being built outside their house and roleplay the construction worker.

Activity Web

Social-Emotional Development

Cognitive Development

Language Development

Physical Development

The Importance of Play

"A study of children from around the world…showed that when preschool experiences at age 4 included lots of child-initiated, free-choice activities supported by a variety of equipment and materials – the kinds of environments that support play – these children had better cognitive (and language) performance at age 7 than their peers (Montie, Siang, & Schweinhart 2006)."

What does this quote teach us about planning our child care program?

_____

_____

_____

How does your weekly lesson plan incorporate play in your curriculum?

_____

_____

_____

"Other research shows that pretend play strengthens cognitive capacities, including sustained attention, memory, logical reasoning, language and literacy skills, imagination, creativity, understanding of emotions, and the ability to reflect on one's own thinking, inhibit impulses, control one's behavior, and take another person's perspective…"

How can the learning environment be used to encourage pretend play that reinforces the curriculum?

_____

_____

_____

Source: Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth through Age 8, Carol Copple & Sue Bredekamp, Eds., NAEYC, 2009, page132

Why Emphasize Learning Through Play-Based Curriculum?

Curiosity	results in	Exploration
Exploration	results in	Discovery
Discovery	results in	Pleasure
Pleasure	results in	Repetition
Repetition	results in	Mastery
Mastery	results in	New Skills
New Skills	results in	Confidence
Confidence	results in	Self Esteem
Self Esteem	results in	Sense of Security
Sense of Security	results in	More Exploration

Source: Curiosity: The Fuel of Development by Bruce Perry, M.D., Ph.D., http://teacher.scholastic.com/professional/bruceperry/curiosity.htm

Play and Practice Promote Learning

This cycle is contingent upon your ability to provide an environment which appropriately stimulates children. The more children are able to use their senses to explore and experiment, move around safely and independently, interact with their peers, toys, and objects, the more their cognitive skills will be developed.

As a child care provider, your observations and intentional interactions with children, will allow you to introduce opportunities and experiences at just the right time, and expand on children's interactions with the world around them to promote development across all domains.

Characteristics of Cognitive Development in the Preschool Child

Children don't develop the way our discussions are formatted, one area at a time. It's easier for us as adults to classify characteristics this way.

Let's look at development of the brain. As the frontal lobes of the brain myelinate, children are developing cognitive abilities to understand differences and solve problems. This is also why there is typically an increase in children's attention span. The rate of information processing increases largely because of the continuing myelination of nerve fibers in the cerebral cortex. As more myelin (the fatty covering on the nerves) is laid down in regions of the brain that control reasoning, decision making, language, and self-control, information processing for these abilities is enhanced.

Encouraging Cognitive Development

Characteristics	Ways to Encourage
Notices how things are alike and different	
Sorts and matches objects	
Is able to count a few items	
Begins to understand rules of games	
Matches letters to words.	
Understands location words such as "under," 'between," "in front of," and "over"	
Recognizes patterns in the spoken word (through songs) or in their environment (floor tiles, wall coverings, etc.)	
Puts puzzles together	

All of these characteristics we just named can be encouraged through everyday experiences and through play. Activities in the environment and play activities also help children explore and grasp concepts that fall under the cognitive domain such as math and science learning.

Much of children's literature contains cognitive concepts preschool age children are working through. Counting, grouping items, colors and shapes are just a few. Sharing quality books and extending the activities into the child care setting can be a fun and meaningful way to encourage growth in this area of knowledge.

Promoting Cognitive Development

- Respond to children's requests and signals _____ and _____

- Get to know the _____ in your care
    - Expand upon their interests
    - Observe where they are developmentally
    - Monitor their behavior

- Allow for _____ and experience
    - Avoid negative and highly restrictive behaviors

- Provide _____ - _____ environments and experiences

- Provide opportunities for _____

Remember, children are learning through every interaction with you—with others—with their environment. These experiences are critical in supporting children's ability to reason, think, and problem solve. Providing activities that promote forming concepts, remembering ideas, and recognizing objects are all necessary. Our goal is to use and cultivate brain synapses, so children thrive.

Cognitive Learning as a Progression

Preschoolers:

- Learn best through _____

- Are very _____ thinkers

- Need to _____ objects

- Need to socialize to relate experiences

Learning cognitive skills is a progression. This progression of skills happens best in the natural context of play and everyday activities. When children help set the table, or fold the clothes, they are learning valuable skills such as one to one correspondence and matching and sorting.

