SORTING BY COLOR

BIG IDEA 8: PROPERTIES OF MATTER

BENCHMARKS AND TASK ANALYSES

SC.K.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), and texture.
The student:

- explores a variety of objects that are different sizes, shapes, colors, temperatures (hot or cold), weights (heavy or light), and textures.
- sorts objects by one property at a time (for example: size).
- sorts objects by two or more properties at a time (for example: size and color).

SC.K.N.1.1 Collaborate with a partner to collect information.
The student:

- works with a partner to gather information during classroom investigations.

SC.K.N.1.5 Recognize that learning can come from careful observation.
The student:

- observes a variety of objects (living and nonliving).
- discusses observations of objects.
- states what was learned from observations.

KEY QUESTION

How can you sort objects by color?

TEACHER BACKGROUND INFORMATION

Things in our environment can be sorted by different attributes or properties (such as color, shape, size, temperature, weight, and texture). It is also important to realize that objects are often sorted by more than one attribute at a time (such as size AND color).

MATERIALS

Teacher

Unifix cubes

Per group

Station 1: one bag of 12 bean soup
(found in the bean/soup aisle of grocery stores)
Station 2: pattern blocks
Station 3: die cut shapes (make sure they are various sizes, shapes, and colors)
Station 4: foam sticky shapes - found in craft stores and large discount stores (make sure they are various sizes, shapes, and colors)

SAFETY

- Always follow OCPS science safety guidelines.
- Remind students to not place objects in their mouths.
- Choose objects that do not have sharp edges.

TEACHING TIPS

- Keep materials in baggies for use in the next several lessons as well as for years to come.
- Allow ample time for all students to verbalize their reasoning.

- Your role during the stations is to rotate and ask questions about how and why the students are sorting their objects.
- The objects at the stations can be modified as long as the materials you choose have different sizes, shapes, and colors. Be careful to choose things that are solid colors (no stripes or multicolored items as these can be confusing).

ENGAGE

Choose even amounts of four colors of unifix cubes. Give one cube to each child. Ask the children to move to designated parts of the room for each color. (Everyone who has a blue cube come to this side of the room…etc.) Once the children are grouped by color of their cubes, discuss what attribute or property (color) was used to sort the class.

EXPLORE

Set up four stations: one with beans (12 bean soup bag has various sizes, shapes, and colors), one with pattern blocks, one with die cuts (various shapes, sizes, and colors), and one with foam sticky shapes (various shapes, colors, and sizes).

Assign children to starting station. Go over safety reminders. Tell students that they will be sorting the objects by COLOR. Allow students time to sort by color (approximately 5 minutes per station). Have students rotate through all four stations.

During the station rotations, go to groups and ask the following questions: *What are you sorting by?* (color) *Tell me about the groups you have.* (These are all red…etc.) *Pick up one item and ask: Where would I put this one?* Follow up with: *Why would I put it there? Place one item in the wrong group and ask if they agree that it goes there. Why or why not?* Focus on sorting by COLOR.

For students that are struggling with the task of sorting by color, you may need to ask more questions after showing one example. Put a few red blocks in a pile and ask: *How are these blocks the same? Can you add more to this group?* Ask student to sort by green. Continue process until student is able to sort independently by color. This may need to be repeated from station to station.

EXPLAIN

Gather students away from the stations and ask the following questions: *How did you decide to group your objects?* (color) *How did you sort your objects?* (color) *Which objects were the easiest to sort by color?* (various answers…follow up with WHY?) *Which objects were the hardest to sort by color? (various answers…follow up with WHY?)*

EXTEND AND APPLY

Ask students how we could sort ourselves (boy/girl, glasses/no glasses, hair color, eye color, shirt color, type of shoe, etc.) Allow time to sort by the attributes suggested by your students. Choose one attribute (example: hair color) and designate places in the room (front of room for blonde hair, back of room for brown hair, side of room for black hair, other side of room for red hair). Allow students to DECIDE what group they belong in. Discuss how they made their decision.

