

Matter

Lesson 1 Senses

Lesson 2 Objects






Lesson 3 Solids, Liquids, and Gases

Next Generation Science Standards

K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Go online to access
your digital course.

-  VIDEO
-  eTEXT
-  INTERACTIVITY
-  SCIENCE SONG
-  GAME
-  ASSESSMENT

The Essential Question

How can you classify different
objects?

Show What You Know

Circle a soft, red object.

Put a box around a
hard, blue object.



A Messy Classroom

How can we sort objects to put them away safely?



Hi, my name is Ms. Hall! I am a science teacher. I have a problem. My classroom is a mess! It is not safe. First we need to sort the objects on the floor into groups. Then we can use tools to put the objects on the high shelves.

Follow the path. Do the steps to sort the objects. Check off each step here **QUEST CHECK**  **OFF** .



VIDEO

Watch a video to learn what a science teacher does.

Quest Check-In Lab 2

Lesson 2 ●

Use what you learned about ways to sort objects.

Quest Check-In Lab 3

Lesson 3 ◆

Use what you learned about matter. Sort objects a new way.

Quest Check-In 1

Lesson 1 ■

Use what you learned about senses to compare objects.

Quest Findings

Finish your Quest. Find a fun way to show and tell about your objects.

What is the object?

Scientists observe objects.

How can you use your senses to ask questions about an object?

Procedure

1. Hide an object in the bag.
2. Give the bag to your partner.
3. Your partner can ask questions to guess the object.
4. Let your partner have a turn hiding an object in the bag.

Analyze and Interpret Data

5. Tell how you guessed the object.

Materials

- bag
- small classroom objects

Science Practice

You can **ask questions** to find out about objects.



Do not taste any materials.



Main Idea and Details

Read the story about Maria's cat.

The clay cat is the main idea.

Details tell about the main idea.

Maria's Clay Cat

Maria made a clay cat.

Her cat has white eyes.

It has triangle ears.

It has a long, blue tail.



GAME

Practice what you learn with the Mini Games.

Reading Check Main Idea and Details

Underline the main idea.

Circle a detail about shape.

Go online to watch this video about attentive listening.

Senses

Vocabulary

senses
structure
function

I can name the five senses.

K-2-ETS1-1, K-2-ETS1-2



Jumpstart Discovery!

Think of a kitten. How does its fur feel when you touch it? Tell a partner.

How does it **feel**?

Science teachers help students to learn about things around them. They can teach about the way things feel. What sense can you use to tell how something feels?

Materials

- index cards
- objects (rock, stuffed animal, sandpaper, can)

Procedure

1. Think of words that tell how things feel.
2. Write each word.
3. Feel the objects.
4. Put a word next to each object.

Science Practice

You **carry out investigations** to learn more about objects.

Analyze and Interpret Data

5. **Identify** Which sense did you use?



The Five Senses

We have five senses.

Senses are ways our bodies tell us about the people and things around us.

They help us observe the world.

Senses help us learn.

Literacy ▶ Toolbox 

Main Idea and Details Underline the main idea on this page.

Quest Connection



What senses can the students in Ms. Hall's class use to help them sort objects?

You touch with your skin.





INTERACTIVITY

Complete an activity about the senses.

Identify Circle the body parts that are used for each sense.