Numbers, Shapes, and Colors

Numbers are important to young children. As they grow and develop in the early years, numbers surround them. Which number do you think would most interest a four-year-old? It will probably be the numeral 4, because that's how old he is. It's a number he/she can pick out in a grocery ad or on traffic sign because it's "his/her" number. It has meaning.

Rote counting is saying the numbers in order.

_____

_____

_____

Rational counting is combining one to one correspondence and rote counting.

_____

_____

_____

Number "ness" is achieved when a child understands quantity.

_____

_____

_____

These all occur in a progression. Children need to manipulate objects in order to "count" them, then they see pictures of the objects, and finally they can grasp the symbol for the number of objects. The same goes for shapes and colors.

Math Concepts Story

Michael's job was to set the table for dinner. There were four chairs for each of the four members of the family. Every night, he would take one plate from the kitchen and place it in front of one chair in the dinning room, then go back to the kitchen, pick up another plate and carry it to the second chair, etc. He counted the chairs every night until eventually, one evening he picked up a pile of plates, carried them all to the table in the dinning room and set the table for four. Michael had achieved the concept of four "ness."

This continued until one night Grandma was coming for dinner. Suddenly, there were five chairs at the table. Michael looked at the chairs, looked at the plates in his hand. Sitting the plates back down in the kitchen, he proceeded to pick up one plate and take it to the dinning room and place it at the first chair, go back, pick up the second plate and place it at the second chair, etc.

What math concepts is Michael learning?

_____

_____

_____

It is important to keep in mind that a three-year-old's understanding of rules is very different than that of a five year old. Five's begin to become very rule oriented, "Read the rules" they often say before playing a game. Threes could care less. They play for the sake of playing. Rules to them are negotiable and flexible and that's ok.

File Folder Games

Path Games
Needed: A file folder or poster board, markers, stickers or pictures of animals or objects, a token for each player, and a die, playing cards, or spinner with numbers on it.
Be creative in designing a path and place stickers or pictures on the game board to provide a theme for your game. Create choices of direction and/or consequences along the path when possible. Use the die, cards, or spinner to advance the token. The game should end when the players lose interest.

Tug-O-War Games
Needed: One piece of poster board or a sentence strip, 4" by approximately 20", 14 to 20 stickers, one token, and a die, playing cards (1 through 5), or a spinner with numbers on it.

Tug-O-War is a board version of the classic rope game. The board is a long rectangle. A special sticker is placed on the middle spot and 6 to 10 stickers are placed in a line on opposite sides on the center spot. The game is played by two players, one on each end. The token is placed on the middle sticker. The players take turns throwing a die, drawing a playing card, or spinning a spinner to indicate the numbers of spaces they move the token toward their end of the board. Play goes back and forth until one person gets the token to his/her end of the board or until the players lose interest.

The Very Hungry Caterpillar

Concepts:

_____

_____

_____

_____

_____

STEM

- S_____

- T_____

- E_____

- M_____

STEM could be considered a philosophy more than an acronym. STEM is a way of thinking about how educators at all levels—including parents—should be helping students integrate knowledge across disciplines, encouraging them to think in a more connected and holistic way.

Science and technology are areas that constantly evolve and change. What we know about cancer, outer space, computers, and the human brain continues to evolve. The "scientific principles" of today may change again in ten years with the continuation of new discoveries.

Science Concepts

Because of your life experiences, you already understand more about science than the young children in your care. For example, you know ice melts when it's hot, rocks sink in water, and balls fall down not up. These facts are a result of the properties or characteristics of the objects or the forces acting on them. The following chart describes types of science activities and the concepts children learn while interacting with them.

Types	Activities	Concepts
Movement	Ramps and Balls	Gravity and the factors that affect it (velocity, weight, distance, shape, force, size)
Movement	Sink and Float	Buoyancy-characteristics of object
Movement	Blowing (fan and objects)	Air moves things. Size weight, force, density, and shape play a role
Movement	Magnets	Magnetic force works through paper, water, and plastic. Composition of items determines whether it will attract to a magnet.
Movement	Shadows	Some objects block light. Angles of light affect shapes of shadows.
Change	Observing Ice Melt	Temperature impacts the state (liquid, solid, gas) of a substance.
Change	Cooking	Some things mix and some don't. Temperature affects states of substances. Mixing ingredients can change or produce smells.
Change	Color Mixing	Secondary colors can be created from primary colors. White will lighten a shade and black will darken it.
Change	Making Playdough	Unlike water, holds its shape. Changes shape with different amounts of force applied to it.