ASSESSMENT

As you observe your students (as you rotate stations), look for these behaviors:

- Are they sorting by color?
- Can they verbalize that they sorted by color?
- Once given a method for sorting (extend and apply section), can the student place themselves in the correct group?

SORTING BY SHAPE

BIG IDEA 8: PROPERTIES OF MATTER

BENCHMARKS AND TASK ANALYSES

SC.K.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot/cold), weight (heavy or light), and texture.
The student:

- explores a variety of objects that are different sizes, shapes, colors, temperatures (hot or cold), weights (heavy or light), and textures.
- sorts objects by one property at a time (for example: size).
- sorts objects by two or more properties at a time (for example: size and color).

SC.K.N.1.1 Collaborate with a partner to collect information.
The student:

- works with a partner to gather information during classroom investigations.

SC.K.N.1.5 Recognize that learning can come from careful observation.
The student:

- observes a variety of objects (living and nonliving).
- discusses observations of objects.
- states what was learned from observations.

SC.K.N.1.3 Keep records as appropriate—such as pictorial records—of investigations conducted.
The student:

- records information, using pictures, journals, or class data tables about classroom investigations.

KEY QUESTION

How can you sort objects by shape?

TEACHER BACKGROUND INFORMATION

Things in our environment can be sorted by different attributes or properties (such as color, shape, size, temperature, weight, and texture). It is also important to realize that objects are often sorted by more than one attribute at a time (such as shape AND color).

MATERIALS

Teacher

round crackers (butter crackers), rectangular crackers (graham crackers), square crackers (soda crackers), and triangle crackers (corn chips).

Per group

Station 1: one bag of 12-bean soup
(found in the bean/soup aisle of grocery stores)
Station 2: pattern blocks
Station 3: die cut shapes (make sure they are
various sizes, shapes, and colors), paper and pencils
Station 4: various sizes, shapes, and colors of foam sticky shapes (found in craft stores and large discount stores

SAFETY

- Always follow OCPS science safety guidelines.

- Remind students to not place objects in their mouths.
- Choose objects that do not have sharp edges.
- Use only pre-packaged foods.

TEACHING TIPS

- Keep materials in baggies for use in the next several lessons as well as for years to come.
- Allow ample time for all students to verbalize their reasoning.
- Your role during the stations is to rotate and ask questions about how and why the students are sorting their objects.
- The objects at the stations can be modified as long as the materials you choose have different sizes, shapes, and colors. Be careful to choose things that are solid colors (no stripes or multicolored items as these can be confusing).

ENGAGE

Choose even amounts of four different shapes of crackers. Give one cracker to each child. Ask the children to move to designated parts of the room for each shape of cracker. (Everyone who has a square cracker should come to this side of the room, etc.) Once the children are grouped by the shape of their cracker, discuss what attribute or property (shape) was used to sort the class. If you choose, allow students to eat the cracker they touched only. To review the lesson prior, ask: *How did we sort our objects yesterday?* (color) *How are we sorting the objects today?* (shape)

EXPLORE

Set up four stations (same as last lesson): one with beans (12-bean soup bag has various sizes, shapes, and colors), one with pattern blocks, one with die cuts (various shapes, sizes, and colors), one with foam sticky shapes (various shapes, colors, and sizes), paper, and pencils.

Assign children to starting station. Go over safety reminders. Tell students that they will be sorting by SHAPE. Allow students time to sort by shape (approximately 5 minutes per station). Have students rotate through all four stations. During the die cut shape station, give students paper and request that they draw the sorted shape groups. This can be used as an assessment.

During the station rotations, go to groups and ask the following questions: *How are you sorting?* (shape) *Tell me about the groups you have.* (These are all squares, etc.) *Pick up one item and ask: Where would I put this one? Follow up with: Why would I put there?* Place one item in the wrong group and ask if they agree that it goes there. *Why or why not?* Focus on sorting by SHAPE.

