Name: _____ **Date:** _____

Cell-U-Learning (Animal)

- Use the chart below to record your ideas.
- Draw your ideas in the big box. Label your drawing.

A. Animal Cells Make a list of the parts of a animal cell.	B. Our School How might the school be like an animal cell?
EXAMPLE Cell membrane	EXAMPLE The doors control what comes in and goes out of the school. If something is too wide to get through the door it cannot come in.

A. Animal Cells

Make a list of the parts of a animal cell.

B. Our School

How might the school be like an animal cell?

Draw Here

Name: _____ **Date:** _____

Cell-U-Learning (Plant)

- Use the chart below to record your ideas.
- Draw your ideas in the big box. Label your drawing.

A. Plant Cells Make a list of the parts of a plant cell.	B. Our School How might the school be like a plant cell?
EXAMPLE Cell wall	EXAMPLE The school building has walls that can keep all the parts of the school inside.

A. Plant Cells

Make a list of the parts of a plant cell.

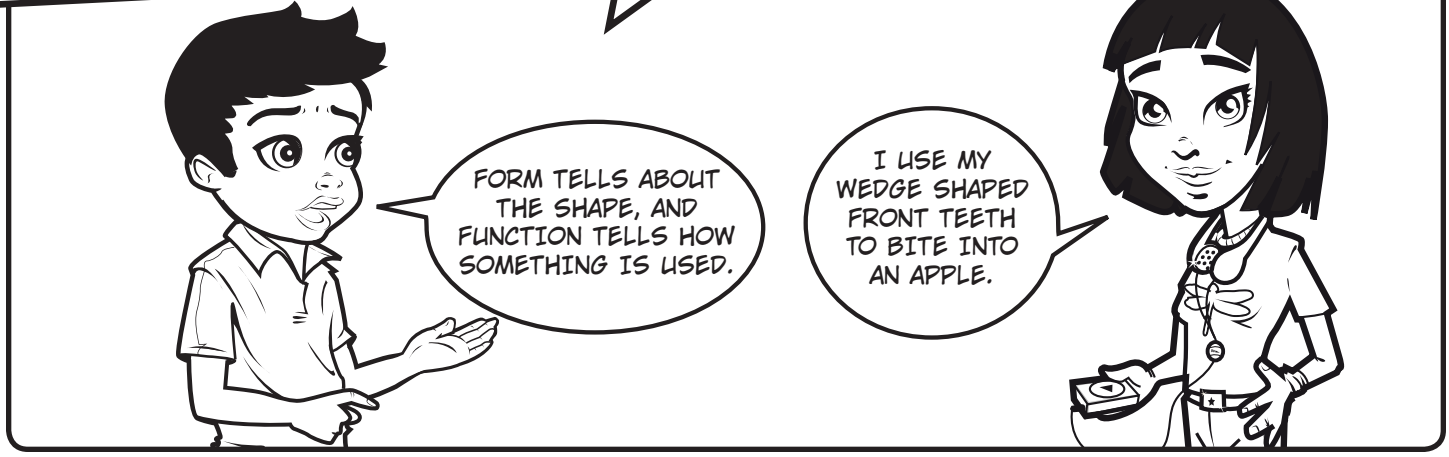
B. Our School

How might the school be like a plant cell?

Draw Here

Name: _____ **Date:** _____

Form and Function



1. Read page 74.

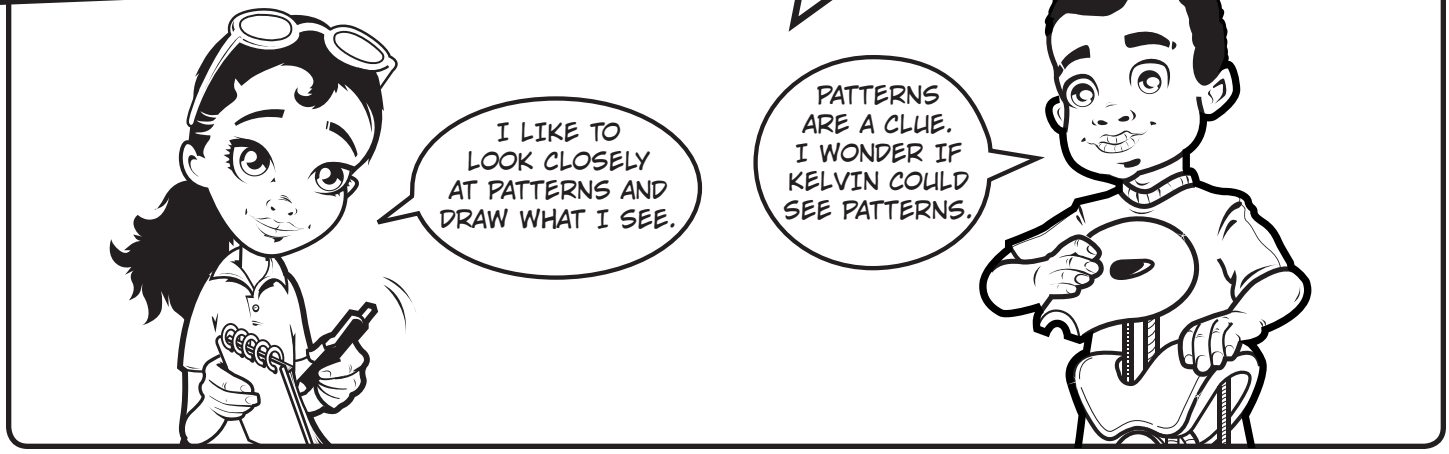
2. Find three examples of form and function.

3. Record your findings.

Form (Describe the shape)	**Function** (Describe how it is used)

Name: _____ **Date:** _____

Adaptations and Behavior



1. Look at the Thinking BIG™ picture on page 85.

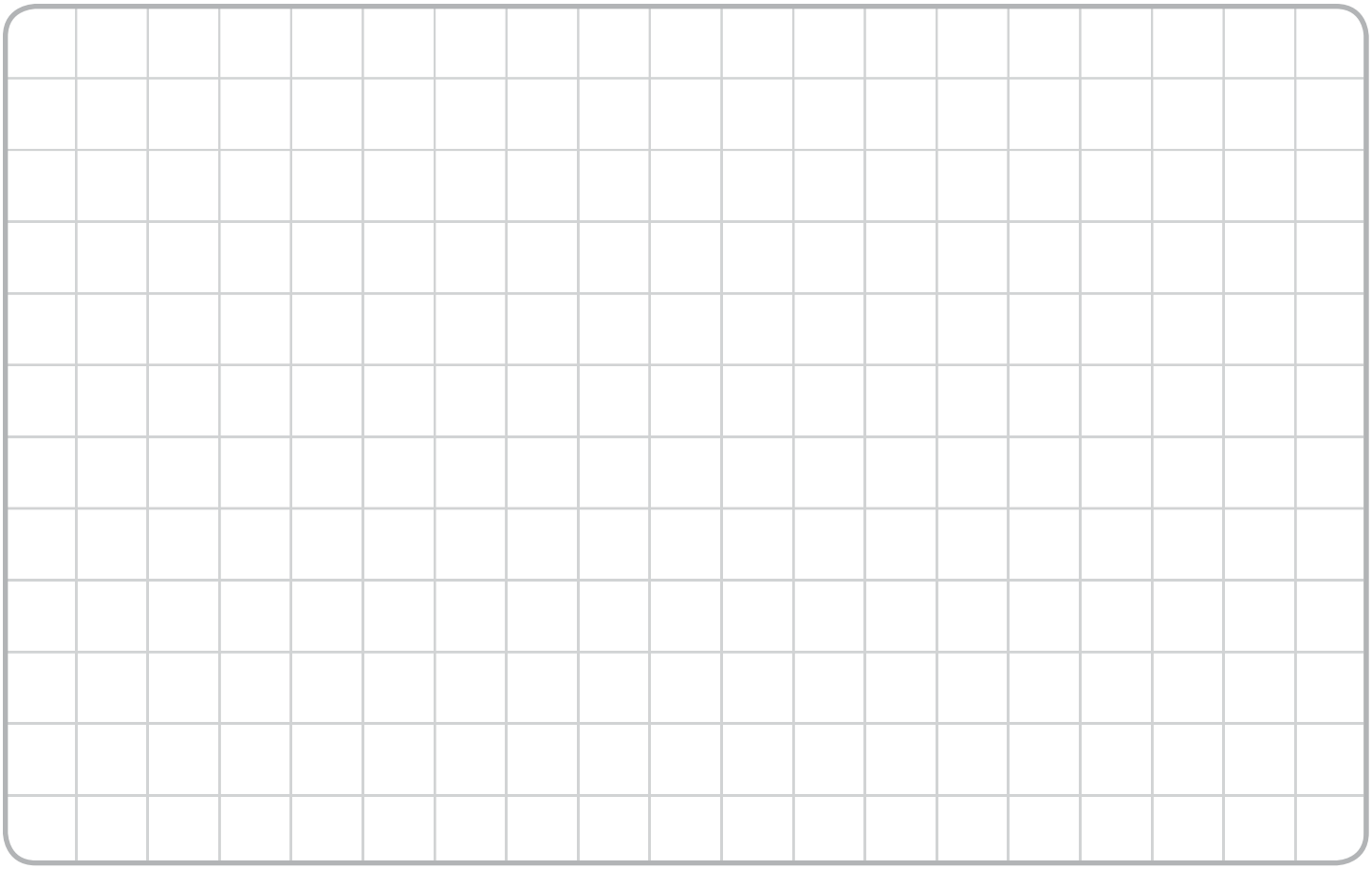
2. Record your ideas.