Encourage children to use all their senses to investigate, predict, and evaluate. You are nurturing the development of tomorrow's problem solvers.

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Science and "Wondering"

It is important to remember that knowing the "why" behind something is not necessarily the most important thing for a child. What we want to instill is the "wondering" of why it does what it does.

The adult's role in sharing intellectual activities with young children is threefold. You serve as the designer, consultant, and authority of each child's experience.

The adult's role:

- Designer
  You set up the learning environment by providing developmentally appropriate materials, considering safety, and offering space and time for exploring.

- Consultant
  You function as a resource for materials and information. You help individualize learning by allowing children the opportunity for uninterrupted play, by asking open-ended questions that encourage problem solving and extend thinking, by modeling learning, by wondering why, and celebrating the mistakes that lead to new thinking.

- Authority
  You lay the boundaries that teach respect for others and materials. You will not allow the blocks to become weapons; you will expect children to keep the area clean and picked up after play.

Examples:

- What could you do next?
- How might you use that differently?
- What predictions could you make?
- What do you think will happen if…? What happened when you….?
- How could you change the end result?
- Why did that happen?

Science Activities

List the materials in your Science Kit. Then, answer the following questions.

Science Materials

1.

2.

3.

4.

5.

6.

7.

What are you discovering during your experiment?

1.

2.

3.

4.

5.

6.

7.

What open-ended questions might you ask of children exploring these materials?

1.

2.

3.

4.

5.

6.

7.

Fun Science Experiments

FINGER PAINTS

Finger painting is always fun and allows children to be creative. Enjoy making it on tabletops and making prints by placing paper over creative marks and designs.

Ingredients:

- one envelope unflavored gelatin
- 4 tbs dish soap
- ¼ cup cold water
- ½ cup cornstarch
- food coloring
- 2½ cups cold water

Process:

Mix the unflavored gelatin in a bowl with ¼ cup water. Set aside. Put cornstarch and 2½ cups water into a saucepan. Stir to dissolve and bring the mixture to a low simmer. Mixture should be thickening. Remove from heat and blend in the gelatin and water mixture with the cornstarch and water. Add dish soap. Let mixture cool and divide into containers adding desired food coloring. If any of the finger paints are left over, you can store the mixture in covered containers at room temperature.

OR

Ingredients:

- Powdered tempera
- Liquid starch

Process:

Mix liquid starch into a container adding tempera. Mix well, obtaining the consistency and color that you desire. Many times you can add a few spoonfuls of powdered tempera, pour in liquid starch and mix directly on the tabletop.

STAINED GLASS CRAYONS

Ingredients:

- A good way to make use of all those broken crayon pieces is to make stained glass crayons.

Process:

1. Remove any covering paper.
2. Place the pieces in a wellgreased or foil-lined muffin tin.
3. Put in a 400 ºF oven until melted.
4. Remove from oven and cool completely before removing from tin.

If you mix the crayon colors, the new crayons will have a stained glass effect.

VOLCANO

Ingredients:

- 2 cups water in a tall bottle
- 1 tbsp. baking soda
- 2 drops liquid dish detergent
- 2 tbsp. vinegar

Process:

To keep the volcano going, just alternate adding vinegar and baking soda.

SIDEWALK CHALK

Ingredients:

- Powdered tempera
- Measuring spoon (tbsp.)
- Water
- Plaster of Paris
- Small waxed paper cups (5 oz. is best)
- craft stick or plastic spoon

Process:

Mix 2 tbsp. powdered tempera ¼ cup water in a paper cup with the stick or plastic spoon. Add 3 tbsp. of Plaster of Paris. Stir well with stick. Consistency should be creamy.

If not, add a little more Plaster Paris or perhaps a little more water if it is too dry. Mixture should feel hard in about an hour. Peel off the cup and you'll have a giant stick to use on concrete.