For students that are struggling with the task of sorting by shape, you may need to ask more questions after showing one example (put a few circles in a pile and ask: *How are these the same? Can you add more to this group?* Ask student to sort by squares. Continue process until student is able to sort independently by shape. This may need to be repeated from station to station.

EXPLAIN

Gather students away from the stations and ask the following questions: *How did you decide to group your objects?* (shape) *How did you sort your objects?* (shape) *Which objects were the easiest to sort by shape?* (various answers…follow up with WHY?) *Which objects were the hardest to sort by shape?* (various answers…follow up with WHY?)

EXTEND AND APPLY

Tell students that we are going to look around the room and create a Thinking Map (Tree Map) to identify and sort things in the classroom by shape. Ask the students to name things in the room that are the

shape of a circle. Record answers on Tree Map. Repeat process with other shapes. You may also choose to go on a shape walk to recognize shapes outside your classroom.

ASSESSMENT

As you observe your students (as you rotate stations), look for these behaviors:

- Are they sorting by shape?
- Can they verbalize that they sorted by shape?
- Once given a method for sorting by shape (extend and apply section), can the students recognize different shapes in the classroom?

SORTING BY COLOR AND SHAPE

BIG IDEA 8: PROPERTIES OF MATTER

BENCHMARKS AND TASK ANALYSES

SC.K.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot/cold), weight (heavy or light), and texture.
The student:

- explores a variety of objects that are different sizes, shapes, colors, temperatures (hot or cold), weights (heavy or light), and textures.
- sorts objects by one property at a time (for example: size).
- sorts objects by two or more properties at a time (for example: size and color).

SC.K.N.1.1 Collaborate with a partner to collect information.
The student:

- works with a partner to gather information during classroom investigations.

SC.K.N.1.5 Recognize that learning can come from careful observation.
The student:

- observes a variety of objects (living and nonliving).
- discusses observations of objects.
- states what was learned from observations.

KEY QUESTION

How can you sort objects by color and shape?

TEACHER BACKGROUND INFORMATION

Things in our environment can be sorted by different attributes or properties (such as color, shape, size, temperature, weight, and texture). It is also important to realize that objects are often sorted by more than one attribute at a time (such as shape AND color).

MATERIALS

Teacher

Duplos or Legos (red squares and blue rectangles)
buttons or mosaic tile beads (different shapes AND colors)

Per group

Station 1: one bag of 12 bean soup
(found in the bean/soup aisle of grocery stores)
Station 2: pattern blocks
Station 3: various sizes, shapes, and colors of die cut shapes, paper and pencils
Station 4: various sizes, shapes, and colors of foam sticky shapes (found in craft stores and large discount stores)

SAFETY

- Always follow OCPS science safety guidelines.
- Remind students to not place objects in their mouths.
- Choose objects that do not have sharp edges.

TEACHING TIPS

- Keep materials in baggies for use in the next several lessons as well as for years to come)

- Allow ample time for all students to verbalize their reasoning.
- Your role during the stations is to rotate and ask questions about how and why the students are sorting their objects.
- The objects at the stations can be modified as long as the materials you choose have different sizes, shapes, and colors. Be careful to choose things that are solid colors (no stripes or multicolored items as these can be confusing).

ENGAGE

The teacher will pile the Duplos or Legos in a place where can see that they are different shapes and colors. Ask: *How could we sort these?* (color, shape) *Could we sort them any other ways?* (various answers) *Could we sort them by color AND shape?* Allow a student to attempt and ask guiding questions until the Duplos or Legos are sorted by color AND shape (for example: a pile of squares that are red and a pile of rectangles that are blue). Discuss what is the same for each group and how they were sorted. To review the lesson prior, ask: *What did we sort our objects by yesterday?* (shape) *What are we sorting by today?* (color and shape)

EXPLORE

Set up four stations (same as last lesson): one with beans (12-bean soup bag has various sizes, shapes, and colors), one with pattern blocks, one with die cuts (various shapes, sizes, and colors, paper and pencil), and one with foam sticky shapes (various shapes, colors, and sizes).