A. What state of matter is this? Why do you think so?

B. Might this be manmade, or found in nature?

C. Do you see any patterns?

Draw what you see.



D. Might this be strong? Smooth? Soft? Explain.

_____

_____

_____

_____

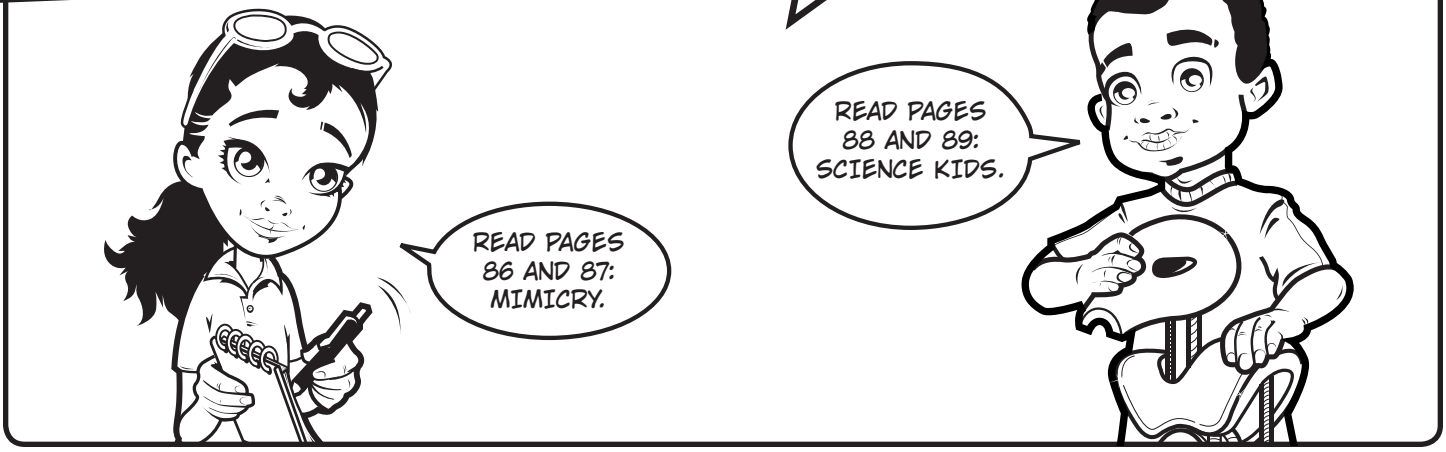
Solve IT

1. I am strong but light.
2. I keep a body warm.
3. No raincoat? I keep a body dry.
4. What I do best? Move high in the sky.
5. Wings on an airplane? Scientists got ideas from me.
6. What am I?

Answer:_____

Name: _____ **Date:** _____

Mimicry and Camouflage



1. Write one question you have about animals that mimic other animals.

2. Write one thing that is interesting about mimicry and camouflage.

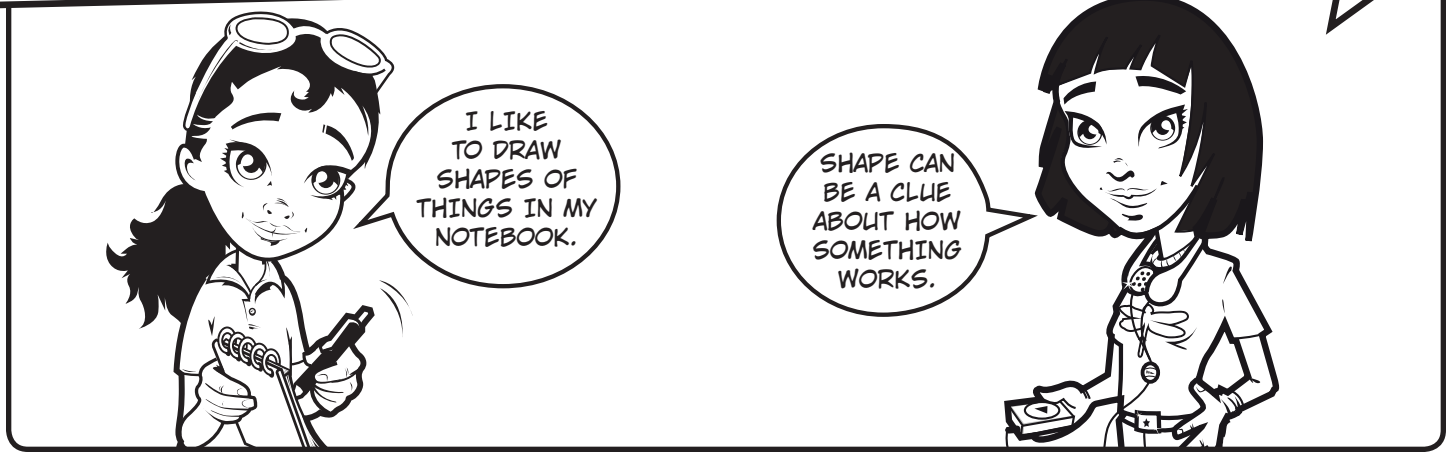
3. Write one thing that is important about mimicry and camouflage.

4. Write or draw how being a mimic or using camouflage helps animals hide.

Draw or write here.

Name: _____ **Date:** _____

Plant Tissues, Organs, and Organ Systems



1. Look at the Thinking BIG™ picture on page 118.

2. Record your ideas.

A. What shapes do you see?

B. What parts do you see that are the same? How so?

C. How might these parts be used?

D. Why do you think so? Explain.

E. Draw what you see.

Solve IT

1. I am a connector.

2. I can be long or short.

3. I have tubes like drinking straws but no soda pop.

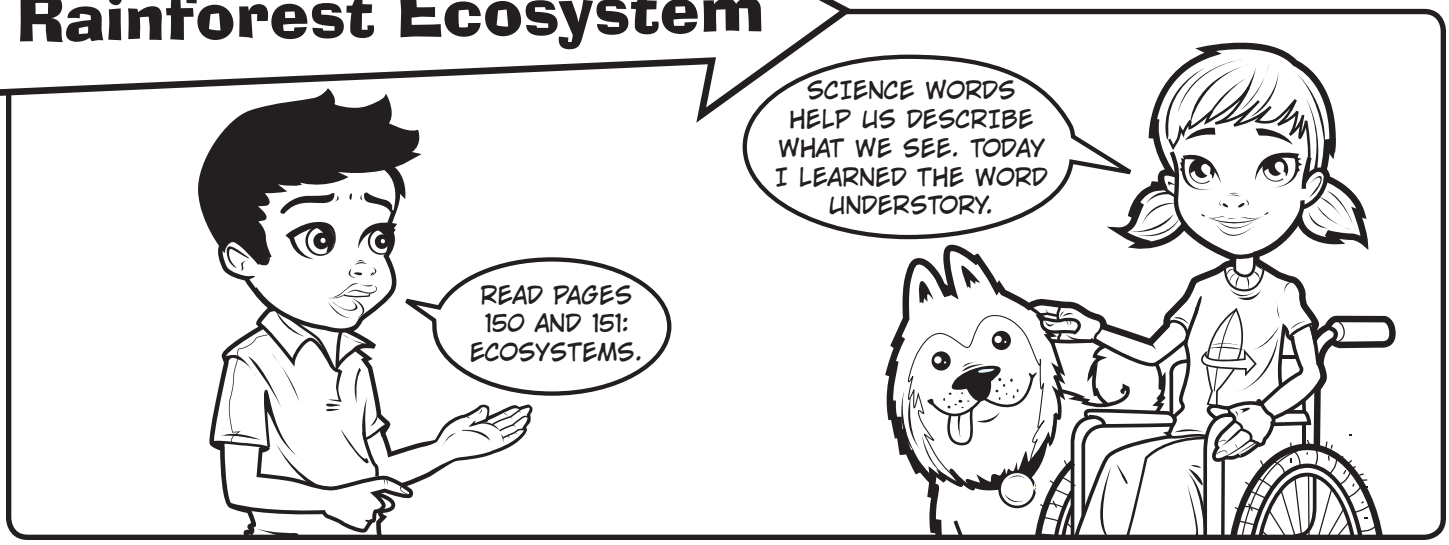
4. I carry water and nutrients to leaves and flowers.