SLIME

Ingredients:

- cornstarch 1 16 oz. box
- food coloring
- 2½ cups water
- plastic tub to mix in and play

Process:

Empty box of cornstarch into plastic tub. Add water and food coloring if desired and mix. Add spoons, containers, small hand-held shovels or just use your hands. This is a fun substance to play with and is very therapeutic! One minute it is solid in your hand, and the next minute it has slipped and is a liquid.

SQUEEZE PLEASE

Follow the recipe below. It lets you put a rainbow in a bag and observe a change in the state of the ingredients.

Ingredients:

- sugar
- food coloring
- cornstarch
- Ziploc bag
- water
- tablespoon
- measuring cup
- 3 bowls

Process:

Mix a cup of sugar and 1 cup cornstarch. Add 4 cups cold water. Heat until the mixture begins to thicken, stirring constantly. This will take a few minutes. Be sure to observe and talk about changing state of mixture. Cool. Divide mixture into 3 containers and add food coloring… red to one, yellow to another and blue to the third. Put a spoonful or two of each colored mixture into a bag. Zip and seal. Squeeze, please, knead and squish.

IRIDESCENT SOAP BUBBLES

Process:

Mix 1 cup water with cup liquid dish soap (Dawn) and 1 tbsp. sugar. Then let your child experiment with various bubble makers. Some examples are as follows:

- Cans of different sizes, with both ends removed.
- Whole plastic berry baskets
- Straws can be placed side by side and secured with a rubber band or tape
- Colanders, slotted spoons, wooden thread spools, empty eyeglass frames, sand sifters
- Plastic 6-pack soda can holders

PLAYDOUGH

Ingredients (recipe 1— Kool-Aid playdough):

- 1½ cups flour
- ¼ cup salt
- ½ tbsp. alum
- 1 pkg. of Kool-Aid

Process for recipe 1:

Mix above ingredients. Add and stir quickly 1½ T. oil and 1 cup boiling water. Knead to consistency.

Ingredients (recipe 2):

- 1 cup of flour
- ½ cup of salt
- 1 cup of water
- 1 tbsp. of cooking oil
- 2 tsp. of cream of tartar
- a few drops of food coloring

Process:

Combine ingredients. Heat and stir until mixture forms a soft ball. Put mixture onto wax paper until cool. Knead slightly to eliminate grainy texture. Store in tightly covered container. The recipe can be doubled.

GOOP

Ingredients:

- Mix ½ cup Elmer's glue
- ½ cup liquid starch

Process:

You may have to add more glue or starch to obtain the right consistency. It should be rubbery. Keep the goop in a plastic container with a lid. The goop will last longer if kept in the refrigerator.

Used with permission from Parents as Teachers National Center, Inc.

Video—Preschool Science Activity

Notes:

_____

_____

_____

_____

PLAY-What does it stand for?

P

L

A

Y

Strategies for Promoting Cognitive Development

- _____ children for who and where they are

- Establish an environment that encourages _____

- Encourage autonomy and a sense of _____

- Provide opportunities for _____ learning experiences

- Show _____ for the children in your program regardless of their race, religion, ethnic background, developmental abilities or gender

Play Today

You say you love your children

And are concerned they learn today.

So am I, that's why I'm providing

A variety of kinds of play.

You're asking me the value of blocks

And other such play;

Your children are solving problems.

They will use that skill every day.

You're asking me the value

Of having your children play.

Your daughter's creating a tower;

She may be a builder some day.

You're saying you don't want your son

To play in the "sissy" way.

He's learning to cuddle a doll

He may be a father some day.

You're worried your children aren't learning

And later they'll have to pay.

They're learning a pattern for learning

For they'll be learners always.

by Lila P. Flagg I Believe

I Believe

All children can learn.

Children learn best by doing.

When children have choices, they take responsibility for their own learning.

Children deserve to be surrounded by good books.

After success, children are ready to take challenges

and risk occasional failure.

Children learn best through trial and error.

Children enlarge their vocabularies when they learn new words in context.

Children need a variety of kinds of experiences.

Play With Me

I tried to teach my child from books,

He only gave me puzzled looks.

I tried to teach my child from words,

They passed him by oft unheard.

Despairingly, I turned aside.

"How can I teach this child?" I cried.

Into my hand he placed the key,

"Come," he said. "Play with me."

