Standards

Language Arts—Reading
· Uses the general skills and strategies of the reading process.
· Uses reading skills and strategies to understand and interpret a variety of informational texts.

Language Arts—Writing
· Gathers and uses information for research purposes.

Mathematics
· Understands and applies basic and advanced properties of the concepts of geometry.
· Understands and applies basic and advanced concepts of statistics and data analysis.

Science
· Understands the nature of scientific inquiry.
· Understands the structure and properties of matter.

Life Skills
· Displays effective interpersonal communications skills.

Multiple Intelligences Utilized
· Spatial, linguistic, logical-mathematical, and interpersonal
Lesson 1
What Is It Like?

Purpose: Students will describe the properties of various objects.

Materials
· Properties of Matter books
· What Is It Like? p. 10
· crayons
· pencils
· tape or solid-colored stickers
· marker
· three objects of varying colors, textures, sizes, weights, and shapes

Objectives
· Name five specific properties of matter.
· Classify objects by color, texture, shape, weight, and size.
· Compare objects according to their specific properties.
· Distinguish different properties from one another.
· Explain similarities and differences between objects.
· Evaluate the accuracy of a chart.

Activity Procedures

Prepare
(teacher)
· Copy What Is It Like? p. 10 for each student.
· Use tape or a sticker to label each object with a letter.
· Divide students into small groups.

Pretest
(teacher, class)
· Pass an object around from student to student, and have each student use one word to describe the object. What is it like?
· Define the terms color, texture, shape, weight, and size.

Read
(teacher, class)
· Read Properties of Matter books.

Discuss
(teacher, class)
· What was something you read about that was (green)? Can you think of other (green) things?
· Answer similar questions about other properties of matter (texture, size, etc.).

Model
(teacher)
· Using a classroom object, show students how to complete What Is It Like? p. 10 by drawing the properties of the object in the boxes under the name of each property. (For example, under texture, draw what bumpy or smooth or rough looks like.)

Practice
(students, small groups)
· Give each group one labeled object to describe.
· On What Is It Like? p. 10, students will print the letter from the object’s label in the blank next to the first row of boxes.
· One by one, read the names of the properties listed above the boxes, allowing students time to draw the property that describes their object before moving on to the next property.
· Rotate objects among groups until all three columns are complete.

Discuss
(class)
· What is Object A? What shape is it? What color is it? What does it feel like? Is it heavy or light? Is it big or little?
· What about Object B? Object C?
· Were any of the objects the same color, shape, etc? Which ones?

Evaluate
(teacher)
· Review each student’s What Is It Like? p. 10 for completeness and understanding.
Lesson 2
I’m Thinking of Something

Purpose: Students will identify and contrast the properties of familiar objects.

Materials
- Properties of Matter books
- sentence strips or index cards
- marker

Objectives
- Identify the physical properties of familiar objects.
- Contrast objects that have different physical properties.
- Relate descriptive terms to tangible objects.
- Discriminate between properties.
- Categorize objects by their properties.
- Compare familiar objects.

Activity Procedures

Prepare
(teacher)
- Write the following words on individual sentence strips or index cards: big, black, blue, brown, bumpy, circle, green, heavy, light, orange, prickly, purple, rectangle, red, rough, slimy, small, smooth, soft, square, triangle, and yellow.
- Verify the presence of objects with these properties in the classroom. If some properties are not represented, gather appropriate objects and place them in the classroom.

Pretest
(teacher, students)
- What words do we use to describe things around us? What is a chalkboard like? What about a chair? Consider color, shape, texture, weight, and size.

Read
(teacher, students)
- Read the Properties of Matter books.

Discuss
(teacher, students)
- What words did the author use to describe some of the objects in the books?
- What other words could you use to describe objects? Can you use more than one word to describe a single object?

Model
(teacher, students)
- Demonstrate how to play I’m Thinking of Something with the following steps:
  
  Step 1 Choose a word card from the sentence strips/index cards prepared ahead of time.
  
  Step 2 Read the word out loud (heavy, for example).
  
  Step 3 Say, “I’m thinking of something heavy. Is it a (pencil) or a (desk)?” (Name one object that has the property and one that does not.)
  
  Step 4 Ask a student volunteer to answer the question.
  
  Step 5 The student who answered the question gets to pick a card and ask the next question.

