

Name: _____ Date: _____

Chapter 1 Home Investigation: Blackout Interview

Directions:

1. Find two friends or family members who have been in a blackout.
Interview each of them about their experiences.
2. Write each person's name and then ask the two questions shown below.
3. Record each person's responses on the lines below each question.

Person's name: _____

What happened when the blackout occurred?

What do you think caused the blackout?

Person's name: _____

What happened when the blackout occurred?

What do you think caused the blackout?

Name: _____ Date: _____

Chapter 2 Home Investigation: Converters and Forms of Energy

Directions:

1. Look for energy converters (electrical devices) in your home. See how many you can find. List them in the first column of the table below.
2. In the second column, record the output energy form for each energy converter. (Remember: output energy is the form of energy that an electrical device converts electrical energy into).

Energy converter	Output energy forms
toaster	thermal energy, light energy

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Chapter 3 Home Investigation: Renewable and Nonrenewable Energy Sources

Directions:

1. An energy source is called **renewable** if nature will always provide more of it, even after people have used what nature has already provided.
2. Decide if each energy source in the first column of the table below is or is not renewable. Circle “yes” or “no” in the second column.
3. Write the name of a friend or family member at the top of column three.
4. Ask them if they think each energy source in the first column is renewable. Circle the person’s answers in the third column.
5. If you disagree about any energy sources, discuss your ideas.
6. Check the answers in *It’s All Energy*. Share your findings.

Energy source	Is the source renewable? I think . . .	Is the source renewable? _____ thinks
Fossil fuels (oil and gas, for example)	yes no	yes no
Wind	yes no	yes no
Sun	yes no	yes no
Water	yes no	yes no
Nuclear fuel (energy from atoms)	yes no	yes no
Geothermal (energy from inside Earth)	yes no	yes no
Biofuels (mostly made from plants)	yes no	yes no

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Chapter 4 Home Investigation: Observing the Electrical Grid

Directions:

1. With an adult family member or other trusted adult, stand in front of your home or look out a window. Look for evidence of the electrical grid. Do you see utility poles, wires, or other evidence of the grid?
2. Discuss what you observe with the adult.
3. Then, draw a diagram of the neighborhood. Include all the parts of the electrical grid you can see. Label houses, stores, utility poles, wires, and other parts of your community.
4. Record your answers to the two questions on the next page.

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**Chapter 4 Home Investigation:
Observing the Electrical Grid (continued)**

Look at the wires you drew. What do you think their function is?

What else do you think the wires connect to?

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Chapter 1 Home Investigation: Asking Questions

1. Scientists ask questions about the real world and what parts of it are like. With a person at home, choose something regarding the real world that you wonder about.
2. With that same person, make a list of questions about that topic.
3. Choose one question you would like to investigate. Circle that question, and then write about how you might investigate it.

What do you wonder about?

List your questions about it on the lines below.

How would you investigate the question that you circled?

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Chapter 2 Home Investigation: Following the Path of Light

1. Choose an object in your home.
2. Ask a person at home to look at the object. Explain to that person why they can see the object. Point out the path of light from the source to that person's eye.
3. Draw a diagram in the box and record your notes on the lines below.



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Chapter 3 Home Investigation: Body Structures and Their Functions

1. Circle one part of the human body from the list below.

Foot

Hand

Head

Leg

2. With a person at home, list the structures that make up that body part in the Structure column below. Don't worry about listing them all!

3. Discuss the function of each structure and list it in the Function column below. Make and label a drawing, if it helps.

Body part: _____

Structure	Function

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Chapter 4 Home Investigation: Amazing Animal Senses

1. With a person at home, use library books or the Internet to research an animal with an amazing sense.
2. Write about your animal below.
3. Share what you learned with another person at home. They might learn something!

Name of the animal: _____

What is the animal's amazing sense?

How does the sense help the animal?

What other cool facts about the animal did you find?

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Chapter 5 Home Investigation: How Does Your Sense of Taste Work?

1. With an adult, set up an investigation to find out more about how the human sense of taste works. Write your investigation question below.
Example investigation question: Which part of your tongue most strongly senses the sour taste of a lemon?
2. Take notes as you do your investigation. Repeat the investigation three times to see if your results are the same.
3. Explain to the adult *why* you think they can taste things and what you found out about the sense of taste from your experiment.

Investigation question:

Notes:

What I found out:

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Chapter 1 Home Investigation: Making Observations of Rocks

1. Together with someone at home, collect rock samples from a yard, park, or other place near your home or school.
2. Look at and touch the rocks to make detailed observations about texture, patterns, and colors.
3. In the box below, draw what you observe. Add labels to describe or identify the rocks that you have collected.



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Chapter 2 Home Investigation: Explore an Environment

1. Together with someone at home, explore a local environment. Depending on where you live, this can be your neighborhood, a local park, a beach, or any other environment.
2. Answer the questions below.

Describe the environment you explored. What did you notice in this environment?

What parts of the environment do you think a geologist would be most interested in? Why do you think so?