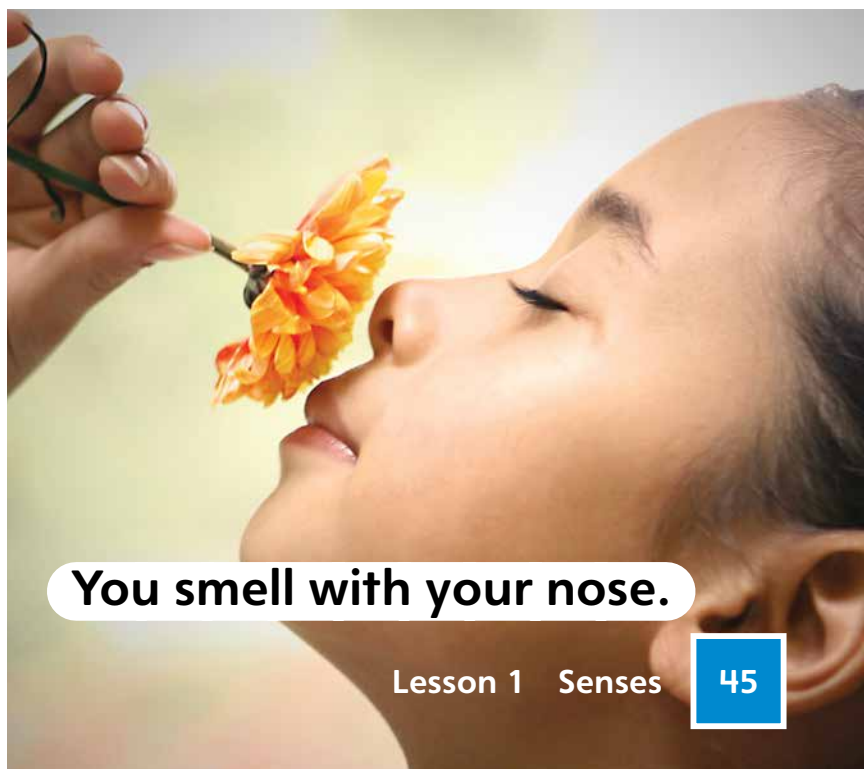
You see with your eyes.



You hear with your ears.



You taste with your tongue.



You smell with your nose.

Structure and Function

Think about the objects in your classroom.

You can talk about the structure and function.

Structure is how an object is made or what is in it.

Function is what the object does, or how it works.

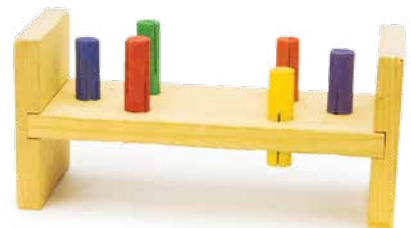




What can our senses tell us about structure and function?

Tools look different. They are made to do different jobs.

Use your senses. Match each tool to its function.



Describe Choose a tool. How would you use it at home?

Objects

Vocabulary

matter
change
shape

I can describe and sort objects.

K-2-ETS1-1

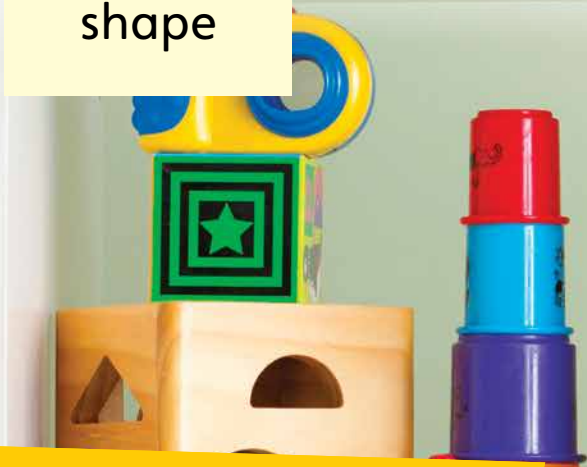
Jumpstart Discovery!

Play “I Spy.”

Listen to clues about an object.

It is something you can see.

What is it?



How are objects the same?

Objects can be the same in some ways.
How can you find out?

Procedure

1. Choose six objects.
2. Ask your partner to sort them into two groups.
3. Observe the two groups of objects.

Analyze and Interpret Data

4. Tell how the objects in each group are alike.

Materials

- various objects

Science Practice

You **analyze data** from observations to compare objects.



Objects in Groups

Matter is anything that takes up space.

Objects are kinds of matter.

You can observe how they are the same.