Practice
- Sitting in a circle on the floor, play I’m Thinking of Something by going around the circle. The person to the left of the questioner answers the question until each student has had a turn or until time runs out.
- You may choose to read the word card to the students or have the group read the word together.

Evaluate
- Observe each student’s ability to discriminate between objects that have different physical properties.
- Play the game during down times or while waiting in line to reinforce these concepts.
Lesson 3
Color and Shape

Purpose: Students will identify and distinguish between various shapes and colors.

Materials
- Properties of Matter books
- crayons

What Do You See? p. 11

Objectives
- Identify various shapes and colors.
- Distinguish between various shapes and colors.
- Apply knowledge of shapes and colors to produce a picture.
- Search for specific shapes in a collage.
- Match colors and shapes to their written forms.
- Assess the accuracy of a finished project.

Activity Procedures

Prepare (teacher)
- Copy What Do You See? p. 11 for each student.

Pretest (students)
- Can you see any square objects in the classroom?
  What about circles? What other shapes do you see?
- What colors do you see? What other kinds of words can we use to describe the things we see?

Read (teacher, class)
- Read the Properties of Matter books, paying special attention to What Color Is It? and What Shape Is It?

Discuss (class)
- What were some of the objects you read about? How were they described?

Model (teacher)
- Read the instructions on What Do You See? p. 11.
- Show students how to make a colored mark next to each color word in the instructions.
- Demonstrate how to fill in one of the sections on What Do You See? p. 11.

Practice (students)
- Follow the instructions on What Do You See? p. 11 to reveal a hidden picture.

Evaluate (students, teacher)
- What picture did you find hidden in the collage on What Do You See? p. 11?
Lesson 4
Feel It!

Purpose: Students will use their sense of touch to identify textures.

Materials
- Properties of Matter books
- It Feels . . . p. 12
- pencils
- tape
- pen or marker
- one or more of each: book, cucumber, soap, stapler, stuffed animal, tree bark or sandpaper, Velcro, wet sponge or soft bread

Objectives
- Name various textures.
- Articulate what particular textures feel like.
- Investigate the textures of eight objects.
- Document the textures of eight objects.
- Explain how a conclusion was reached.
- Defend answers on an assignment.

Activity Procedures

Prepare (teacher)
- Copy It Feels . . . p. 12 for each student.
- Collect objects for texture investigation.
- Label each object with a letter A–H.
- Place each object in a different location (station) in the classroom.
- Divide students into small groups for the activity.

Pretest (teacher, class)
- Pass out several classroom items to students. What does each of these items feel like?

Read (teacher, class)
- Read Properties of Matter books, paying special attention to How Does It Feel?

Discuss (class)
- What words can we use to describe how something feels? What is something that is soft? Slimy? Prickly?

Model (teacher, students)
- Review each of the texture words on It Feels . . . p. 12. Ask students to identify objects that have each texture.
- Demonstrate how to fill in one line on It Feels . . . p. 12. (Use a classroom object that is not an item the students will categorize.)

Practice (teacher, small groups)
- Designate at which station each small group will start.
- Complete It Feels . . . p. 12 as groups rotate through the stations.

Evaluate (class)
- Discuss which item(s) fit the description of each texture. Identify the item by letter and/or name.
- Did any item fit into more than one category (hard and smooth, or soft and squishy, for example)? Which ones?
Lesson 5
Property Groupings

Purpose: Students will sort items by their physical properties.

Materials
- *Properties of Matter* books
- Group It p. 13
- pencils
- objects of various colors, shapes, sizes, textures, and weights
- bags or boxes to hold objects

Objectives
- Classify objects by their physical properties.
- Distinguish between physical properties.
- Count the number of like items.
- Graph the number of like items on a chart.
- Explain a graph.
- Conclude how items can be both alike and different.

Activity Procedures

Prepare
(teacher)
- Gather a variety of objects for students to sort.
- Make a copy of Group It p. 13 for yourself. Write the names of specific properties at the top of each column (*blue*, *circle*, *hard*, *heavy*, and *small*, for example). These will be determined by the items you have chosen for the students to sort.
- Copy Group It p. 13 (with your properties written in) for each student.
- Divide students into small groups for the activity.

Pretest
(students)
- Define the terms *alike* and *different*.
- Is it possible for two things to be both alike and different? How is that possible?

Read
(class)
- Read the *Properties of Matter* books.