If you time-traveled 1 million years into the future, what evidence from this environment might you find?

Chapter 3 Home Investigation: Rock Layer Models

- 1. With the help of someone at home, try to find or make different models of how rock layers form (similar to the Paper Pile Model) in your home. You might look in your bedroom, kitchen, or living room.
- 2. In the table below, name each model, describe it, and explain what makes it a good model of how rock layers form. The first example is done for you.

What is it?	Description of the model	What makes it a good model?
Book stack	A pile of books stacked on top of one another in my bedroom	The book that I stacked first is on the bottom. It has been there the longest.

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Chapter 4 Home Investigation: Local Natural Hazards

1. Interview two adults about natural hazards in their neighborhood, city, or state. Examples of natural hazards include earthquakes, tsunamis, volcanic eruptions, severe weather, floods, and coastal erosion.
2. Record each person's name and then ask the two questions shown below and record their answers.

Name of Person 1: _____

What natural hazards exist in your neighborhood, city, or state?

What can we do to avoid or decrease these natural hazards?

Name of Person 2: _____

What natural hazards exist in your neighborhood, city, or state?

What can we do to avoid or reduce these natural hazards?

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Chapter 1 Home Investigation: Observing Everyday Patterns

1. Working with a family member, find patterns of sound in and around your home. You may choose sounds that you hear indoors or outdoors.
2. Write which sound you hear.
3. Describe the pattern of the sound.
4. Make drawings if they help you explain your thinking. Label your drawings.

Example

I hear the crosswalk signal.

ding ding, pause, ding ding, pause, ding ding

Sound 1

I hear _____.

Describe the pattern of the sound.

Make a drawing if it helps you explain your thinking. Label your drawing.



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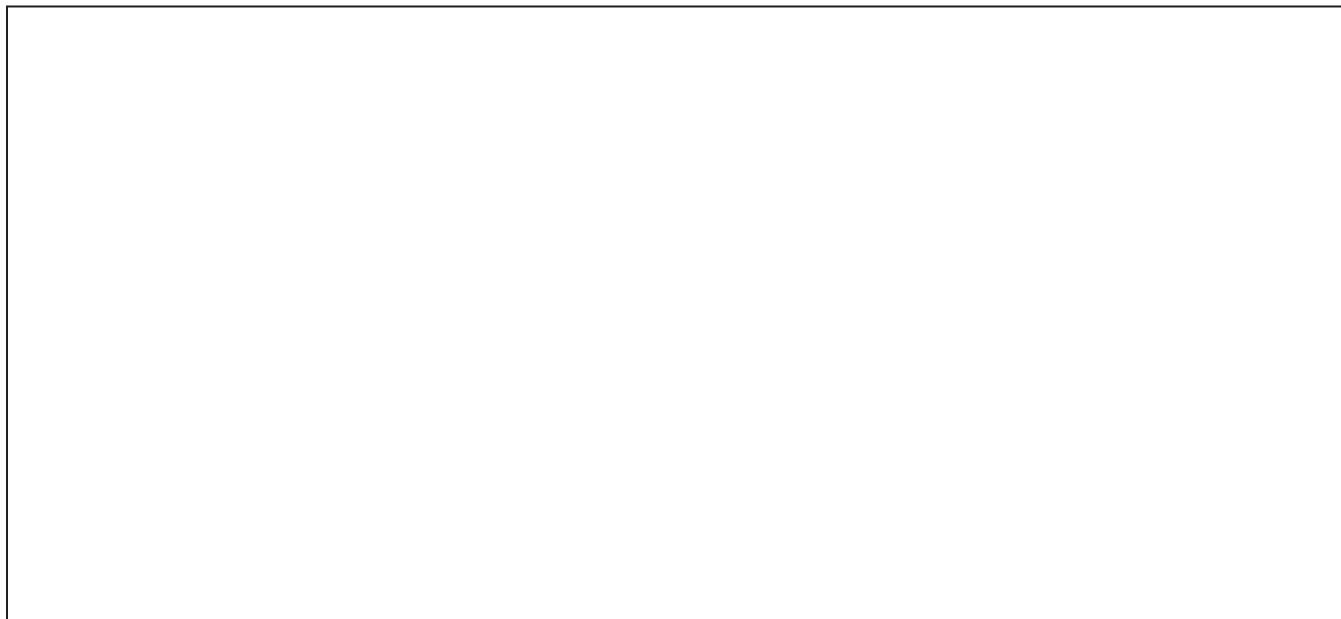
Chapter 1 Home Investigation: **Observing Everyday Patterns** (continued)

Sound 2

I hear _____.

Describe the pattern of the sound.

Make a drawing if it helps you explain your thinking. Label your drawing.



