



Early Geometry Concepts: Making Connections to the Real World

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Space and Shape

Learning about space and shape helps children make sense of their world and lays the foundation for an understanding of geometry. Children develop this knowledge through experiences with four aspects:

- movement in space
- location and direction
- three-dimensional shapes
- two-dimensional shapes

To understand these concepts, children need seven spatial perception skills:

- Eye-motor coordination - the ability to coordinate vision and body movements
- Figure-ground perception - the ability to distinguish foreground from background
- Perceptual constancy - the ability to recognize geometric figures in various sizes, colors, textures, and positions in space
- Position-in-space perception - the ability to recognize how an object in space is related to themselves and how an object has changed position
- Perception of spatial relationships - the ability to recognize the relationship between two or more objects in relation to themselves or in relation to each other
- Visual discrimination - the ability to identify similarities and differences in an object's characteristics
- Visual Memory - the ability to recall objects and characteristics of objects that are no longer visible

Playing I Spy

Activity

Use a position word to describe an object in the classroom that the children can see.

For example, say, I spy something that is under the clock. Ask volunteers to guess the object. If needed, give clues, such as other attributes (small or green.) Give one clue at a time. Have the children take turns to lead a round of I Spy. Encourage them to give clues as needed.

ORIGO Big Books for Pre-K I Think I'll Go Flying

Three objects in a row game

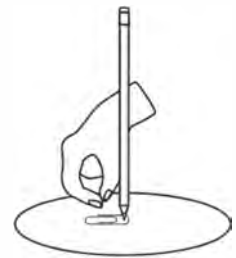
Resources

- Support 2 — see attached
- Support 3 — see attached
- 2 sets of 6 different color counters for each pair of children
- 1 pencil for each pair of children
- 1 extra large paper clip for each pair of children

Preparation

Print 1 copy each of Support 2 and Support 3 for each pair of children.

Demonstrate how to place the paper clip and pencil on the center of the spinner chart (as shown). The pointer finger is used to flick the paper clip so that it spins around the pencil point.



Activity

Organize the children into pairs. Distribute the materials to each pair.

The first child spins the paper clip and names the object shape where it

has stopped. They look at the game board and place a counter on a picture that has the same attributes as the object spun. The other child has a turn. A child misses a turn if counters have covered all of the matching object pictures. Play continues until one child has placed three of their counters in one row or column.

On another day, ask the children to draw, cut out, and paste their pictures onto a blank game board. They can play the game with the same spinner chart and their game board.

ORIGO Big Books for Pre-K Look and See

Myself in Space

Children follow instructions to act out spatial relationships.

- Copy Blackline Masters 1 and 2 onto light card and cut out to make a set of 16 cards.
- For the extension activity, make one set of cards for each group.

Activity

Note: If the children have not yet learned “left” and “right”, remove this card from the set before doing the activity.

Have the children stand straight with their arms at their sides. Ask them to spread out so they cannot touch anyone. Read out the cards one at a time and give the children time to act out each instruction.

Extension

Have the children move into groups. Place a set of 16 cards in a stack facedown in front of each group. Have one child pick up four cards and read them aloud one at a time while the other children act out the instructions. Give each child a turn to be the leader and read out four instructions.



Blackline Master 1

Touch your
toes with
your hands.

Turn around.

Place one
arm above
your head.

Take one step
backward.

Place your
arms in front
of you.

Turn around
twice.

Point to
something
above you.

Take one step
sideways. 

Blackline Master 2

Place your arms
behind you.

Place one foot
behind you.

Point to
something
under you.

Turn left.
Turn right.

Place your arms
at your sides.