Discuss
(class)
- How were all of the items in one book alike? How were they different?

Practice
(teacher, small groups)
- The teacher will pass out a container of various objects to each small group.
- Ask students to sort the items by a category (*blue*, for example). How many blue items are there? Color in the number of squares under the *blue* column on Group It p. 13 to match the number of blue items.
- Ask students to sort items by the other properties specified and to graph them on Group It p. 13.

Discuss
(class)
- How many (blue) items did you have? How many (heavy) items, etc?
- How were the objects you examined alike? How were they different?
- Did any items fit in more than one column? (*soft* and *yellow*, for example) Which ones?
- Which column had the most items? The fewest?

Evaluate
(teacher)
- Observe students as they group the items.
- Assess Group It p. 13 for understanding.
Lesson 6
Size and Weight

Purpose: Students will compare the sizes and weights of objects to determine whether one property influences the other.

Materials
- Is It Big or Little?
- Is It Heavy or Light?
- balances (one for each small group)
- Objects p. 14
- Big or Little p. 15
- Heavy or Light p. 16
- pencils
- crayons
- scissors
- glue sticks
- one of each for each small group: bucket, block, can of soup, dry sponge, heavy book, inflated balloon, paper clip, rock

Pretest
(teacher, students)
- What does the word *big* mean? What is something *big*? (Repeat with *heavy*, *light*, and *little*.)
- Find a big object in the room. Do you think it’s heavy or light? Are all big things heavy?

Read
(teacher, students)
- Read *Is It Big or Little?* and *Is It Heavy or Light?*

Discuss
(teacher, students)
- Looking at the pictures in *Is It Big or Little?*, do you see any heavy things? Do you see any light things?
- In *Is It Heavy or Light?*, what big things do you see? What little things do you see?
- Explain that the class will do an experiment to see if all big things are heavy and if all little things are light. Ask students to predict the results.

Practice
(teacher, small groups)
- Students color and cut out the pictures on Objects p. 14, and set them aside.
- Tell students which two items from their group of objects to compare first.
- Each group determines if the items are big or little. Students glue the pictures of those two objects from Objects p. 14 onto the correct category on Big or Little p. 15.
- Each group will use the balance to determine which object is heavier than the other. Students glue the duplicate picture of the objects from Objects p. 14 onto the correct category on Heavy or Light p. 16.
- Repeat with remaining object pairs.

Evaluate
(teacher, students)
- Which items did you glue onto the *big* category of Big or Little p. 15? Why? Repeat with all categories.
- Look at the items in the *big* category. Are these the same items in the *heavy* category? Which ones are not? So are all big things heavy? Are all little things light?
Additional Resources

BOOKS
Students learn about weight by performing these hands-on experiments.

Images of animals and animal body parts illustrate size concepts in this Caldecott Honor-winning book.

Each book in this series is dedicated to a specific color. Full color photos reinforce the words on the page.

This series introduces beginning readers to shape concepts. Repetitive text and full color photos are sure to bring kindergarten students reading success.

Students will learn about size by comparing various-sized objects in this book.

This book’s weight concepts are supported by full color photographs.

Students become familiar with colors, textures, and shapes with every page of this hands-on book.

Students learn about texture concepts with this fun touch-and-feel book.

WEBSITES
*Bunny Balance*
http://peepandthebigwideworld.com/
Click on the Bunnies icon to play a balancing game. Students can move various-sized animated bunnies to either side of a seesaw to find out which combinations will make it balance.

*Educational Arts and Crafts*
This site features educational craft ideas related to shape and color concepts, and more.

*How Many Colorful Shapes? A Book for Early Readers*
http://www.enchantedlearning.com/books/howmany/shapes/
Children will learn about colors, shapes, and counting using this printable coloring book.
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**Directions:** Draw or write the properties of three different objects.
Directions:

- Color the spaces with squares □ brown.
- Color the spaces with diamonds ◇ green.
- Color the spaces with circles ○ blue.
- Color the spaces with triangles △ black.
- Color the spaces with rectangles □ pink.

What Do You See?
It Feels . . .

Name ______________________________

Directions: Write the letter of the object in the blank next to the word that describes it.

1. ___________ bumpy

2. ___________ smooth

3. ___________ soft

4. ___________ slimy

5. ___________ rough

6. ___________ squishy

7. ___________ hard

8. ___________ prickly

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Heavy or Light

Heavy

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