5. What am I?

Answer:_____

Name: _____ **Date:** _____

Rainforest Ecosystem



1. Name the ecosystem the science kids are exploring.

_____

_____

2. Write three science words the kids used to describe the ecosystem.

_____

_____

_____

3. Mai brought along a flashlight. Why is this ecosystem so dark?

_____

_____

4. Mai and Kerry are looking for Rocket. Why?

_____

_____

5. Draw a rainforest ecosystem. Label your drawing.

Draw or write here.

Additional Research:

A. Think about the kids' adventure in the rainforest. Write one question you would like to find out more about.

_____

_____

_____

B. Think about an answer to your question. Make a prediction.

I think _____ because _____.

C. Use books, the Internet, and other resources to find an answer to your question.

D. Want to do an experiment?

- Write up your plan.
- Write what you can do first, second, third, and so on to find an answer to your question.
- Ask your teacher to OK your plan before you do the experiment.

Name: _____ **Date:** _____

Glaciers

1. Read page 159. Compare Kari's movement with a glacier's movement. What might be the same? What is different?

2. Write two ideas Kari told Will about glaciers.

3. Look at the landforms in the background. Where may glaciers be found today? Why do you think so?

4. Read page 160. How much of the Earth's surface is covered in water?

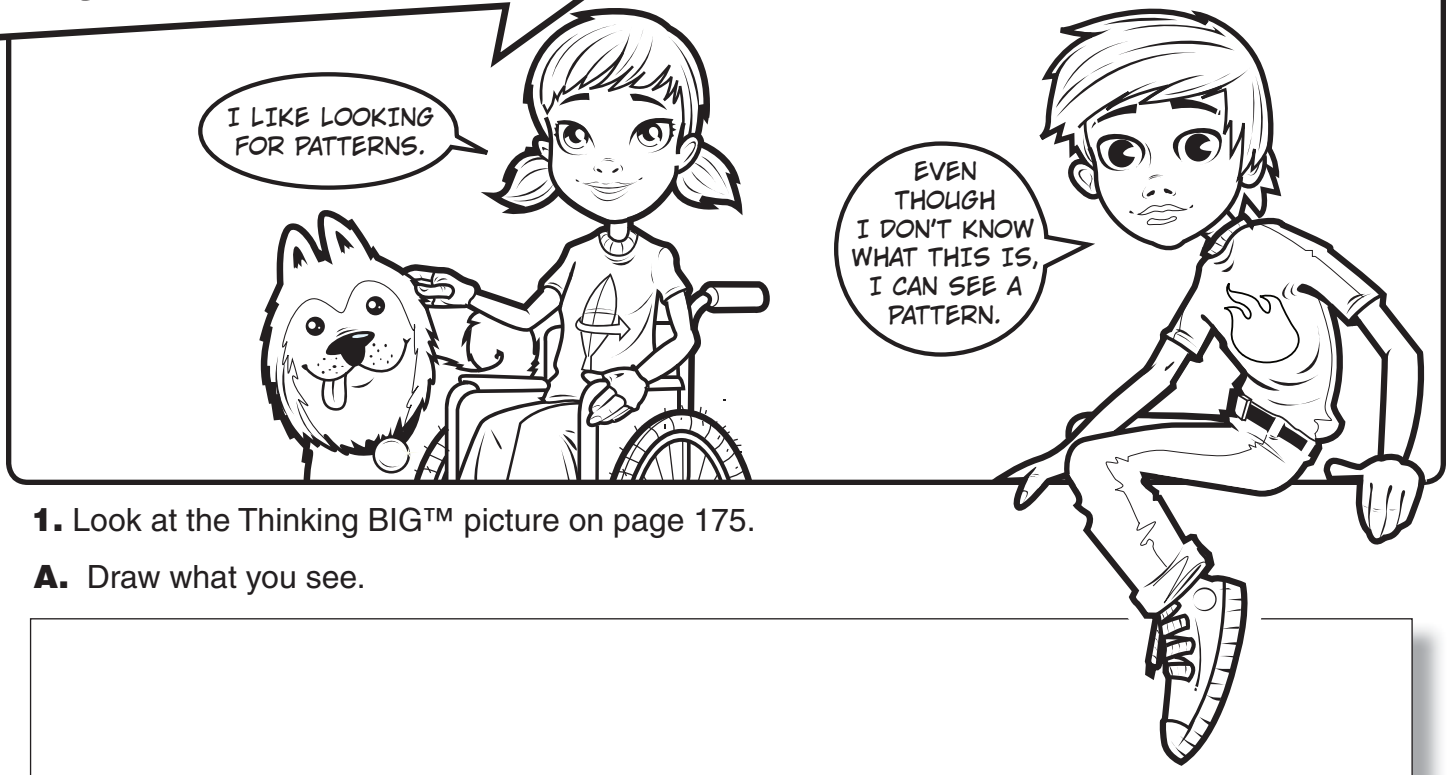
5. How much of the Earth's water is fresh, not salt water?

6. Why are glaciers important to life on Earth?

7. Write one question you have about glaciers.

Name: _____ **Date:** _____

Mystery Mineral



1. Look at the Thinking BIG™ picture on page 175.

A. Draw what you see.

B. Describe a pattern you see. Is there more than one pattern?

_____

_____

_____

C. What do you expect this to feel like? Why?

D. Write one question you have about this mineral.

Solve IT

1. I am a mineral.

2. I am found in water and also in the ground.

3. Want to get me out of water? Try evaporation.

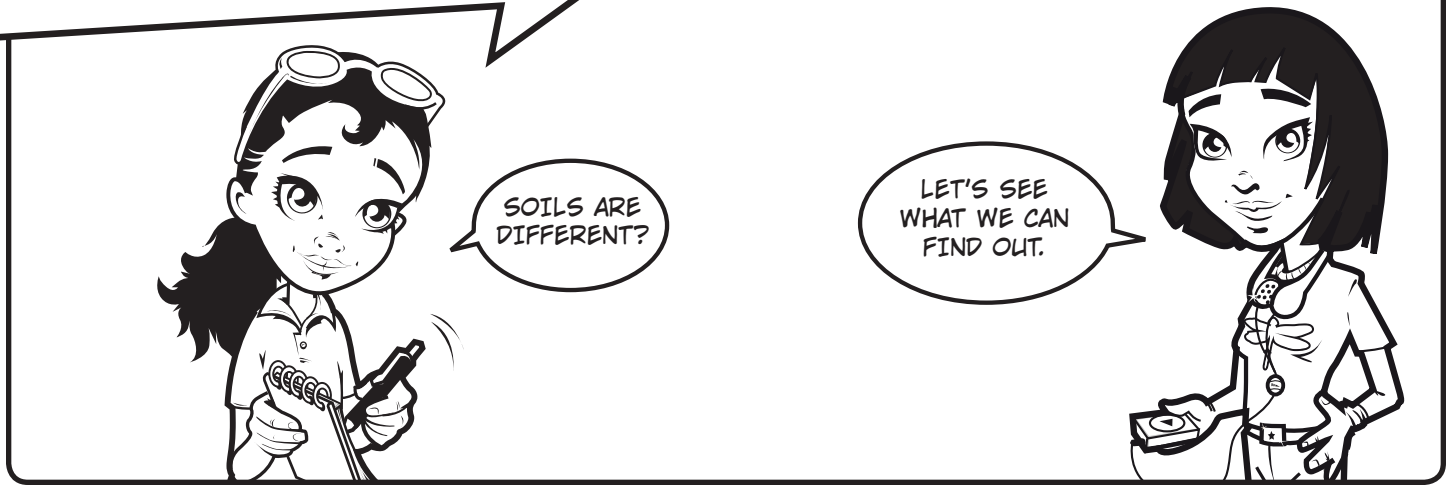
4. Find me in a kitchen pantry and on icy roads.