Visual Literacy

Draw three objects in your classroom. Write a label for each object.

round



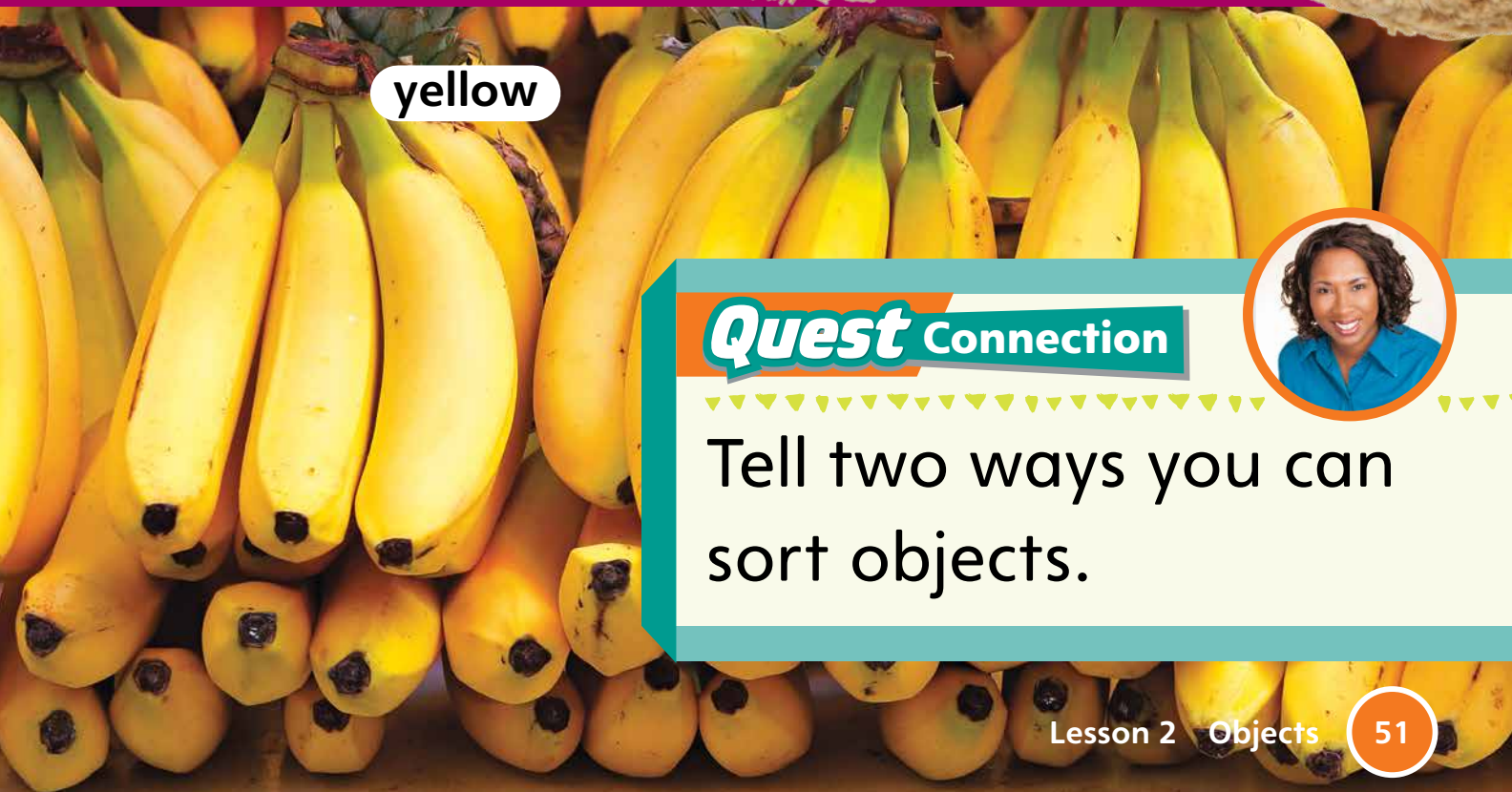


soft



INTERACTIVITY

Go online to learn more about sorting objects.



yellow

Quest Connection



Tell two ways you can sort objects.

Temperature and Weight

You sort objects in many ways.

Objects can be hot or cold.

Objects can be heavy or light.