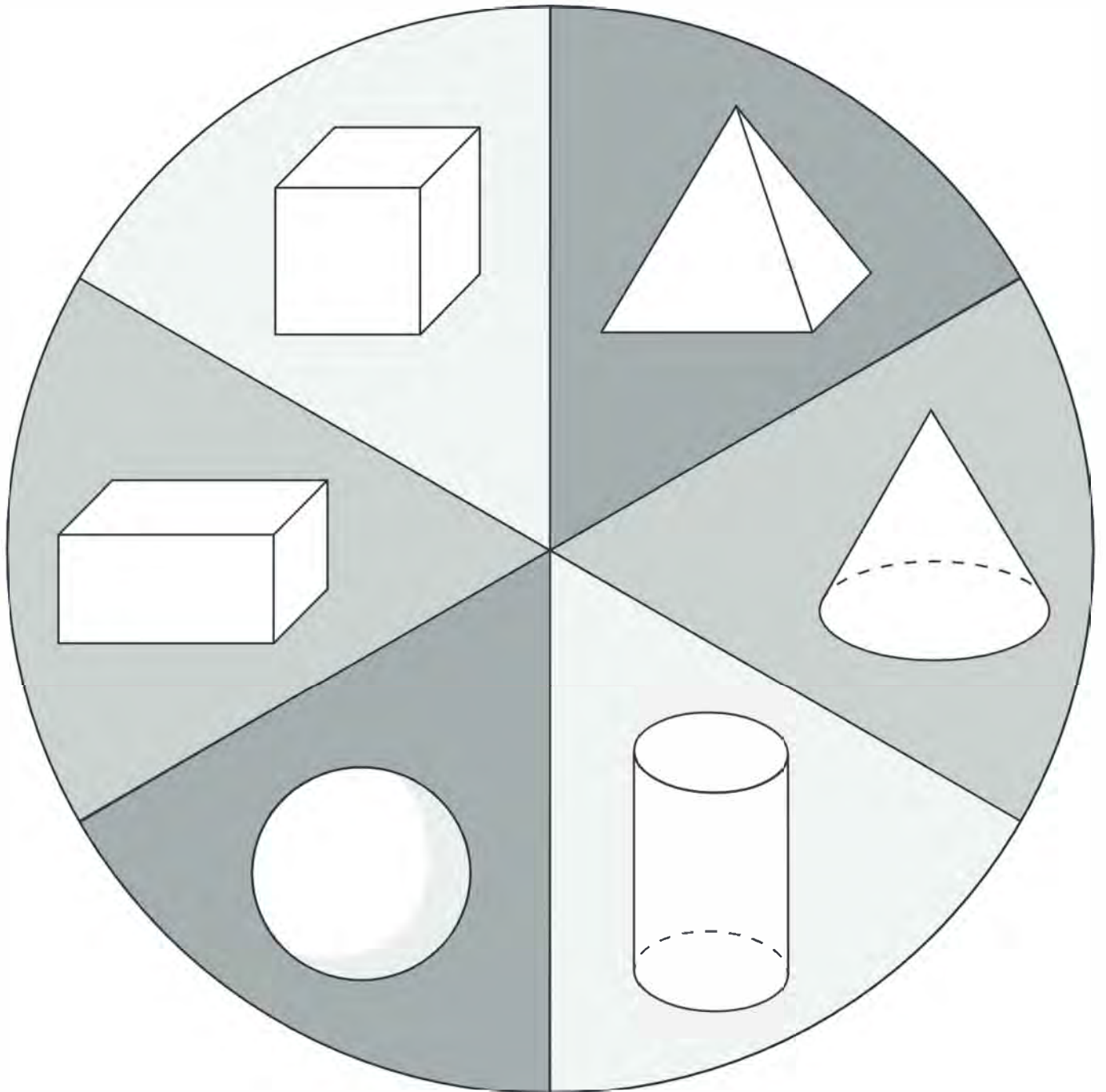
Point to
something
far away.

Take one step
forward.