5. What am I?

Answer: _____

Name: _____ **Date:** _____

Soaking It Up



1. Observe two soil samples. Record your findings.

Sample 1	Sample 2
Color:	Color:
Texture:	Texture:
Squeeze test:	Squeeze test:
Shape:	Shape:
Size:	Size:

2. Set up an experiment to test how well different soils hold water. Do the experiment on page 191, or use an idea of your own.

3. Record your findings. Write and draw.

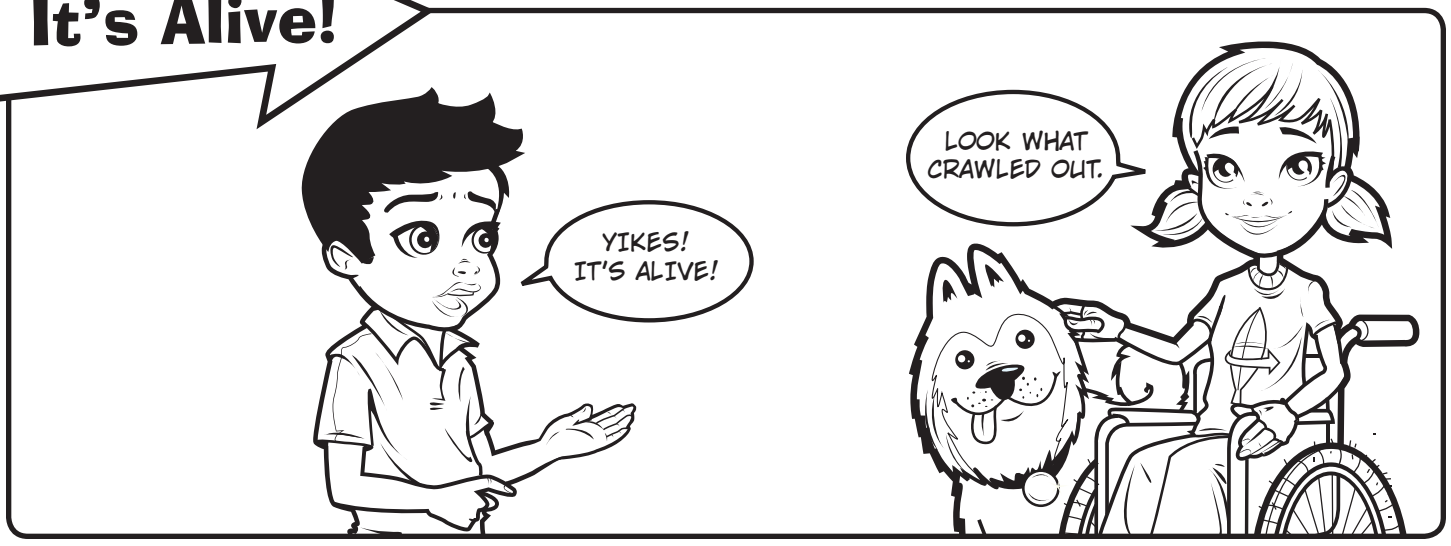
4. Write one thing you learned from the experiment.

5. Write one question you have.

6. Write something interesting about soil and water.

Name: _____ **Date:** _____

It's Alive!



1. Set up the Berlese (bur LAY zee) funnel as directed on page 195.
2. Check for organisms each day. Use a hand lens for a closer look.
3. Record your findings. Write and draw. Date each entry.

Name: _____ **Date:** _____

Record your findings. Write and draw. Date each entry.

Name: _____ **Date:** _____

Seeing Stars

1. Write one interesting thing about stars.

2. Write three words that describe the sun.

3. Write one question you have about stars.

4. Read page 196. Write one thing that is interesting about our universe.

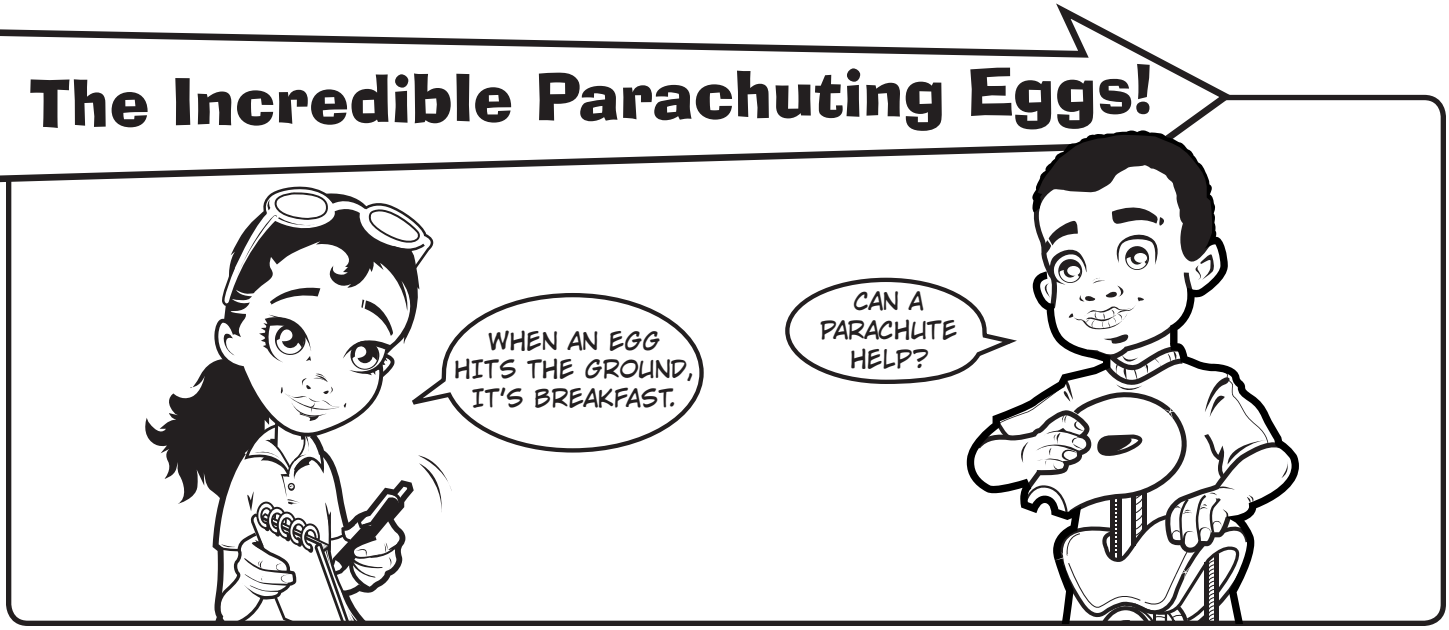
5. What unit of measurement is the distance light travels in one year?

6. Use three words to describe our galaxy.

7. Write one question you have about galaxies.

Name: _____ **Date:** _____

The Incredible Parachuting Eggs!



