



# Brain Builders— Developing Cognitive Skills



## Introduction

Brain growth depends on more than just the nutrients received through the bloodstream. Numerous studies show that brain development is enhanced by the environment, which plays a crucial role in a child's intellectual and emotional development. This is especially true for a toddler. As she learns to explore and delights in the discovery of new ideas and concepts, her brain is busy building pathways that will enable her to learn throughout her life.

Essentials for optimal brain development include the following:

- **Physical Development:** Good nutrition and exercise play key roles. Toddlers need to eat fruits and vegetables and other nutritious foods in order to properly grow and develop. In addition, they need multiple opportunities to play, run, jump, move, and dance. All of these activities build both the brain and the body.
- **Cognitive Development:** A toddler's world should be full of fun and discovery. Provide as many opportunities as possible for a child to safely explore new items, new situations, and new environments. Encourage toddlers to ask questions, and describe routine activities as they occur each day.
- **Emotional Development:** It is during toddlerhood that the stage is set for how a child responds to and offers love, how she understands emotional security, how well she will be able to attach to others, and how she will develop and use social skills throughout life. The brain plays a crucial role in how a child interprets and understands what it means to have positive relationships with others.



# Adaptations for Toddlers with Special Needs

**Table 4: Brain Builder Educational Toys and Their Uses with Toddlers**

Type and General Purpose of Toy	Examples
Toys that encourage cause-and-effect exploration or toys that require an action by the child, such as pushing a button or pulling a lever	<ul style="list-style-type: none"> <li>● Jack-in-the-box</li> <li>● Flashlight</li> <li>● Simple switch-operated toys, such as a CD player</li> <li>● Fisher-Price See 'n Say toys</li> </ul>
Toys that are related to visual-spatial needs	<ul style="list-style-type: none"> <li>● Puzzles with knobs</li> <li>● Stacking rings</li> <li>● Nesting cups</li> <li>● Shape-sorting toys</li> </ul>
Toys that aid in construction or building	<ul style="list-style-type: none"> <li>● Blocks of various shapes and sizes</li> <li>● Building toys, such as Lego bricks</li> <li>● Stringing beads</li> <li>● Snap-together toys</li> </ul>
Toys that encourage reciprocity (an exchange between two people)	<ul style="list-style-type: none"> <li>● Small handheld toys</li> <li>● Blowing bubbles</li> <li>● Small moving toys, such as cars, trucks, and airplanes</li> </ul>
Sensory toys that encourage exploration	<ul style="list-style-type: none"> <li>● Art materials, paint, glue, scraps of cloth or paper, playdough, and crayons</li> <li>● String or yarn</li> </ul>
“Let’s pretend” toys	<ul style="list-style-type: none"> <li>● Puppets</li> <li>● Realistic-looking toys that represent items, such as food, clothes, and so on</li> <li>● Dress-up clothes, including hats, shoes, and jewelry</li> </ul>

Remember, when selecting a toy or manipulative for a toddler with special needs, consider both the developmental level of the child and any adaptations that will need to be made so that the toy is accessible and easy for the child to use.

Adapted from *Teaching Infants, Toddlers, and Twos with Special Needs* by Clarissa Willis, with permission from Gryphon House, Inc., <http://www.gryphonhouse.com>.

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## Baby Basketball

### Learning Objectives

- To cross midline
- To learn games with simple rules
- To explore the concept of size

### Materials

adhesive Velcro strips  
box of balls  
fabric  
rope, heavy string, or yarn  
small hoop, about 12" (30 cm) in diameter

### Preparation

- Using Velcro, secure one edge of the fabric around the hoop. Let the rest of the fabric hang down in a tube from the hoop, leaving the fabric tube open at the bottom.
- Suspend the fabric-covered hoop from the ceiling so the hoop hangs about 2' (60 cm) above the floor.
- Place the box of balls next to it.



### What to Do

1. Demonstrate putting a ball into the hoop.  
You may not need to model this behavior; the children may do this spontaneously.
2. When the ball comes out of the fabric tube at the bottom, say, "Look! The ball came out!"

### Observations

- Does the child put a ball into the hoop spontaneously, or do you have to demonstrate?
- Does the child then enjoy doing this activity repeatedly?

Adapted from *Simple Steps: Developmental Activities for Infants, Toddlers, and Two-Year-Olds* by Karen Miller, with permission from Gryphon House, Inc., [www.gryphonhouse.com](http://www.gryphonhouse.com).