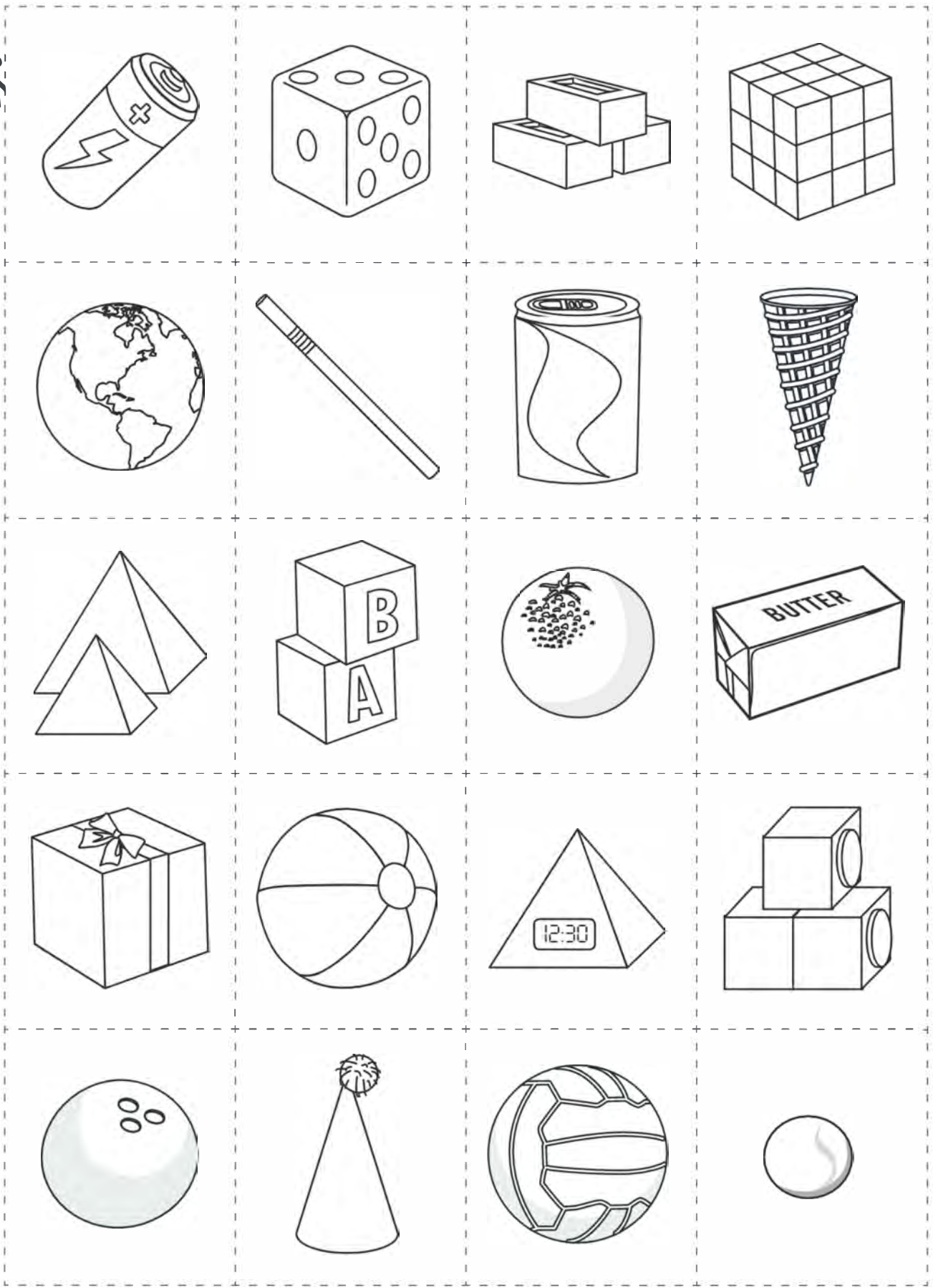
Turn all the
way around.



Spinner



Everyday objects



Place It

Children place toys according to positional language on cards.

Blackline Master 18 (page 82)

Sheets of light card

Collection of large and small blocks

3 small objects (e.g. a toy animal, a toy car, and a toy person) for each group

Plain paper and crayons for each child



Preparation

- Copy Blackline Master 18 onto light card and make a set of cards for each group.



Activity



Note: This activity is best for a small group with an adult to read the cards.

Have the children work together to build a bridge on the table with large and small blocks. Then have each child choose a toy as their playing piece. Shuffle the cards and place them in a stack facedown in front of the children. Have a child pick a card for an adult to read, for example, **beside**. The child positions the toy according to the card's instruction and describes where they are placing the toy, for example, *My car is beside the bridge* or *My person is standing beside the bridge*. If the child correctly positions the toy, they keep the card. If the child cannot correctly position the toy, they place the card at the bottom of the stack. Continue until the children use all the cards.



Extension



Ask the children to make a scene with the toys and blocks. Then have them place cards near the toys to label their position.

Distribute plain paper and crayons to each child. Have each child pick three cards and draw pictures to represent the positional language on each card.