1. Set up the egg and parachute experiment on page 223.
2. Make a prediction. Which egg **won't** be "breakfast"?

I think _____

because _____

3. Drop the eggs. Record your findings. Write and Draw.

4. What forces—pushes and pulls—are acting on the parachute?

5. How is the push or pull on the small parachute the same as on the large parachute?

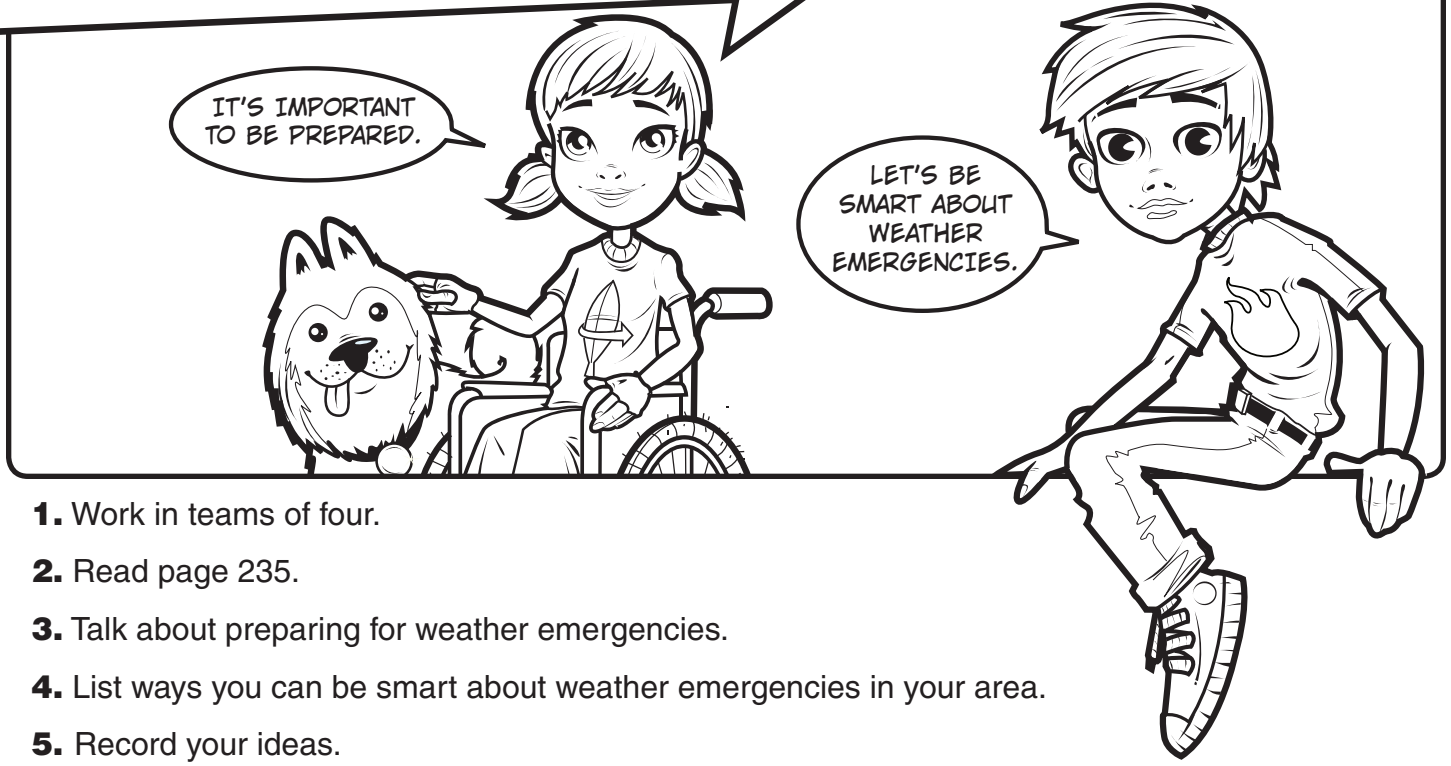
6. Is the force different in some way? What makes you think so?

7. Write one interesting thing about eggs and parachutes.

8. Write one important thing about eggs and parachutes.

Name: _____ **Date:** _____

Weather Emergencies



1. Work in teams of four.

2. Read page 235.

3. Talk about preparing for weather emergencies.

4. List ways you can be smart about weather emergencies in your area.

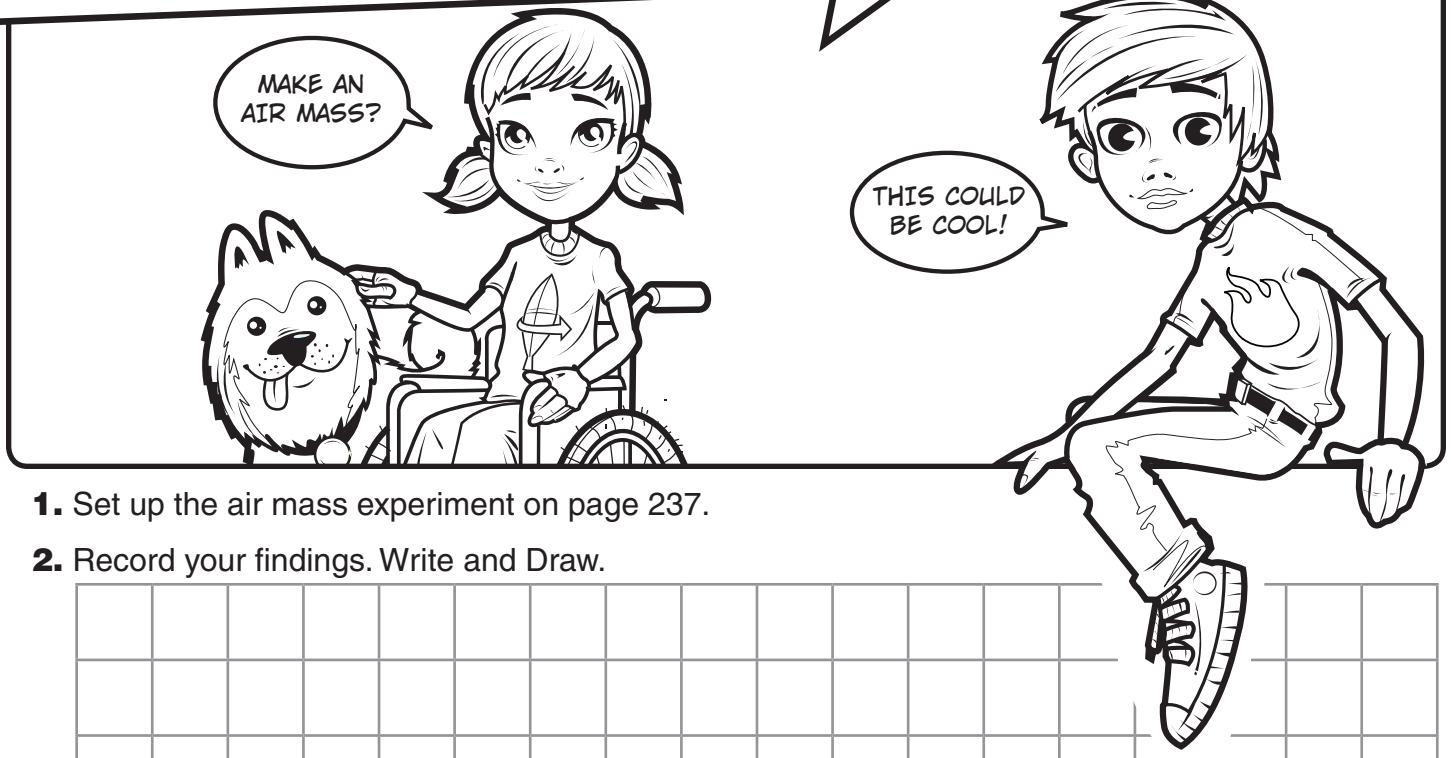
5. Record your ideas.

Weather Emergency	Our Weather Plan
The power is off because of a snowstorm.	Have a flashlight ready for when the power goes off. Have new batteries that are not stored in the flashlight.

Weather Emergency	Our Weather Plan

Name: _____ **Date:** _____

Create Your Own Air Mass



1. Set up the air mass experiment on page 237.

2. Record your findings. Write and Draw.

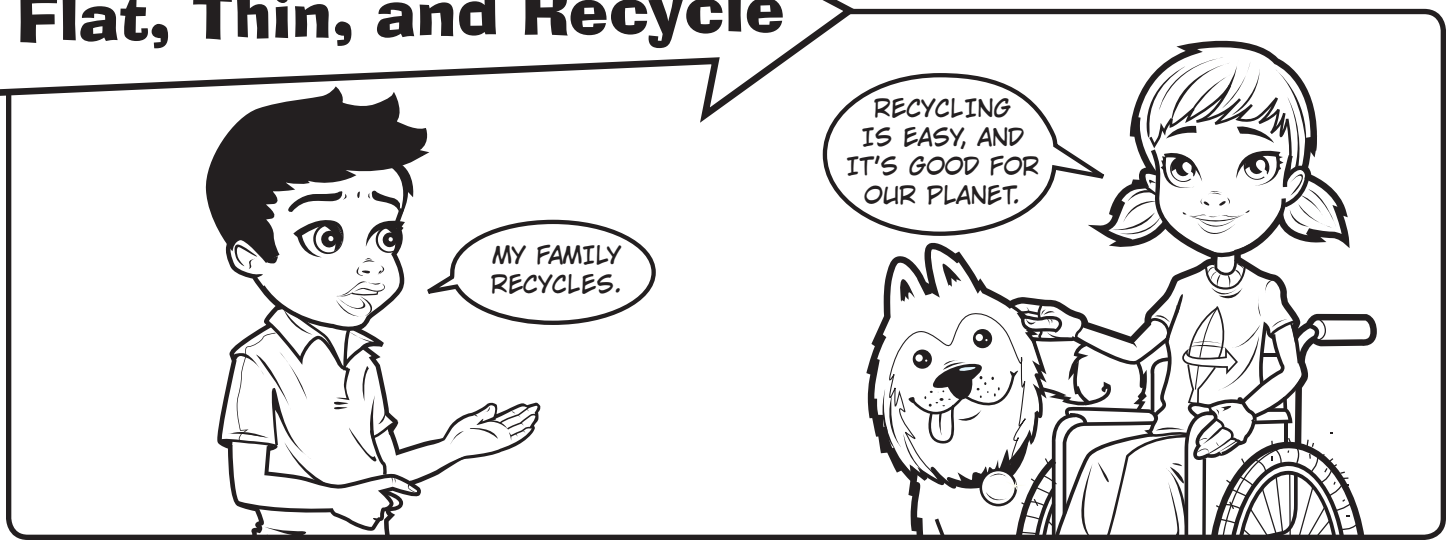
3. Write a question you have about air masses.