## Bee Pictures

### Learning Objectives

- To develop print awareness
- To develop knowledge about nature

### Materials

marker  
paper  
photographs of bees  
plastic sleeves for pictures  
tape  
three-ring binder

### Preparation

- Collect photographs of bees, labeling some of them: *bee*, *wing*, *antenna*, and so on.
- Place the photos inside plastic sleeves, and put them into a three-ring binder to create a book about bees.

### What to Do

1. Sit with a child and look through the bee book. Point out details in the photos: "The bee has wings." "It has antennae on its head." "The bee landed on a flower."
2. Sing a song about bees, such as "Baby Bumblebee."

## Baby Bumblebee

(lyrics adapted by Richele Bartkowiak)

*I caught myself a baby bumblebee.* (hold hands cupped together)

*Won't my mommy be so proud of me?*

*I caught myself a baby bumblebee*

*Ouch! He stung me!* (hold hands apart)

*I'm talking to my baby bumblebee.* (pretend to talk to bee in hands)

*Won't my mommy be so proud of me?*

*I'm talking to my baby bumblebee.*

*"Oh," he said, "I'm sorry."*

*I'm letting go my baby bumblebee.* (hold hands up and apart)

*Won't my mommy be so proud of me?*

*I'm letting go my baby bumblebee,*

*Look, he's happy to be free!*



## Observations

- Does the child look at the pictures?
- Does the child point to the pictures?
- Does the child try to do the motions or move around as you sing the song?

Adapted from *And the Cow Jumped Over the Moon* by Pam Schiller and Thomas Moore, with permission from Gryphon House, Inc., [www.gryphonhouse.com](http://www.gryphonhouse.com).

## Behind the Flap

### Learning Objectives

- To develop visual discrimination
- To develop problem-solving skills

### Materials

8½" x 11" envelope

8" x 10" photographs of easy-to-recognize items (for example: bell, top, zebra, flower, drum, and so on)

### Preparation

- Cut four flaps in the front of an 8½" x 11" envelope.
- Slide several photographs into the envelope.

### What to Do

1. Sit with a child and look at the envelope together.
2. Model how to peek beneath a flap to see part of the photo inside.

3. Ask the child what she thinks the photo might be.
4. Enjoy lifting the flaps and guessing: "I see a pretty color," or "I see something black and white."
5. When you decide what the subject of the photo might be, pull out the photo to see if you are correct.
6. Repeat with the next photo in the envelope as long as the child is interested.

### Observations

- Does the child enjoy looking behind the flaps?
- Does she like guessing what might be in the photo?

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# Brain Clapping

## Learning Objectives

- To develop fine motor skills
- To promote an awareness of doing things more than one way

## What to Do

1. Show the child different ways to clap his hands:
  - Hold the left palm faceup and the right palm facedown. Move the right palm so it claps on top of the left palm.
  - Reverse, holding the right palm and moving the left palm to clap on the right palm.
  - Clap his hands together behind his head.
  - Clap his hands together on the left side.
  - Clap his hands together on the right side.
2. Sing your favorite songs as you clap different ways.

## Observations

- Does the child clap each way spontaneously, or do you have to demonstrate?
- Does the child then enjoy doing the activity repeatedly?

Adapted from *125 Brain Games for Toddlers and Twos*, Revised, by Jackie Silberg, with permission from Gryphon House, Inc., [www.gryphonhouse.com](http://www.gryphonhouse.com).



## Color Fun

### Learning Objectives

- To develop knowledge about colors
- To develop visual discrimination
- To develop auditory discrimination

### Materials

2 small containers that are the same size, such as margarine tubs  
paintbrush  
red paint  
small object  
yellow paint

### Preparation

Paint one container yellow and the other red.

### What to Do

1. Put the containers in front of the child. Touch each container and say the color name.
2. Gently take the child's hand and touch each container as you say the name again.

3. Pick up the yellow container and say, "I like the yellow one."
4. Ask the child, "Would you like the yellow one?" Give the container to the child.
5. Repeat with the other container.
6. Put a small object in the yellow container, and shake the container to make a noise. Comment on the noise you hear.
7. Shake the empty container, and comment that you do not hear a noise.
8. Repeat this game a few times. The child will soon be able to recognize the noisy container by the color.

### Observations

- Is the child able to recognize the color yellow?
- Can the child identify the container that makes noise?

Adapted from *Games to Play with Toddlers*, Revised, by Jackie Silberg, with permission from Gryphon House, Inc., [www.gryphonhouse.com](http://www.gryphonhouse.com).