Assign children to starting station. Go over safety reminders. Tell students that they will be sorting by shape AND color. Allow students time to sort by shape AND color (approximately 5 minutes per station). Have students rotate through all four stations.

During the station rotations, go to groups and ask the following questions: *What are you sorting by?* (shape AND color) *Tell me about the groups you have.* (These are all red squares…etc.) Pick up one item and ask: *Where would I put this one?* Follow up with: *Why would I put it there?* Place one item in the wrong group and ask if they agree that it goes there. *Why or why not?* Focus on sorting by shape AND color.

For students that are struggling with the task of sorting by shape and color, you may need to ask more questions after showing one example. Put a few red circles in a pile and ask: *How are these the same? Can you add more to this group?* Ask student to sort by red squares. Continue process until student is able to sort independently by shape AND color. This may need to be repeated from station to station.

EXPLAIN

Gather students away from the stations and ask the following questions: *How did you decide to group your objects?* (shape AND color) *How did you sort your objects?* (shape AND color) *Which objects were the easiest to sort by shape AND color?* (various answers…follow up with WHY?) *Which objects were the hardest to sort by shape AND color?* (various answers…follow up with WHY?)

EXTEND AND APPLY

Use buttons or mosaic tile beads and allow students to sort by shape AND color. Make sure the buttons are different shapes and colors (example: heart shaped or square as well as circle).

ASSESSMENT

As you observe your students (as you rotate stations), look for these behaviors:

- Are they sorting by shape AND color?
- Can they verbalize that they sorted by shape AND color?

- When given a new set of items (extend and apply), were they able to sort by shape AND color?

SORTING BY SIZE

BIG IDEA 8: PROPERTIES OF MATTER

BENCHMARKS AND TASK ANALYSES

SC.K.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot/cold), weight (heavy or light), and texture.
The student:

- explores a variety of objects that are different sizes, shapes, colors, temperatures (hot or cold), weights (heavy or light), and textures.
- sorts objects by one property at a time (for example: size).
- sorts objects by two or more properties at a time (for example: size and color).

SC.K.N.1.1 Collaborate with a partner to collect information.
The student:

- works with a partner to gather information during classroom investigations.

SC.K.N.1.5 Recognize that learning can come from careful observation.
The student:

- observes a variety of objects (living and non living).
- discusses observations of objects.
- tells what was learned from observations.

KEY QUESTION

How can you sort different objects by size?

TEACHER BACKGROUND INFORMATION

Things in our environment can be sorted by different attributes or properties (such as color, shape, size, temperature, weight, and texture). It is also important to realize that objects are often sorted by more than one attribute at a time (such as shape AND color).

MATERIALS

Teacher

different size books (big, small, thick, thin)
toys of different sizes

Per group

Station 1: one bag of 12-bean soup
(found in the bean/soup aisle of grocery stores)
Station 2: pattern blocks
Station 3: various sizes, shapes, and colors of die cut shapes
Station 4: various sizes, shapes, and colors of foam sticky shapes (found in craft stores and large discount stores)

SAFETY

- Always follow OCPS science safety guidelines.
- Remind students to not place objects in their mouths.
- Choose objects that do not have sharp edges.

TEACHING TIPS

- Keep materials in baggies for use in the next several lessons as well as for years to come)
- Allow ample time for all students to verbalize their reasoning.
- Your role during the stations is to rotate and ask questions about how and why the students are sorting their objects.
- The objects at the stations can be modified as long as the materials you choose have different sizes, shapes, and colors. Be careful to choose things that are solid colors (no stripes or multicolored items as these can be confusing).

ENGAGE

Show the different sized books to your students. Ask: *How could I sort these?* (various answers) *Can you tell me about the size of this book?* (small) *Can you tell me about the size of this book?* (big) *Could I sort them by size?* (yes) Allow students to demonstrate sorting books by size. Draw attention to sorting by thick or thin as well. To review the lesson prior, ask: *What ways have we sorted our objects by so far?* (color AND shape)

EXPLORE

Set up four stations (same as last lesson): one with beans (12-bean soup bag has various sizes, shapes, and colors), one with pattern blocks, one with die cuts (various shapes, sizes, and colors), and one with foam sticky shapes (various shapes, colors, and sizes).