Knowledge to Practice

Identify one children's book that promotes cognitive development. What is the title and what concept is promoted?

Title of book: **Author:**

Concept promoting cognitive development:

_____

_____

_____

_____

Name 1-2 ideas or concepts related to cognitive development covered in this training that you would like to implement in your program. Describe the idea/concept and any materials or resources needed.

_____

_____

_____

_____

Competency Checklist

Reflect on your understanding of the following competencies:

- ❏ Identify milestones in cognitive development for children, 3-5 years.
- ❏ Describe the importance of using a curriculum for supporting children's development and learning.
- ❏ List important functions of play in a child's life.
- ❏ Identify specific elements of a weekly activity plan that addresses the cognitive developmental needs of children from 3-5 years.

Reflection: Module 8d

My reflection on today's material:

The most important thing I learned from this section is...

What I have learned or discovered connects to me personally because...

The things I now plan to do differently are...

The things I now plan to start doing are...

When I started today, I knew:

| A little | Some | A lot |

Now that we've covered it, I know:

| A little | Some | A lot |

Resources

Preschool Science Books

TITLE	AUTHOR
Are You an Ant?	Judy Allen and Tudor Humphries
Are You a Butterfly?	Judy Allen and Tudor Humphries
Garden Wigglers	Nancy Loewen and Rick Charles Peterson
Ten Little Caterpillars	Bill Martin, Jr.
Dem Bones	Bob Barner
Bugs! Bugs! Bugs!	Bob Barner
Feathers for Lunch	Lois Ehlert
Jack's Garden	Henry Cole
Planting a Rainbow	Lois Ehlert
The Berenstain Bears' Big Book of Science	Stan and Jan Berenstain
Look, Listen, Taste, Touch, and Smell	Pamela Hill Nettleton
The Sense of Smell	Mari Schuh
Busy Bunnies Five Senses	Teddy Slater
Moonbear's Shadow	Frank Asch
The Brook Book	Jim Arnosky
Who Sank the Boat?	Pamela Allen
In the Small, Small Pond	Denise Fleming
Chickens Aren't the Only Ones	Ruth Heller
Astronaut Handbook	Meghan McCarthy
Leaves David	Ezra Stein
Fabulous Fishes	Susan Stockdale

Developmental Ages and Stages Chart

	Infants/Toddlers: Ages birth–36 months	Early Childhood/Preschool: Ages 3–6
Physical/ Motor	**Birth to 5½ months:** • Lift head when lying on tummy • Bring hands to midline • Sit with support • Turn from stomach to back or back to stomach **5½ months to 8 months:** • Sit without support • Roll, scoot, stand holding on to stable object • Transfer objects from hand to hand • Bang objects **8 months to 14 months:** • Pull to stand • Lower self to sit • Walk • Point with finger • Use thumb and pointer finger to pick up objects (pincer grasp) **14 months to 24 months:** • Walk backwards • Throw ball forward • Walk up stairs holding railing • Ride on toy without pedals • Scribble **24 months to 36 months:** • Balance on one foot • Pedal a tricycle • Walk up and down steps alternating feet • Begin to use scissors • Build with blocks	**3 to 4 years:** • Catch a large ball • Throw with more control • Snip with scissors • Build with blocks • Grip pencil with fingers **4 to 5 years:** • Climb • Hop • Cut with scissors • Copy simple figures • Button and unbutton **5 to 6 years:** • Balance while walking in a straight line • Write own name • Zip and unzip a zipper
Cognitive	**Birth to 5½ months:** • Gaze at, then track faces and objects with high contrast • Find hands and feet • Bat at objects **5½ to 8 months:** • Briefly look at pictures in a book • Put things in mouth • Experiment by throwing, dropping, shaking and banging objects **8 months to 14 months:** • Examine small objects and details • Repeat interesting activities • Remember the location of hidden objects **14 months to 24 months:** • Say "no" often • Imitate adult behaviors and activities • Try to comfort others in distress • Play by self for a short period of time **24 months to 36 months:** • Begin to solve problems more logically • Remember events and places • Match and group objects that are alike	**3 to 4 years:** • Notice how things are alike and different • Recite numbers • Predict effects of one's actions **4 to 5 years:** • Tell the sequence of events in a story • Try different actions to solve a problem • Organize collections of objects into groups • Say full name an address **5 to 6 years:** • Aware of rules and manners • Practice recognizing numerals 1 through 10 • Use logical thinking when playing games • Enjoy following familiar routines and predicting what will happen next