Literacy > Toolbox 

Main Idea and Details What is the main idea? Draw a line under it.

Identify Circle heavy objects.
Put an X on the hot objects.



You Can Change Matter

You can **change** objects.

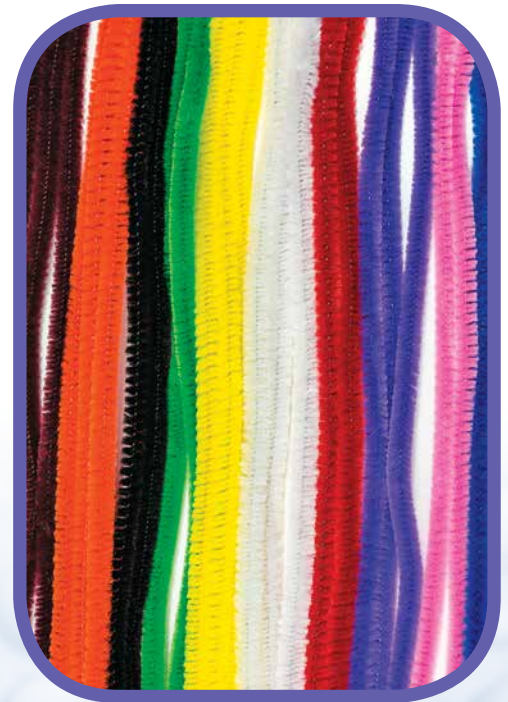
You make them different.

You can **shape**, or make them into a different form.

You can cut or tear paper.

You can roll or cut clay.

Identify Draw an X on the object you can bend. Circle the object you can melt.



How can you observe and sort objects?



How can you use your senses to help me clean up my classroom?

Procedure

1. Choose one object.
2. Draw or write your observations about the object. Identify a group for the object.

Analyze and Interpret Data


3. Tell a partner how you sorted the object.

Suggested Materials

- box of objects
- closable sandwich bags for liquids
- tools for observing, such as a scale and hand lens

Science Practice

You can **analyze and interpret data** to sort objects into groups.

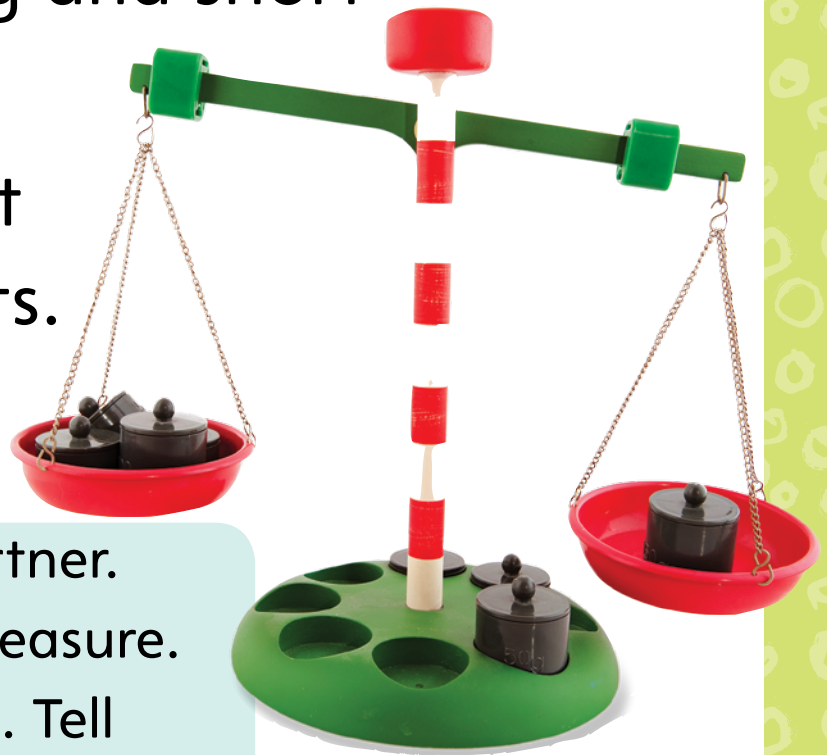
 Do not taste any materials.