Assign children to starting station. Go over safety reminders. Tell students that they will be sorting by SIZE. Allow students time to sort by size (approximately 5 minutes per station). Have students rotate through all four stations.

During the station rotations, go to groups and ask the following questions: *What are you sorting by?* (size) *Tell me about the groups you have.* (These are all big…etc.) Pick up one item and ask: *Where would I put this one?* Follow up with: *Why would I put it there?* Place one item in the wrong group and ask if they agree that it goes there. *Why or why not?* Focus on sorting by SIZE.

For students that are struggling with the task of sorting by size, you may need to ask more questions after showing one example. Put a few small items in a pile and ask: *How are these the same? Can you add more to this group?* Ask student to sort by big items. Continue process until student is able to sort independently by size. This may need to be repeated from station to station.

EXPLAIN

Gather students away from the stations and ask the following questions: *How did you decide to group your objects?* (size) *How did you sort your objects?* (size) *Which objects were the easiest to sort by size?* (various answers…follow up with WHY?) *Which objects were the hardest to sort by size*? (various answers…follow up with WHY?)

EXTEND AND APPLY

Give students an assortment of toys and ask them to sort by size. Discuss methods used to sort by size.

ASSESSMENT

As you observe your students (as you rotate stations), look for these behaviors:

- Are they sorting by size?
- Can they verbalize that they sorted by size?
- Once given a method for sorting by size (extend and apply section), can the students sort by size?

SORTING BY TEMPERATURE

BIG IDEA 8: PROPERTIES OF MATTER

BENCHMARKS AND TASK ANALYSES

SC.K.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), and texture.
The student:

- explores a variety of objects that are different sizes, shapes, colors, temperatures (hot or cold), weights (heavy or light), and textures.
- sorts objects by one property at a time (for example: size).
- sorts objects by two or more properties at a time (for example: size and color).

SC.K.N.1.1 Collaborate with a partner to collect information.
The student:

- works with a partner to gather information during classroom investigations.

SC.K.N.1.5 Recognize that learning can come from careful observation.
The student:

- observes a variety of objects (living and nonliving).
- discusses observations of objects.
- states what was learned from observations.

KEY QUESTION

How can you sort objects by temperature (hot and cold)?

TEACHER BACKGROUND INFORMATION

Things in our environment can be sorted by different attributes or properties (such as color, shape, size, temperature, weight, and texture). It is also important to realize that objects are often sorted by more than one attribute at a time (such as size AND color).

MATERIALS

Teacher

2 identical plastic cups

Per group

tray
ice cube
marble
Unifi cube
cotton ball
paper clip
toy car
block
picture cards

SAFETY

- Always follow OCPS science safety guidelines.
- Remind students to not place objects in their mouths.
- Choose objects that do not have sharp edges.

- Remind students that they have to use care when observing warm objects.

TEACHING TIPS

Put ice cubes in a cup of water ahead of time. If cubes have not melted by the time the lesson is beginning, scoop them out. Put a cup of water in the microwave for less than a minute. Make sure that the water is lukewarm and not hot before sharing with students. Be careful microwaving the water; if the cup you choose to use is not sturdy it will melt. Create or use premade picture cards but make sure each set of cards has a few hot and cold items that will be obvious for your students.

ENGAGE

Hold up two identical clear cups of water, one warm and one cold. Ask*: What do you observe (notice) about what I'm holding up?* Accept student responses. Ask: *Do you think these are exactly the same or different? Why?* Place cups on table and allow students to touch the outside of each cup. Ask: *Do you think they are the same or different? Why?* (One is hot and one is cold) Separate the cups from one another. *If we wanted to sort objects by temperature, what else could I put with the warm cup? What else could I put with the cold cup?*

EXPLORE

Give students a tray of items, some that have been in the freezer and some that have been outside with sunlight shining on them (paper clips, marbles, blocks, ice cubes, toy car, etc). Direct students to sort the items by temperature into two piles: hot and cold.