Name: _____ Date: _____

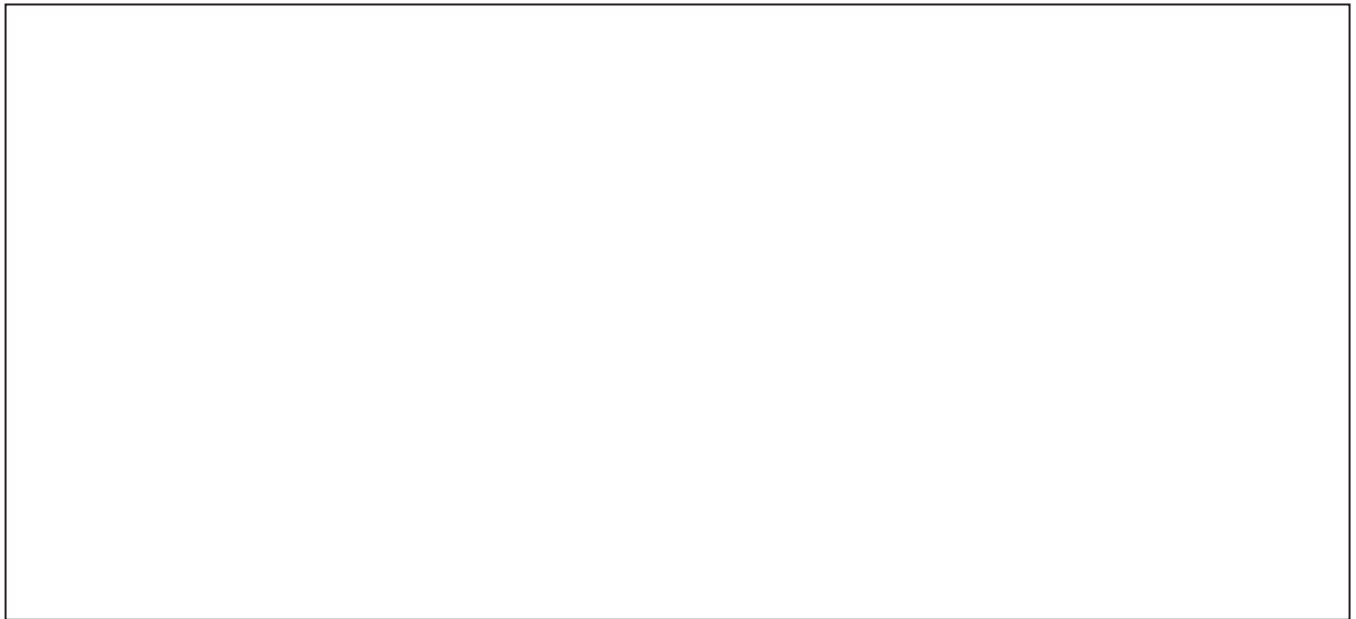
Chapter 1 Home Investigation: **Observing Everyday Patterns** (continued)

Sound 3

I hear _____.

Describe the pattern of the sound.

Make a drawing if it helps you explain your thinking. Label your drawing.



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Chapter 2 Home Investigation: My Home Sound Map

1. Draw an X in the center of the box below. Write “Me” next to the X.
2. Sit silently for 5 minutes, listening to the sounds around you.
3. Create a map of all the sounds you hear. Draw the location of the source of the sound. Use arrows to show how the sound traveled from the source to you, the listener.
4. Describe the sounds you heard to someone at home. Explain how the sounds traveled from the source to the listener.

A large, empty rectangular box with a thin black border, intended for students to draw their sound map. It occupies the central portion of the page below the instructions.

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Chapter 3 Home Investigation: Amplitude Everywhere

1. With a family member, listen for sounds in and around your home. Try quietly walking around your home, stopping every minute or so to listen for sounds.
2. Choose one sound to focus on. Listen to the sound carefully.
3. Discuss with the family member how you would describe the amplitude of the sound. Explain to the family member that amplitude is another way of saying volume.
4. In the first column of the table on the next page, write which sound you hear.
5. In the second column, write whether you think the amplitude of the sound is small, medium, or large.
6. In the third column, draw what you think the waveform for the sound would look like.
7. Repeat Steps 1–6 for other sounds you hear.

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Chapter 3 Home Investigation: Amplitude Everywhere (continued)

Sound	Description of amplitude	Waveform
Example: ambulance siren	large	
Example: ceiling fan	small	

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Chapter 4 Home Investigation: How Humans Communicate

1. Interview someone at home about the ways they communicated with other people during the past week. Ask the following questions:
 - How did you communicate with other people during the past week?
 - Was the communication across a long distance or a short distance?
2. In the first column of the table below, record each way the person communicated.
3. In the second column, record whether the communication was across a long distance or a short distance.
4. After you have recorded a few ways the person communicated, answer the question on the next page.

Person interviewed: _____

Way of Communicating	Across a long distance or a short distance?
Example: sent a text message	Example: long distance (the other person lives in another city)

Name: _____ Date: _____

Chapter 4 Home Investigation: **How Humans Communicate** (continued)

Select one way of communicating (from the first column of the table). Write about why you think the person you interviewed chose that method to communicate with another person.