Measure and Sort

You can sort long and short objects.

You can sort light and heavy objects.

Sort Work with a partner. Find five objects to measure. Measure your objects. Tell how you measured them.



scale



ruler

Lesson 3

Solids, Liquids, and Gases



INTERACTIVITY

Go online to learn more about solids, liquids, and gases.

Vocabulary

solid
liquid
gas

I can observe the three states of matter.

K-2-ETS1-1

Jumpstart Discovery!

Pretend you are a balloon.

Act it out.

How do you feel?

What can you observe about water?

Why can you change the shape of water?

Procedure

1. Observe the shape of the water.
2. Think of ways to change its shape with the tools.
3. Observe what the water does with each tool.

Analyze and Interpret Data

4. Which object can change its shape? Circle it.

cup

water

spoon

Materials

- water
- measuring cup
- small pitcher
- spoon
- funnel

Science Practice

You **make observations** to decide which tools are right for the job.



Solids, Liquids, and Gases

There are three kinds of matter.

A **solid** keeps its shape.

Tables and toys are solids.

A **liquid** can change its shape.

Water and milk are liquids.

A **gas** spreads out to fill its container.

The air around you is a gas.

Main Idea and Details

Underline the main idea.

Quest Connection



Tell a new way to sort objects.



Identify Three objects in the picture need labels. Write solid, liquid, or gas.



Blank writing area with a solid top line, a dashed middle line, and a solid bottom line. An orange arrow points from this box to the pool's edge.

Blank writing area with a solid top line, a dashed middle line, and a solid bottom line. An orange arrow points from this box to the pool's edge.

Blank writing area with a solid top line, a dashed middle line, and a solid bottom line. An orange arrow points from this box to the pool's water.

Engineering ► Toolbox

Asking Questions and Defining Problems

Look for matter in your classroom. What is a solid? How do you know? What questions can you ask to find out? See if you can find a liquid and a gas.

How will **you** sort solids, liquids, and gases?

Use what you learned about matter to sort different types of matter.



Materials

- objects (solids, liquids, and gases)
- index cards

Procedure

1. Look at the objects.
2. Make a plan to sort the objects by types of matter.
3. Draw how you sorted the objects.

Science Practice

You **plan and conduct investigations** to learn about matter.

Analyze and Interpret Data

- 4. Observe** your biggest group. Tell how you can make two smaller groups.





Observations



5. Imagine your groups of objects are centers in a science classroom. **Tell** a partner which center you will go to first. Why?



INTERACTIVITY

Go online to learn more about hot-air balloons.

Up and Away!

Have you seen a hot-air balloon? How does it work?