Language	**Birth to 5½ months:** • Turn head to find a sound • Make vowel sounds like eee, aah, ooo • Take turns making sounds with parents and care providers • Enjoy practicing sounds **5½ months to 8 months:** • Associate some sounds with objects and people • Say single syllables like ba, pa, ma • Repeat sounds like "bababa" **8 months to 14 months:** • Respond to simple requests • Understand "no" • Point and gestures to communicate • May say few words including "mama" and "dada" specifically **14 months to 24 months:** • Follow a one step direction such as, "Pick up your shoes" • Say about 50 words • Imitate adult inflections • Name some pictures • Point to at least six body parts **24 months to 36 months:** • Understand actions and events in simple story books • Use multi-word sentences • Ask and answer simple questions • Listen closely to conversations	**3 to 4 years:** • Use three and four word sentences • Follow more difficult directions • Make up silly words • Ask "why", how questions • Repeat songs and rhymes • Recognize familiar words and signs **4 to 5 years:** • Use longer, more complex sentences • Retell familiar stories and predicts story endings • Use language to expand and extend play **5 to 6 years:** • Describe a sequence of events • Negotiate rules • May have trouble pronouncing their r, v, l, th, j, and z sounds
Social-Emotional	**Birth to 5½ months:** • Make eye contact • Can be comforted by parent or care provider • Comfort self in some way • Respond to familiar faces **5½ to 8 months:** • Show separation anxiety • Enjoy simple games like "peek-a-boo" **8 to 14 months:** • Know the difference between familiar people and strangers • Play simple, imitative games like "pat-a-cake" • Initiate interactions with familiar people **14 months to 24 months:** • Say "no" often • Imitate adult behaviors and activities • Try to comfort others in distress • Play by self for a short period of time **24 months to 36 months:** • Begin to express feelings in socially acceptable way • Have fears • Begin to understand and follow simple rules • Desire routines	**3 to 4 years:** • Use negative words such as "don't" and "won't" • Test limits that are set • Learn to share and take turns • Have difficulty distinguishing real from make-believe **4 to 5 years:** • Like to socialize with peers • Enjoy situations away from home • Change moods quickly • Change the rules to benefit self **5 to 6 years:** • Understand acceptable/ unacceptable behavior • Show pride and confidence in own accomplishments • Show interest in fairness and making rules • Have preferences in special friends