4. Write one interesting thing about air masses.

5. Write one important thing about air masses.

Name: _____ **Date:** _____

Flat, Thin, and Recycle



1. Look at the Thinking BIG™ picture on page 245.

2. Record your ideas.

A. What state of matter? Why do you think so?

B. Write three physical properties you see.

C. Look for shapes and patterns. What do you see?

D. Might water or air go through this? Why or why not?

Solve IT

1. I am a sheet, flat and thin.

2. I'm used today and recycled tomorrow.

3. I'm made of recycled matter and wood pulp.

4. Early in the morning or late at night, delivery trucks bring me to newsstands, gas stations, and home doorsteps.

5. Today you can also find me on the Internet.

Answer:_____

Name: _____ **Date:** _____

Carbon Footprints

1. Work in teams of four.

2. Read pages 248 and 249.

3. Talk about your team's carbon footprint.

4. Write two questions your team has about carbon footprints.

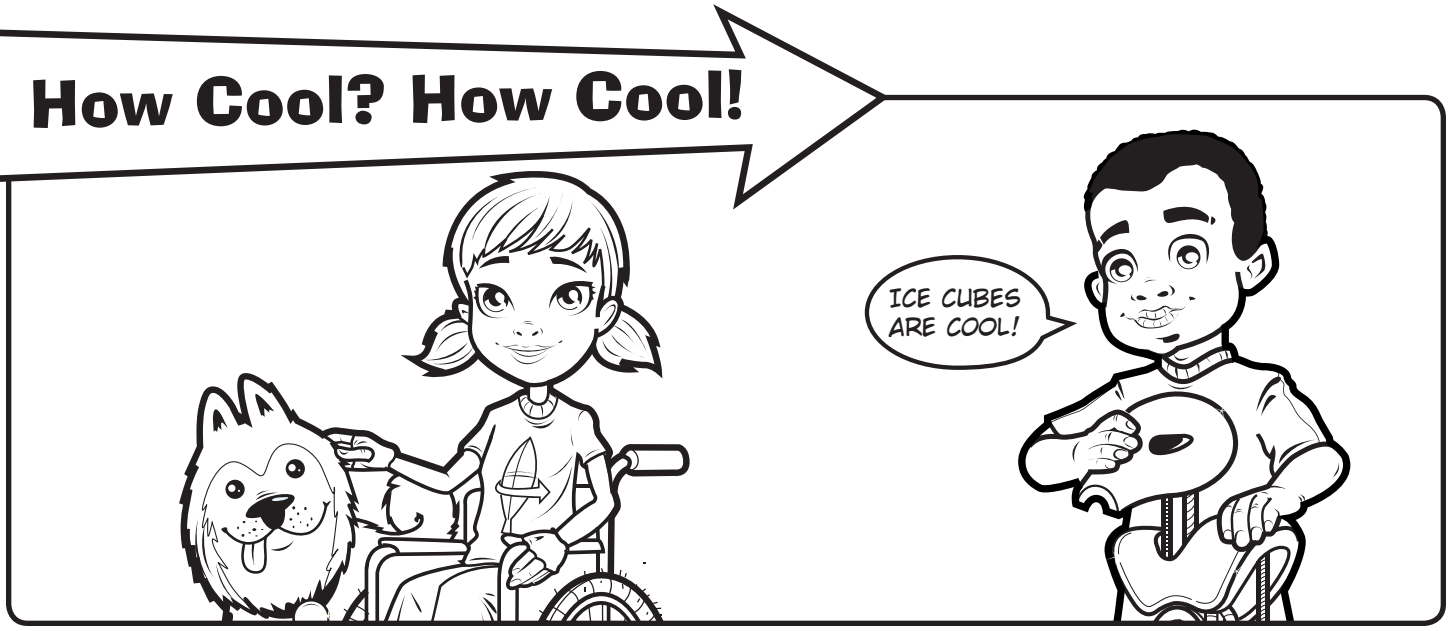
5. List three things that make a carbon footprint bigger.

6. List three things that make a carbon footprint smaller.

7. Write one thing that is important about carbon footprints.

Name: _____ **Date:** _____

How Cool? How Cool!



1. Place an ice cube in a cup. Draw the set up.

Start time: _____

2. Wait 5 minutes. Draw the changes you see.

Time: _____

3. Wait 5 more minutes. Draw the changes you see.

Time: _____

4. Attach a thermometer to the inside of the cup. Record the time and temperature.

Time: _____

Temperature: _____

5. Wait 20 minutes. Record the time and temperature.

Time: _____

Temperature: _____

6. How did the temperature in the cup change?

7. What changes ice to water? How do you know?

8. What changes water to ice? How do you know?

9. Write one thing you learned about temperature and change.

10. Write one question about temperature and change.

Name: _____ **Date:** _____

Separation Challenge

1. Set up the experiment. Record your results on the chart.

What I Mixed	How Much I Added	My Plan	Results
1.			
2.			
3.			
4.			

2. Which material was easiest to remove from the mixture? Why?

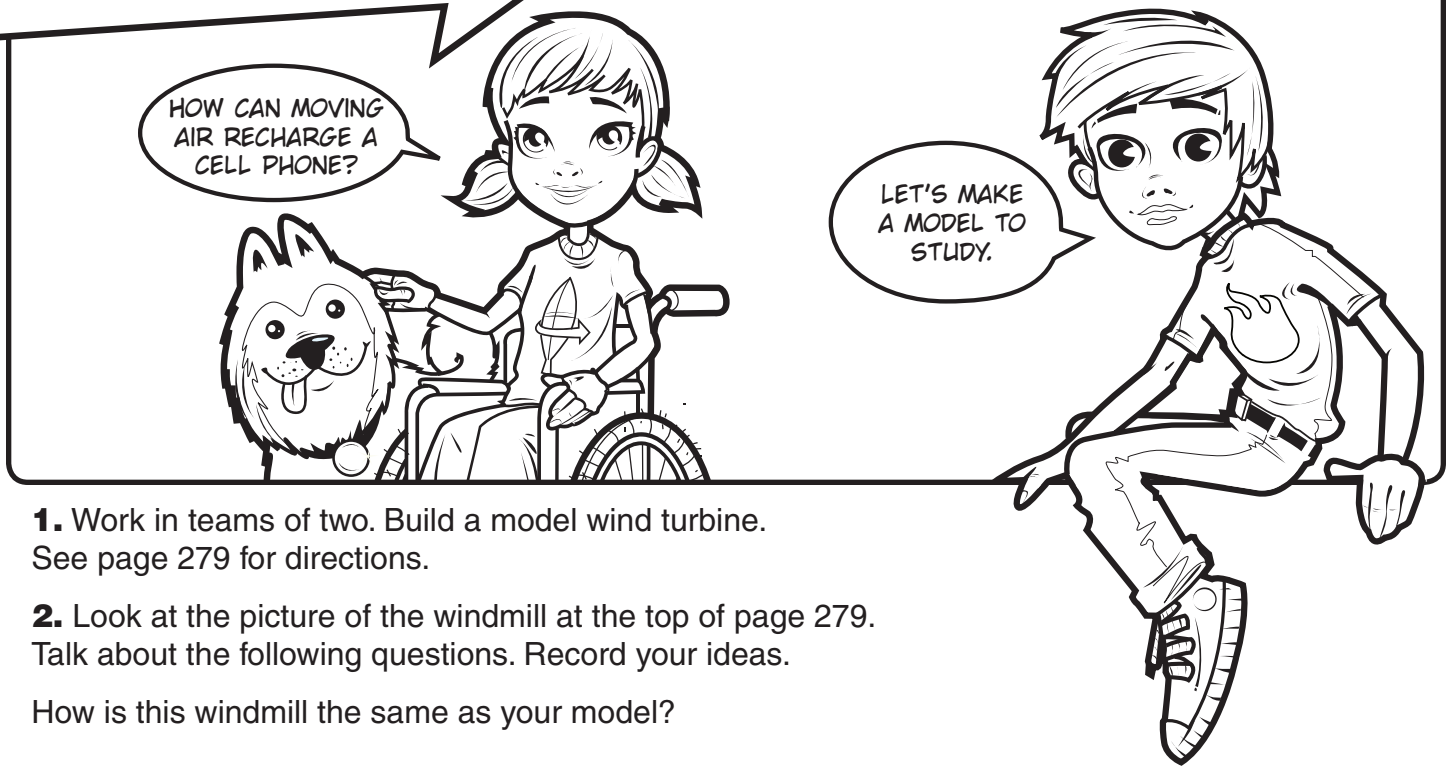
3. Were you able to separate each of the materials? Why or why not?