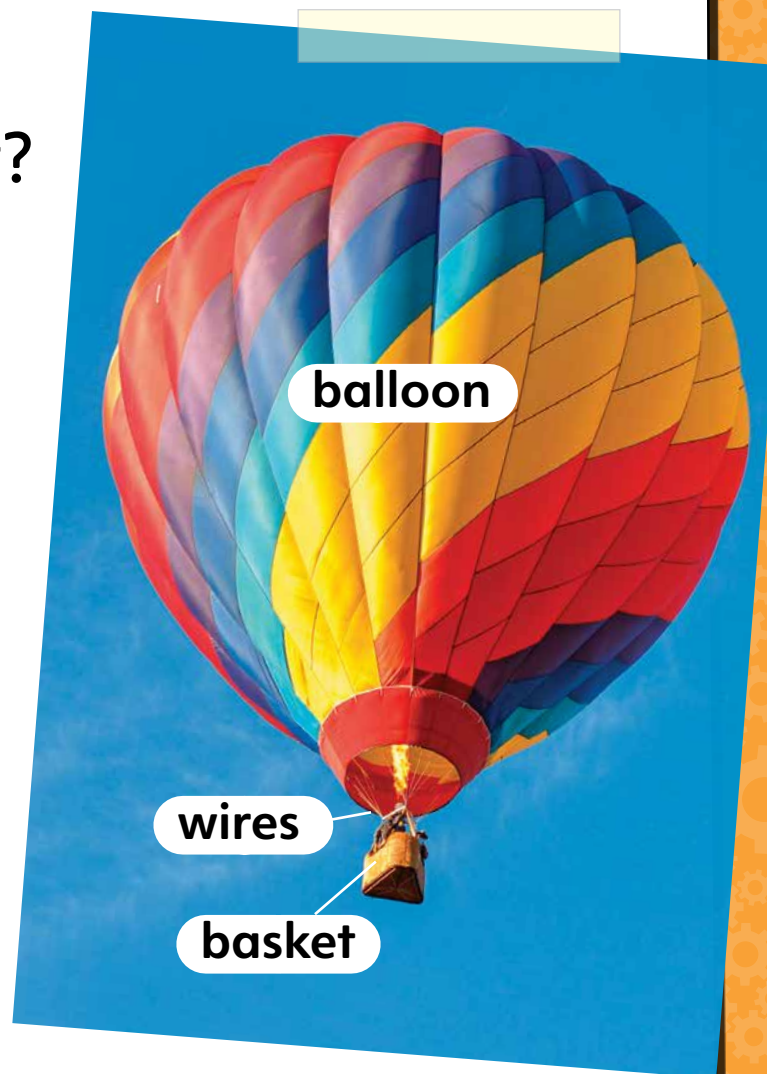
The pilot heats the air under the balloon.

The hot air lifts the balloon.

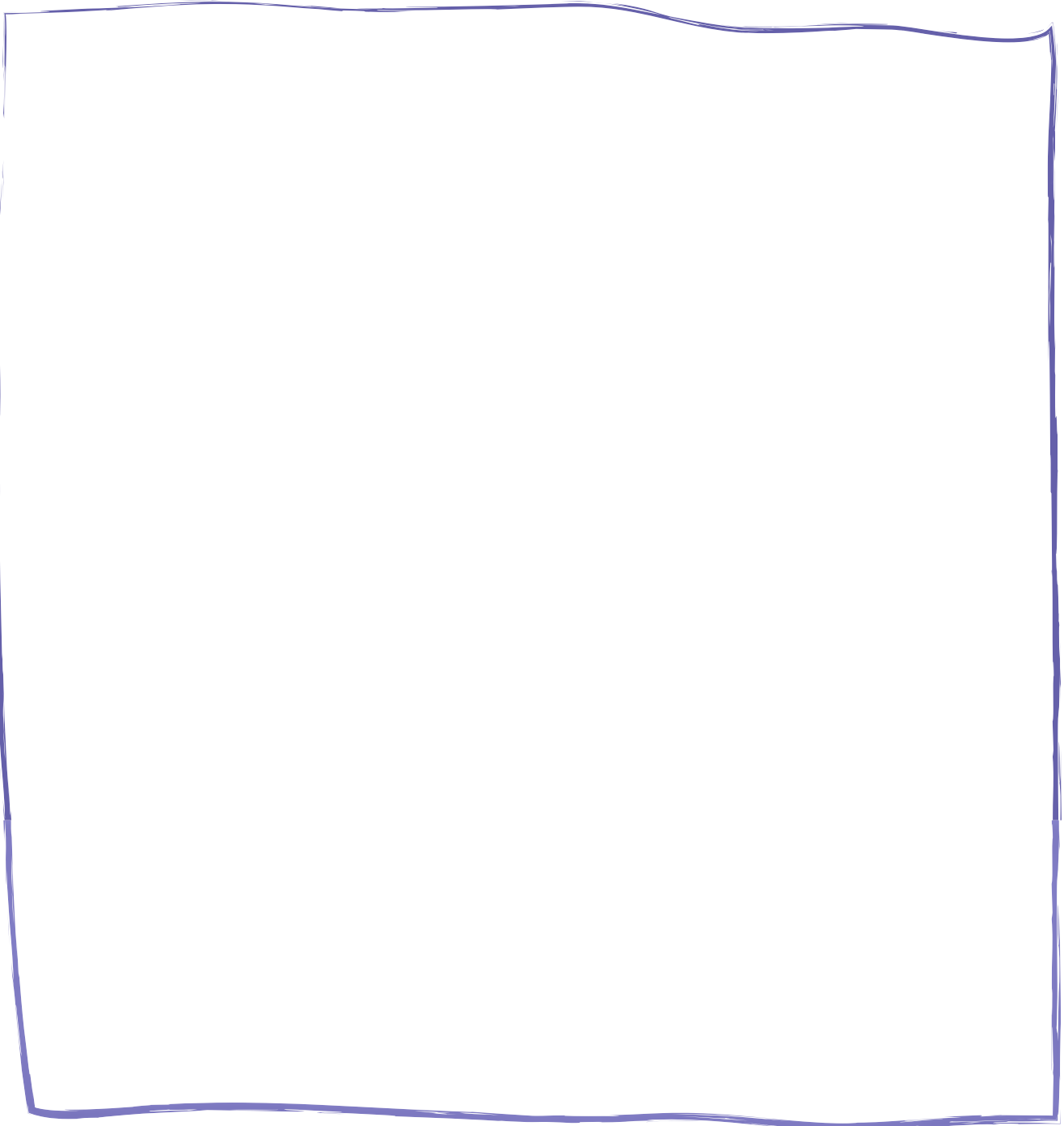
How can you make a hot-air balloon better?