Blackline Master 18

next to

beside

close to

above

in front

behind

left

right

in

on top

through

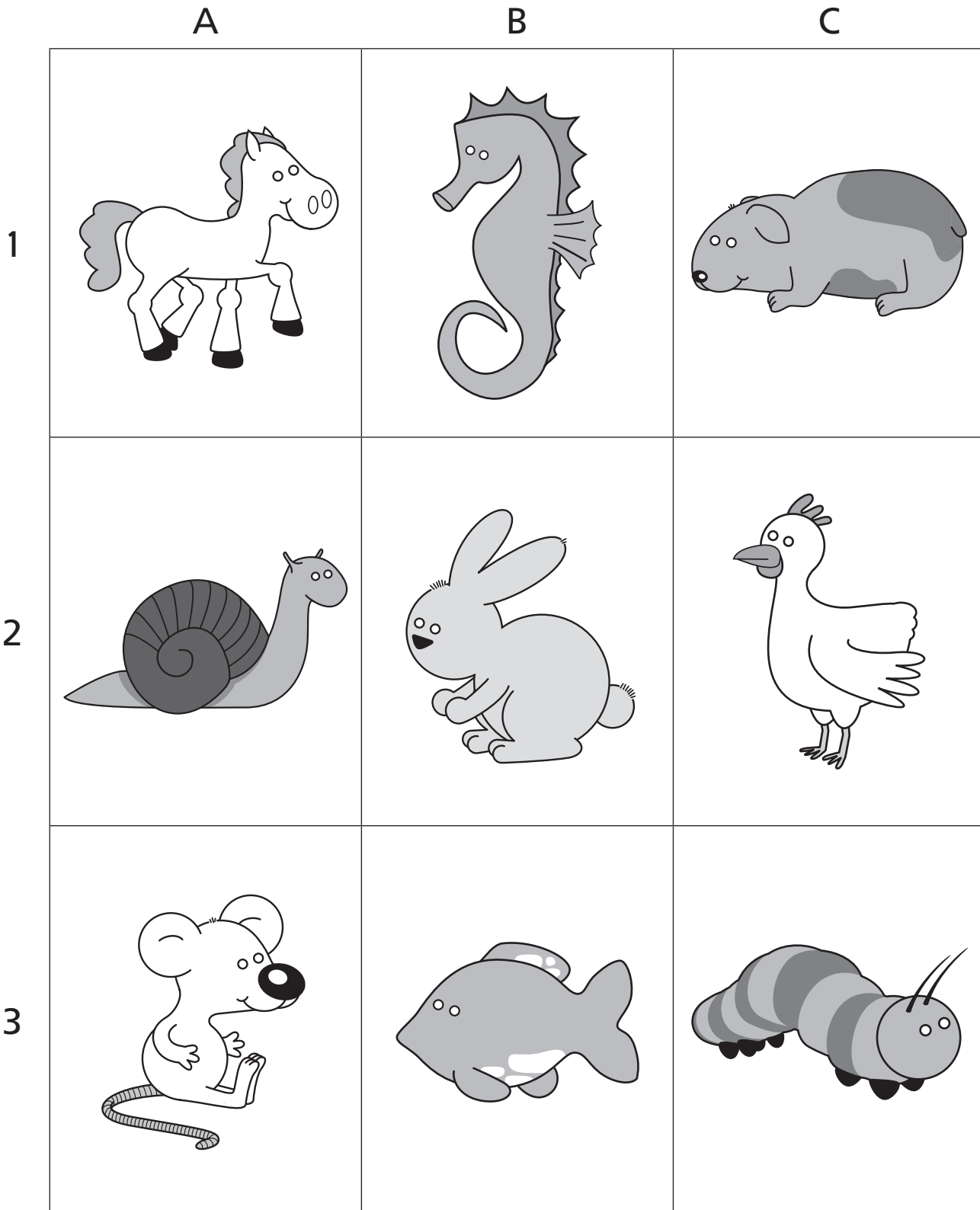
over

under

between



Blackline Master 19



Resources

The Seven Spatial Skills - MATHEMATICS FOR YOUNG MINDS • Space and Shape © 2008 ORIGO Education. Use the link below and go to page 23 for more information.

<https://www.flipsnack.com/ORIGOEducation/origo-education-supplemental-resources/full-view.html>

ORGIO Big Books

- I think I'll Go Flying
- Where is Hare?
- Look and See
- Muddy Muddy Mess
- The Great Shape Race

Use the link below and go to page 18 for more information.

<https://www.flipsnack.com/ORIGOEducation/origo-education-supplemental-resources/full-view.html>

ORIGO Big Book Tools/Activities

- Playing I Spy
- Three Objects in a Row
- The Great Shape Race Tool
- Drawing the Face of 3D Objects

Use the link below and turn to page 18 for more information.

<https://www.flipsnack.com/ORIGOEducation/origo-education-supplemental-resources/full-view.html>

MATHEMATICS FOR YOUNG MINDS • Space and Shape © 2008

- Movement in Space
- Place It

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For more information about ORIGO Education, use the link below.

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