4. Write one interesting thing about mixtures.

5. Write one question you have about mixtures.

Name: _____ **Date:** _____

Thar She Blows



1. Work in teams of two. Build a model wind turbine.
See page 279 for directions.

2. Look at the picture of the windmill at the top of page 279.
Talk about the following questions. Record your ideas.

How is this windmill the same as your model?

How is it different?

3. Read “Wind Energy” on page 278.

Which part of your model is called a blade?

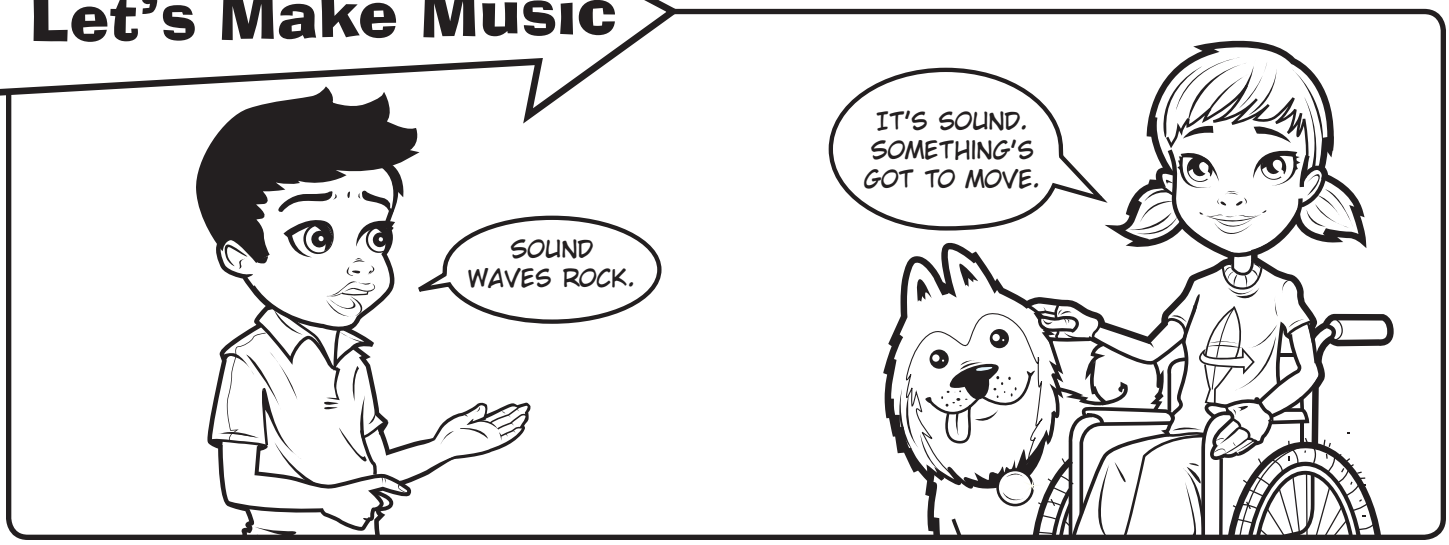
4. What is the job of the blade?

5. Look at the cut away picture of a wind turbine on page 278. What happens behind the blades?

6. Can wind turbines be placed anywhere? Why or why not?

Name: _____ **Date:** _____

Let's Make Music



1. Make a model musical instrument. See page 286 for directions.

2. Listen to the sound as you tap the bottles with the spoon. How does the sound change?

_____

_____

_____

3. Find a bottle that has a high sound. Change the sound to a lower sound. What did you do to change the sound?

_____

_____

_____

4. Listen to each bottle. Order the bottles from lowest to highest sound.

_____

_____

_____

5. What is moving to make the sound? What is vibrating?

6. Which moves most quickly? _____

Describe the sound.

7. Write one thing that is interesting about sound.

8. Write one question you have about sound.

Name: _____ **Date:** _____

Hot or Cold?

1. Do the experiment on page 296. Record your results.

Action	How does the water feel?	Why do you think so?
Put both hands in room temperature water.		
Put your right hand in bowl of ice water. Put your left hand under warm running water (sink).		
Put both hands in room temperature water.		

2. Read “Transfer of Heat Energy” on page 296. Look at the pictures carefully. Talk about the pictures with another student.

3. How is the frozen ice pop like the water experiment? Why do you think so?

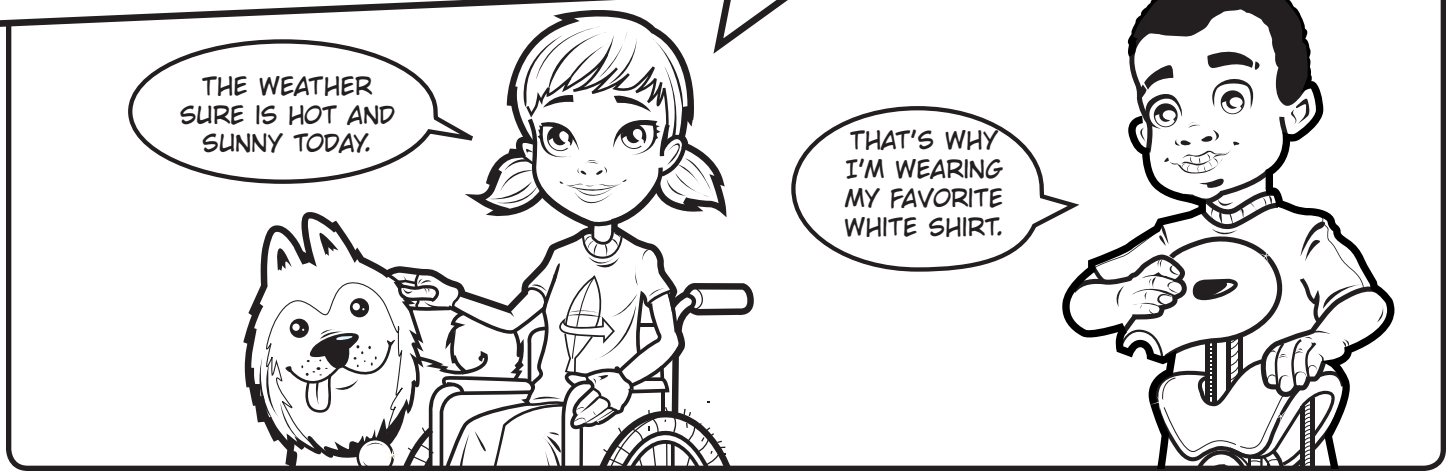
4. How is the soup like the water experiment? Why do you think so?

5. Write one thing that is interesting about heat.

6. Write one question you have about heat.

Name: _____ **Date:** _____

Convert With Color



1. Perform the experiment on page 307. Record your results.

Glasses of Water	Starting Time and Temperature	A	B	C	D	E	F
White Cloth	Time: _____ Temp: _____	Time: _____ Temp: _____	Time: _____ Temp: _____	Time: _____ Temp: _____	Time: _____ Temp: _____	Time: _____ Temp: _____	Time: _____ Temp: _____
Black Cloth	Time: _____ Temp: _____	Time: _____ Temp: _____	Time: _____ Temp: _____	Time: _____ Temp: _____	Time: _____ Temp: _____	Time: _____ Temp: _____	Time: _____ Temp: _____

2. Read “Absorption of Light” on pages 306 and 307. Talk about what you read with another student.

3. How is your experiment an example of light energy changing to heat energy?

4. Why wear light-colored clothing on a hot, sunny day?

5. Write one thing that is interesting about light energy.

6. Write one question you have about light energy.

Name: _____ **Date:** _____

Rods and Cones

Work in teams of two or four. Read the story on page 311, talk together, and then record your ideas.

1. Will, Tomás, Kari, and Mai are outdoors at night. At night, how are an owl's eyes the same as ours?

2. How are an owl's eyes different?

3. There are two reasons owls are terrific night hunters. Find out why Will could not hear the owl when it swooped by. Record your findings.