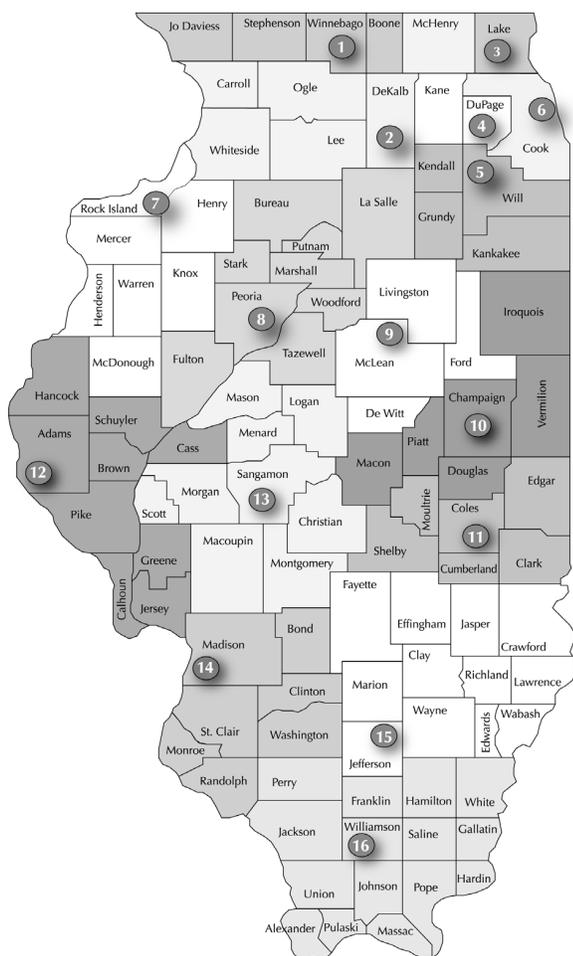|	School Age Ages 5–7	School Age Ages 7–12
Physical	• Better at running or jumping but awkward at smaller movements like writing • Enjoy structured games like Simon Says and Duck, Duck, Goose • Losing teeth • Need lots of physical activity and free play • Tend to be in a hurry and rush things	• Rapidly growing bodies • Enjoy group games like soccer or kick ball • Many girls and some boys experience the beginning of puberty • May suddenly be better coordinated • Restless—Can't sit for long period
Cognitive	• Not ready to understand big ideas like "fairness". • Don't think logically (if it is windy and the trees are shaking, then the trees are causing it to be windy) • Almost never see things from another person's view • Curious about things • More aware of similarities and differences	• Enjoy board games, computer games, and puzzles • Like to learn through discovery • Beginning to see the "bigger world" including ideas like fairness and justice • Good at solving problems • Can concentrate for long periods
Language	• Literal—when you say, "Happy as a clam", they may picture a clam dancing and laughing • Think out loud—will say "I'm going on the swings" before they actually do it • Invented spelling such as "I luv to et iscrem" for I love to eat ice cream" • Love jokes and riddles	• Show interest in the meaning of words • Can create stories with beginning, middle and end • Can listen well • Reading to learn instead of learning to read • Appreciate humor—"gets" jokes
Social-Emotional	• Learning about being a friend • Prefer to play with those of the same gender • Need verbal permission from adults— "May I…?" • Don't like taking risks or making mistakes • Sensitive and can react strongly to criticism	• Understand the feelings of others • Enjoy group activities and cooperative work, especially with those of the same gender • Developing a sense of right and wrong—very sensitive to fairness issues • Moodiness

Sources: American Academy of Child and Adolescent Psychiatry (2001). Facts for Families©. "Normal Adolescent Development: Middle School and Early High School Years". http://www.aacap.org/

American Academy of Child and Adolescent Psychiatry (2001). Facts for Families©. Normal Adolescent Development: Late High School Years and Beyond. http://www.aacap.org/

Cox, N.S. (2006). Human Growth and Development: A resource packet to assist school districts in program development, implementation, and assessment, pp. 29–31

Gibbs, J. (2000). TRIBES: A New Way of Learning and Being Together. Sausalito, pp. 41–42 Wood, C. (2007). Yardsticks: Children in the Classroom Ages 4–14, 3rd Edition.

Illinois Child Care Resource and Referral (CCR&R) Agencies
Service Delivery Area (SDA)

SDA 1
YWCA
Child Care Solutions
(Rockford)
888-225-7072
www.ywca.org/Rockford

SDA 2
4-C: Community Coordinated
Child Care
(DeKalb)
800-848-8727
&
(McHenry)
866-347-2277
www.four-c.org

SDA 3
YWCA Lake County CCR&R
(Gurnee)
877-675-7992
www.ywcalakecounty.org

SDA 4
YWCA CCR&R
(Addison)
630-790-6600
www.ywcachicago.org

SDA 5
Joliet CCR&R
(Joliet)
800-552-5526
www.childcarehelp.com

SDA 6
Illinois Action for Children
(Chicago)
312-823-1100
www.actforchildren.org

SDA 7
Child Care Resource & Referral
of Midwestern Illinois
(Moline)
866-370-4556
www.childcareillinois.org

SDA 8
SAL Child Care Connection
(Peoria)
800-421-4371
www.salchildcareconnection.org

SDA 9
CCR&R
(Bloomington)
800-437-8256
www.ccrrn.com

SDA 10
Child Care Resource Service
University of Illinois
(Urbana)
800-325-5516
ccrs.illinois.edu

SDA 11
CCR&R
Eastern Illinois University
(Charleston)
800-545-7439
www.eiu.edu/~ccrr/home/
index.php

SDA 12
West Central Child
Care Connection
(Quincy)
800-782-7318
www.wcccc.com

SDA 13
Community Connection Point
(Springfield)
800-676-2805
www.CCPoint.org

SDA 14
Children's Home + Aid
(Granite City)
800-467-9200
www.childrenshomeandaid.org

SDA 15
Project CHILD
(Mt. Vernon)
800-362-7257
www.rlc.edu/projectchild

SDA 16
CCR&R
John Logan College
(Carterville)
800-548-5563
www.jalc.edu/ccrr

Find your local CCR&R by identifying what county you reside in.