## Finger and Toe Copy Game

### Learning Objectives

- To develop an awareness of patterns
- To develop visual discrimination
- To develop fine and gross motor skills

### What to Do

1. Perform a simple action with your fingers or toes, such as wiggling your index finger or your toes.
2. Encourage the child to imitate your action: "Can you wiggle your finger?"
3. Describe the action the child is doing: "Sammy is wiggling his finger."
4. Try a variety of motions, such as wiggling, rolling in a circular motion, grasping, shaking, or clapping.

### Observations

- Can the child imitate the action?
- How fast does the child catch on to the activity?

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## Food Shapes

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### Learning Objectives

- To gain physical knowledge of the shapes using the senses
- To develop visual discrimination

### Materials

food that can show shapes, such as toast or finger gelatin  
(made with half the amount of liquid so children can pick up shapes)



### Preparation

Use cookie cutters to create shapes in these foods.

### What to Do

1. Place the shapes in front of the child at snack time or meal time.
2. Let the child enjoy exploring the shapes in the foods, picking them up, turning them over, and changing the shapes by taking bites.
3. Talk about the shapes with the child: “That is a square,” or “You are eating a circle.”

### Observation

Can the child recognize and name the shapes?

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## Graduated Nesting

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### Learning Objectives

- To develop awareness of properties of size and space
- To develop fine motor skills

### Materials

plastic bowls of graduated sizes

### What to Do

1. Simply present the bowls to the child and see what she does. See if the child discovers that they nest together.
2. Do not show her how to nest them. This idea is best learned by discovery.

### Observation

How does the child manipulate the bowls? Does she try nesting or stacking them?

Adapted from *Simple Steps: Developmental Activities for Infants, Toddlers, and Two-Year-Olds* by Karen Miller, with permission from Gryphon House, Inc., [www.gryphonhouse.com](http://www.gryphonhouse.com).

# Here Are My Hands

## Learning Objectives

- To develop an awareness of hand-washing routines
- To practice following directions

## Materials

magnifying glass  
paper towel  
sink  
soap  
water

## What to Do

1. Provide a magnifying glass. Let the children examine their hands by looking at them through the magnifying glass. Encourage them to look at their fingernails, knuckles, and lines in their palms, and point out all the places dirt can hide.
2. Sing the following song:

### This Is the Way We Wash Our Hands

(Tune: "Here We Go 'Round the Mulberry Bush")

*This is the way we wash our hands,  
Wash our hands, wash our hands.  
This is the way we wash our hands  
Several times each day.*

*We lather the soap on our hands,  
On our hands, on our hands.  
We lather the soap on our hands  
To get off all the dirt.  
We wash between our fingers well,  
Fingers well, fingers well.  
We wash between our fingers well  
To get off all the dirt.  
We use the water to rinse our hands,  
Rinse our hands, rinse our hands.  
We use the water to rinse our hands  
And then we go like this. (pretend to shake water  
from hands)  
We use a towel to dry our hands,  
Dry our hands, dry our hands.  
We use a towel to dry our hands  
Then put it in the trash.*

3. Go to the sink and demonstrate washing hands.
4. Let the children wash their hands, too.

## Observation

Can the child follow the steps in the song while washing his hands?

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## Here Comes the Ball

### Learning Objectives

- To develop gross motor skills
- To develop eye-hand coordination

### Materials

ball

### What to Do

1. Sit on the floor facing the toddler, with your legs apart and her toes touching yours.
2. Say to her, “I will roll the ball to you.” Roll the ball slowly to her.
3. When she catches the ball, say, “You caught the ball!”

4. Ask her to roll it back.
5. Make a game of it by counting to three and rolling on three. Encourage the child to count with you.
6. Make up other fun words for rolling the ball back and forth. For example, say, “Hinky Dinky Doo!” Roll the ball on *doo*.

### Observations

- Can the child roll the ball?
- Can the child catch the ball?

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## Jar Lid Puzzles

### Learning Objectives

- To develop an awareness of positive and negative space
- To develop fine motor skills

### Materials

2 pieces of fiberboard or stiff cardboard (each about 12" or 30 cm square)  
Exacto knife (adult only; store out of the reach of all children when finished)  
jar lids  
pencil  
wood glue

### Preparation

- Place the jar lid in the middle of one of the pieces of board.
- Trace around it with a pencil.
- Using the knife, cut out the circle so that the jar lid will fit comfortably inside the circle.
- Glue the two pieces of board together.
- When dry, place the jar lid inside the circle.

### What to Do

1. Place the puzzle in front of the child.
2. Let the child lift out the jar lid and put it back in the circle again.

### Observations

- Is the child able to place the jar lid inside the circle?
- Does the child sometimes invert the lid when he puts it in?

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