4. When clouds cover the moon, how do you expect Kari's vision to change? Why?

5. How do you expect the owl's vision to change?

Additional Research:

A. Think about the kid's adventure in the rainforest. Write one question you would like to find out more about.

B. Think about an answer to your question. Make a prediction.

I think _____ because _____

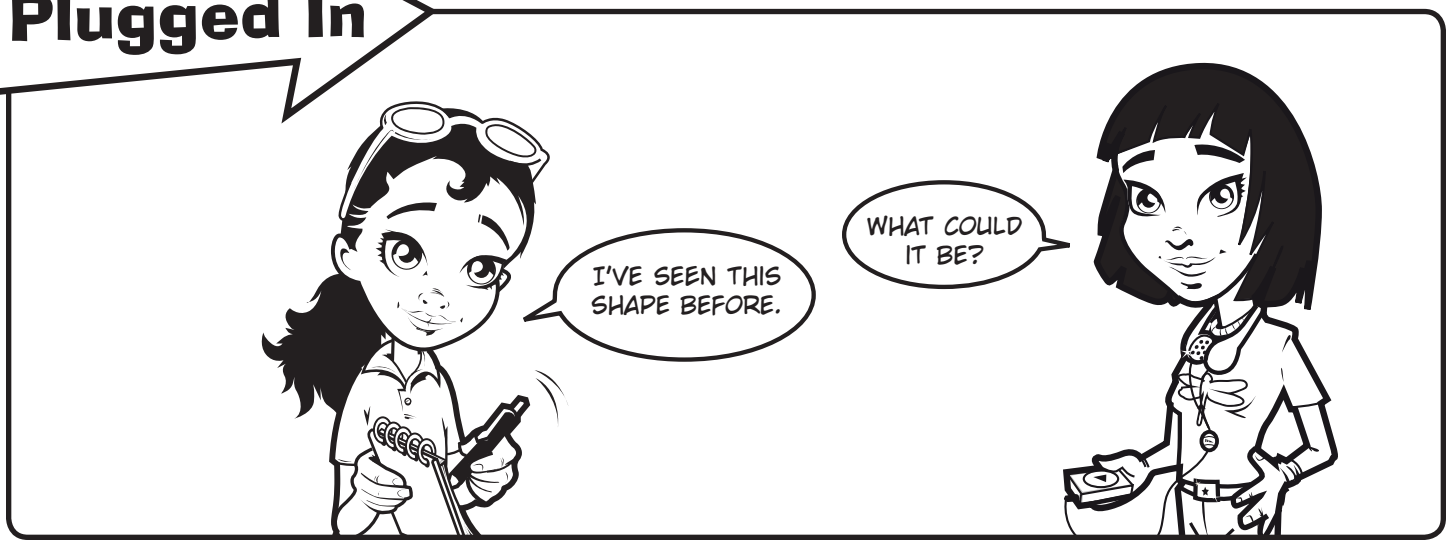
C. Use books, the Internet, and other resources to find an answer to your question.

D. Want to do an experiment?

- Write up your plan.
- Write what you can do first, second, third, and so on to find an answer to your question.
- Ask your teacher to ok your plan before you do the experiment.

Name: _____ **Date:** _____

Plugged In



1. Look at the Thinking BIG™ picture on page 322.

This is a part of a system.

A. What state of matter is it? Why do you think so?

_____

_____

_____

B. How might this be used?

_____

_____

_____

C. How might the shape be important?

_____

_____

_____

D. What might the whole system look like? Draw your ideas. Label your drawing.

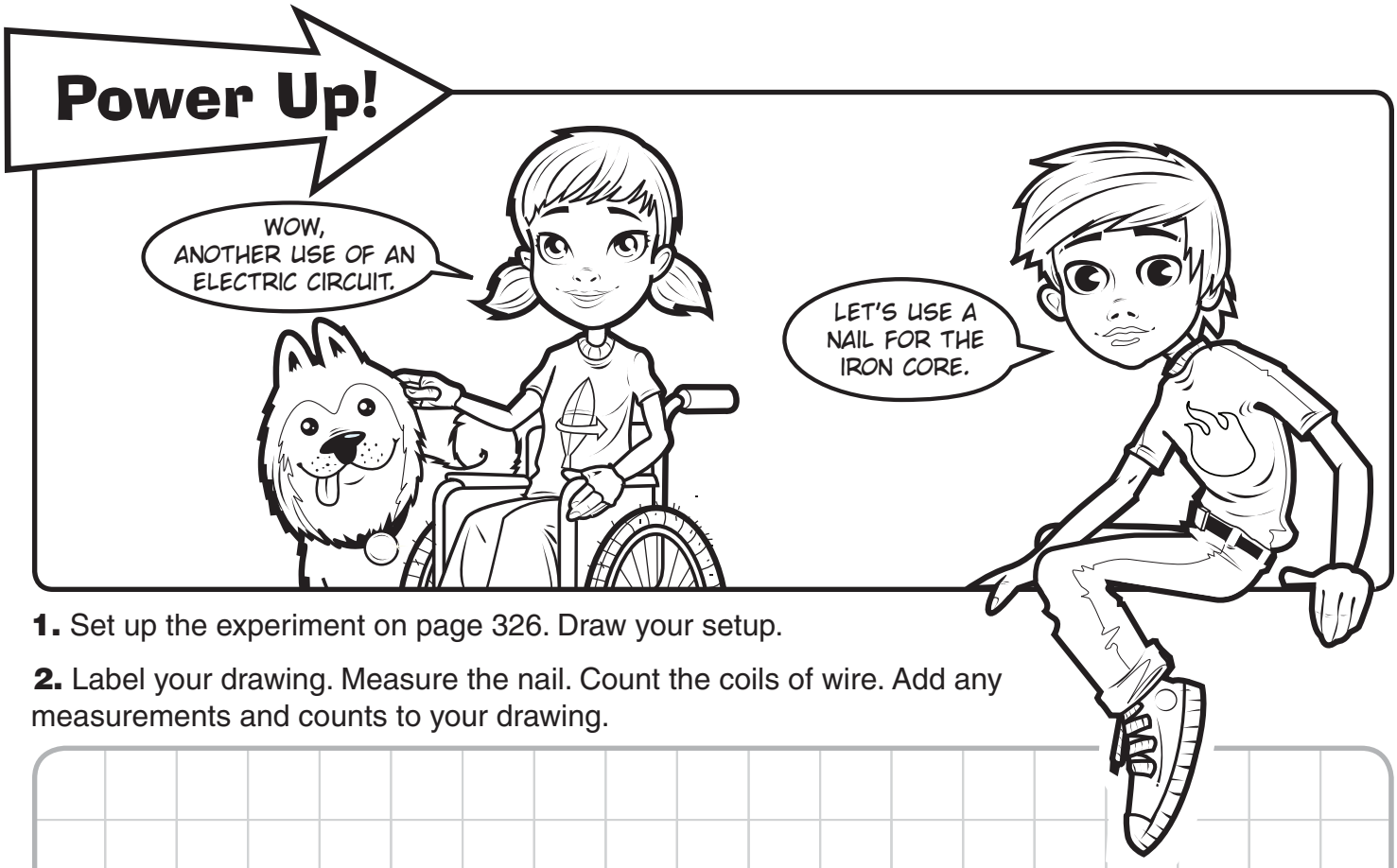
Solve IT

- I am part of a system.
- You see me only through glass.
- Metal conductors keep the flow going.
- My shape might be a surprise.
- Most don't know I'm so long.
- Connect a battery. Close the circuit. Light.
- What am I?

Answer: _____

Name: _____ **Date:** _____

Power Up!



1. Set up the experiment on page 326. Draw your setup.

2. Label your drawing. Measure the nail. Count the coils of wire. Add any measurements and counts to your drawing.

3. Read “Electromagnetism” on page 326. Talk about what you read with another student.

4. Look at the top right corner of the page. How is the photo like the electromagnet you built? How is it different?

5. Set up a chart to record your results.

Object	**Number of Coils of Wire**	**Number of Objects** Record the number of objects picked up by the electromagnet.

6. Make a prediction. How might the results change with more coils? Try it. Record your results.

Object	**Number of Coils of Wire**	**Number of Objects** Record the number of objects picked up by the electromagnet.

7. Think of another way to change the experiment. Make a prediction. How will the results change?

I think _____ because _____

_____

_____

_____

Try it. Record your results.

Draw here.

Object	Number of Objects Record the number of objects picked up by the electromagnet.

8. Write one thing that is interesting about electromagnets.

9. Write one question you have about electromagnets.