EXPLAIN

How did you decide to sort your objects by temperature? How could you tell if an object belonged in the hot or cold pile? (by touching) *What sense did you use to tell if the objects were hot or cold?* (touch) *What body part did you use for the sense of touch?* (Skin, not just hands) *What other things could go in a hot or cold pile?* There are things that are hot and cold that we cannot put in a pile. *Can you think of some?* (Sun, planets, air, etc.)

EXTEND AND APPLY

Give students picture cards and have them sort into piles of things that could be hot and things that could be cold. Require an explanation from students for the pictures in each pile, sometimes the justification makes sense in a way adults do not expect. For example, a student may place an ice cube in the hot pile but the reasoning may be that the picture shows the ice cube in a puddle of water and the child knows that when ice cubes get warm they start to melt, or a student may place a car in the cold pile with the justification that cars get cold in the winter (if they are from out of state).

ASSESSMENT

As you observe your students, look for these behaviors:

- Are they sorting by temperature?
- Can they verbalize that they sorted by temperature (hot and cold)?

SORTING BY WEIGHT

BIG IDEA 8: PROPERTIES OF MATTER

BENCHMARKS AND TASK ANALYSES

SC.K.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), and texture.
The student:

- explores a variety of objects that are different sizes, shapes, colors, temperatures (hot or cold), weights (heavy or light), and textures.
- sorts objects by one property at a time (for example: size).
- sorts objects by two or more properties at a time (for example: size and color).

SC.K.N.1.1 Collaborate with a partner to collect information.
The student:

- works with a partner to gather information during classroom investigations.

SC.K.N.1.5 Recognize that learning can come from careful observation.
The student:

- observes a variety of objects (living and nonliving).
- discusses observations of objects.
- states what was learned from observations.

KEY QUESTION

How can you sort objects by weight (heavy or light)?

TEACHER BACKGROUND INFORMATION

Things in our environment can be sorted by different attributes or properties (such as color, shape, size, temperature, weight, and texture). It is also important to realize that objects are often sorted by more than one attribute at a time (such as size AND color).

MATERIALS

Teacher

brick
feather
picture cards (see teaching tips)

Per group

balance
cotton ball
marble
paper clip
toy car
tennis ball
ping pong ball
feather
doll
box of markers
box of crayons

SAFETY

- Always follow OCPS science safety guidelines.
- Remind students to not place objects in their mouths.
- Do not let students handle the brick unless an adult is assisting.

TEACHING TIPS

The objects in the material list can be modified as long as they have varying weights.
Gather group materials ahead of time and place in a bag or on a tray. For the extend and apply portion of this lab, create or use pre-made picture cards and make sure that each set has obvious examples that students would know are heavy or light (e.g., elephant and feather).

ENGAGE

Hold up a brick and a feather. Ask: *What can you tell me about these two items?* Allow students to pick up both items. Show students how an empty balance scale is balanced (arrow pointing to line and buckets are even) and place the brick in one bucket and the feather in the other bucket. *What happened? Why is that bucket higher than the other bucket? What could we say about the brick? What could we say about the feather? What else could we say is heavy? What else could we say is light?*

Show students how to use the balance to compare the objects to the tennis ball. Put the ball in one bucket and the brick in the other. *What can we say about the tennis ball and the brick?* (The ball is lighter than brick, or the brick is heavier than the ball.) Repeat the procedures with the feather.

EXPLORE

Give students a balance that is balanced, toy car, cotton ball, feather, tennis ball, ping pong ball, paper clip, doll, crayons, markers, etc. Direct students to sort objects into two piles: heavier than a tennis ball and lighter than a tennis ball.