Services your local CCR&R provides:

- Free and low cost trainings and professional development
- Grant opportunities for quality enhancements
- Professional development funds to cover expenses related to trainings and conferences
- Mental health consultants, infant toddler specialists and quality specialists to answer your questions
- National Accreditation support
- Free referrals of child care programs to families searching for child care.
- Financial assistance for families to help pay for child care.
  And more…

Helpful Websites: Module 8d

CSI: Child Scientist Investigates*
http://illinoisearlylearning.org/tipsheets/csi.htm

Encouraging Scientific Thinking: Rain or Shine*
http://illinoisearlylearning.org/tipsheets/weather.htm

FAQ: How Can Active Games Help Children Meet Math Benchmarks?*
http://illinoisearlylearning.org/faqs/math-games.htm

NAEYC STEM Resources for Early Childhood
http://www.naeyc.org/STEM

Out and About with Preschoolers: Close Up with Visual Arts*
http://illinoisearlylearning.org/tipsheets/outdoor-closeup.htm

Out and About with Preschoolers: Sunshine Science*
http://illinoisearlylearning.org/tipsheets/outdoor-sunshine.htm

The Path to Math: Beginning Numbers*
http://illinoisearlylearning.org/tipsheets/math-beginning.htm

The Path to Math: Classification*
http://illinoisearlylearning.org/tipsheets/math-class.htm

The Path to Math: Geometric Thinking for Young Children*
http://illinoisearlylearning.org/tipsheets/math-geom.htm

The Path to Math: Measurement with Young Children*
http://illinoisearlylearning.org/tipsheets/measure.htm

The Path to Math: Word Problems for Preschoolers*
http://illinoisearlylearning.org/tipsheets/math-word.htm

The Path to Math: Real Graphs for Preschoolers*
http://illinoisearlylearning.org/tipsheets/math-graphs.htm

Say Yes to the Mess! Play with Rocks*
http://illinoisearlylearning.org/tipsheets/mess-rocks.htm

STEM Guide for Preschoolers- Boston Children's Museum
http://www.bostonchildrensmuseum.org/sites/default/files/pdfs/STEMGuide.pdf

Tech Time! Computers and Preschoolers*
http://illinoisearlylearning.org/tipsheets/tech-computers.htm

Things Change*
http://illinoisearlylearning.org/tipsheets/things.htm

What Makes a Good Toy?*
http://illinoisearlylearning.org/tipsheets/goodtoy.htm

Young Children Need to Play*
http://illinoisearlylearning.org/tipsheets/importanceofplay.htm

(*Spanish version available on link)

For references and web sites related to block play, see the following resources:
Ask an Expert: Imagination and Fantasy in Early Childhood*
http://www.illinoisearlylearning.org/askanexpert/stephens2008/

Block Building: Opportunities for Learning
http://www.communityplaythings.co.uk/resources/articles/block-building.html

Kids/Blocks/Learning
http://www.yale.edu/ynhti/curriculum/units/1993/1/93.01.01.x.html

Make Room for Blocks*
http://illinoisearlylearning.org/tipsheets/blocks.htm

Telling Stories with Blocks: Encouraging Language in the Block Center
http://ecrp.uiuc.edu/v7n2/heisner.html

General Links

Early Childhood News
www.earlychildhoodnews.com

ExceleRate Illinois homepage
www.excelerateillinois.com

Gateways i-Learning System - for online trainings
http://courses.inccrra.org

Gateways to Opportunity: Illinois Professional Development System
www.ilgateways.com

Head Start Early Childhood Learning & Knowledge Center (ECLKC)
http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/ehsnrc

Illinois Department of Children and Family Services Child Care Licensing Standards
www.illinois.gov/dcfs/aboutus/notices/Documents/Rules_407.pdf

Illinois Early Learning Project
www.illinoisearlylearning.org

National Association for the Education of Young Children (NAEYC)
www.naeyc.org

National Association for Family Child Care (NAFCC)
www.nafcc.org

Statewide Training Calendar
www.ilgateways.com/en/statewide-online-training-calendar