Improve It

- Look at the photo of the balloon.
- Find a way to make the balloon fly higher and farther.



- Draw a picture of your idea.
- Tell how your idea makes the balloon better.





Go online to learn more about sorting objects for centers.

A Messy Classroom

How can we sort objects to put them away safely?

Show What You Found

Look at the objects in the classroom. Show the tools you can use to put them away.

Make It Better

Look at the tools you use to reach high shelves in your classroom. How can you make one of those tools better?



Science Teacher

Science teachers show students how to observe.

They teach students how to ask good questions.

They help students find the answers.

Science teachers love science!

Why do you think science teachers like their job?



The
Essential
Question

How can you classify
different objects?

Show What You Learned

Tell a partner how to classify
objects.

1. What is true about matter?
 - a. It cannot be changed.
 - b. It is how you see and hear.
 - c. It takes up space.
 - d. It is a way to test ideas.

2. Which one is a liquid?
 - a. air
 - b. brush
 - c. pizza
 - d. paint

3. What is the same about all the objects in the photos?

- a. same sound
- b. same color
- c. same size
- d. same shape



4. Mia wants to know how a rock feels. Which sense should she use?

- a. hearing
- b. seeing
- c. smell
- d. touch



Read this scenario and answer questions 1–4.

Ella helped her mom.

They cleaned out the refrigerator.

Her mom got out the milk, water, and juice.

She put them on the top shelf.

She put meat and cheese in a drawer.

Ella sniffed an old bag of carrots.

“Yuck!” she said.

They didn’t smell good.

She threw them out.

She put the other veggies in a bin.

- 1.** What were Ella and her mom doing?
- a.** getting ready to cook dinner
 - b.** throwing out food
 - c.** looking for something
 - d.** sorting objects

2. What sense did Ella use?

- a. taste
- b. smell
- c. hearing
- d. touch

3. Where did Ella's mom put liquids?

- a. with the meat and cheese
- b. on the top shelf
- c. next to the veggie bin
- d. under the solid food

4. Anything that takes up space is called ____.

- a. size
- b. solids
- c. matter
- d. change

How is **one** object **different**?

You use your senses to observe.
How can objects be different?

Procedure

1. Choose three objects.
Decide how two of the objects are the same.
2. Have a partner observe the objects.
3. Your partner tells why one object does not belong.
4. Now let your partner have a turn.
5. Draw or write your observations.

Materials

- small objects

Science Practice

You **ask questions** to find out how objects are used.



Do not taste any materials.



Observations

How are some objects the same?	How is one different?

➔ Analyze and Interpret Data

6. **Explain** Tell what senses you used.