EXPLAIN

How did you decide to sort your objects by weight? How could you tell if an object belonged in the heavy or light pile by comparing it to a tennis bal? What other things could go in a heavy or light pile? There are things that are heavy and light that we cannot put in a pile. Can you think of some? (A car is too big for us to compare and measure in the classroom, and germs are too small, etc.)

EXTEND AND APPLY

Give students picture cards and have them sort into piles of things that could be heavy and things that could be light. Require an explanation from students for the pictures in each pile, sometimes the justification makes sense in a way adults do not expect.

ASSESSMENT

As you observe your students look for these behaviors:

- Are they sorting by weight?
- Can they verbalize that they sorted by weight (heavy/light)?

SORTING BY TEXTURE

BIG IDEA 8: PROPERTIES OF MATTER

BENCHMARKS AND TASK ANALYSES

SC.K.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), and texture.
The student:

- explores a variety of objects that are different sizes, shapes, colors, temperatures (hot or cold), weights (heavy or light), and textures.
- sorts objects by one property at a time (for example: size).
- sorts objects by two or more properties at a time (for example: size and color).

SC.K.N.1.1 Collaborate with a partner to collect information.
The student:

- works with a partner to gather information during classroom investigations.

SC.K.N.1.5 Recognize that learning can come from careful observation.
The student:

- observes a variety of objects (living and nonliving).
- discusses observations of objects.
- states what was learned from observations.

KEY QUESTION

How can you sort objects by texture (smooth, rough, soft, hard)?

TEACHER BACKGROUND INFORMATION

Things in our environment can be sorted by different attributes or properties (such as color, shape, size, temperature, weight, and texture). It is also important to realize that objects are often sorted by more than one attribute at a time (such as size AND color).

MATERIALS

Teacher
brick
feather

Per student
paper
crayons or chalk

Per group
cotton ball
scraps of velvet fabric
aluminum foil
burlap
dried leaf
sandpaper
cotton fabric
knitted fabric
marble
sponge
plastic bag
carpet square

tile
rock
shell
stuffed animal

SAFETY

- Always follow OCPS science safety guidelines.
- Remind students to not place objects in their mouths.

TEACHING TIPS

- Gather group materials ahead of time and place in a bag or on a tray.
- The objects can be modified as long as you choose different textures.

ENGAGE

Hold up a brick and a feather. Allow students to touch but not pick up both items. Ask: *We said before that the brick was heavy and the feather was light. There are other things that are different about them. What do you think it is?* Accept accurate responses, but lead students to realize that they feel different. *Tell me something about how they feel*. (The feather is soft and the brick is hard. The brick is also rough or bumpy, not like a table or desk. Desks are smooth.)

EXPLORE

Give each group materials to sort into texture groups. Allow students to decide which items belong together and require them to explain why each item belongs in that group. For example, the marble belongs in the smooth group because it feels like the tinfoil.

EXPLAIN

How did you decide to sort your objects? (texture-how they feel) Tell me some words you used to describe your objects? (soft, hard, smooth, rough) Which objects felt smooth to you? Rough to you? Soft to you? Hard to you?

Allow students to choose one item from the group sorting activity. Allow students to search for something in the classroom that has the same texture as the item they chose. For example: if someone chose the marble, they may think its texture matches the computer screen because they are both smooth.

EXTEND AND APPLY

Tell students that you will be going on a nature walk to hunt for items that have different textures. Ask: *What types of items might we find on our texture hunt? What textures do you think those items would be?* (leaves-smooth, dirt-rough, grass-soft). Tell students that they will be doing nature rubbings of as many different textures in nature as they can find using the paper and colored pencils or crayons. If they can, have them label each rubbing to help them remember what item was rubbed.

Once inside, ask: *What kinds of items did you gather rubbings of? What textures did those items have? Which one is your favorite? Why? Which one was hard to get? Why do you think that one was hard to get? What does it mean to sort? What could we sort our rubbings by today?* (texture, color, item, etc.)

ASSESSMENT

As you observe your students look for these behaviors:

- Are they sorting by texture?
- Can they verbalize that they sorted by texture (hard, soft, rough, smooth)?