

I Have, Who Has?

SCIENCE

6–8

Written by
Trisha Callella

Editor: Regina Kim
Cover Illustrator: Corbin Hillam
Designer: Moonhee Pak
Art Director: Moonhee Pak
Project Director: Betsy Morris, PhD

Table of Contents

Introduction	3
Getting Started	4
Matter—Properties and Changes Card Game	6
Atoms, Molecules, and Elements Card Game.....	12
Forms of Energy Card Game	18
Renewable and Nonrenewable Resources Card Game.....	24
Electricity and Magnetism Card Game	30
From Animal Cells to Body Systems Card Game	36
From Plant Cells to Plants Card Game.....	42
Classification of Plants and Animals Card Game	48
Adaptation and Food Chains Card Game.....	54
The Changing Earth Card Game.....	60
Weather Card Game.....	66
The Solar System Card Game	72
Important Life Science Terms Card Game.....	78
Important Physical Science Terms Card Game.....	83
Important Earth Science Terms Card Game	88
Answer Key	93

I HAVE, WHO HAS? is a series of books that provide reinforcement for essential academic skills through group activities. These activities consist of game cards that students read and interactively answer. The listening enrichment component gives students additional practice in active listening and extends their learning to the application level.

I Have, Who Has? Science 6-8 provides a fun, interactive way for students to test their science knowledge. It includes 15 card games that will help improve students' auditory discrimination and reinforce standards-based science content. The following concepts are addressed in this resource:

- Matter—Properties and Changes
- Atoms, Molecules, and Elements
- Forms of Energy
- Renewable and Nonrenewable Resources
- Electricity and Magnetism
- From Animal Cells to Body Systems
- From Plant Cells to Plants
- Classification of Plants and Animals
- Adaptation and Food Chains
- The Changing Earth
- Weather
- The Solar System
- Important Life Science Terms
- Important Physical Science Terms
- Important Earth Science Terms

The ease and simplicity of preparing these games for your class will allow you to begin using *I Have, Who Has?* today! These engaging games are sure to keep students involved as they learn and reinforce science content.



Introduction

Getting Started

ORGANIZATION

Each card game consists of 40 question and answer cards. The cards are arranged in columns (top to bottom) in the order in which they will be read by the class. A reproducible active listening enrichment page follows each of the first 12 card games. Play the interactive card games alone or in conjunction with the reproducible pages to reinforce students' active listening, increase active participation, provide enrichment, and extend the learning and accountability of each student.

INSTRUCTIONS FOR I HAVE, WHO HAS? GAME CARDS

- 1) Photocopy two sets of the game cards. Keep one copy as your reference to the correct order of questions and answers.
- 2) Cut apart the second set of game cards. Mix up the cards and pass them out to the students. Every student should have at least one card. Depending on your class size, students may have more than one card.
- 3) Have the student with the first card begin the game by saying "*I have the first card.* *Who has . . . ?*" As each student reads a card, monitor your copy to make sure students are reading the cards in the correct order. (Because of the interrelationship between concepts, more than one answer may *seem* correct. Acknowledge each "almost" answer and ask for a more specific answer.) If students correctly matched each card, then the last card read will "loop" back to the first card and read *I have . . . Who has the first card?*

<p>I have the first card. Who has the three states of matter?</p>	<p>I have liquid state. Who has the level of attraction between the particles of a solid?</p>
<p>I have solid, liquid, and gas. Who has the state of matter with tightly packed particles?</p>	<p>I have strong attraction. Who has the level of attraction between the particles of a gas?</p>
<p>I have solid state. Who has the state of matter with the lowest density?</p>	<p>I have weak attraction. Who has one result of heating particles of matter?</p>
<p>I have gaseous state. Who has the state of matter with particles that stick together but flow easily?</p>	<p>I have heated particles gain more energy. Who has one physical effect of solid particles gaining more energy?</p>

INSTRUCTIONS FOR ACTIVE LISTENING ENRICHMENT PAGE

- 1) Copy one page for each student or pair of students.
- 2) Make sure each student has a light-colored crayon or highlighter (not a marker or pencil) to color over the correct boxes as they are read. Provide time for students to lightly color or highlight the correct box.
- 3) Have students answer the extension questions at the bottom of the page. Use the answer key on pages 93–95 to check students' answers.

WHAT TO OBSERVE

- 1) Students who have difficulty locating the correct boxes on the active listening enrichment page once familiarity with the format has been established may have difficulties with visual discrimination.
- 2) Students who have difficulty reading their cards at the correct time may have difficulties with attention, hearing, active listening, or the concepts being reinforced.

VARIATIONS

(To be played without the active listening enrichment page)

Timed Version

Have students play the game twice. Encourage them to beat their time in the second round. Have students play the same game again the next day. Can they beat their time again? Remember to mix up the cards before distributing them for each new game.

Small Groups

Give each group a set of game cards. Encourage groups to pay close attention, read quickly, and stay on task to determine which group is the fastest. Playing in smaller groups allows students to have more cards. This raises the opportunities for individual accountability, active participation, time on task, and reinforcement per student.

Card Reduction

If your class is not ready to play with multiple cards, you can reduce the number to fit your class needs. Photocopy the set of the game cards you want to play. Determine the appropriate number of cards needed. Following the existing order of the game, begin with the first card and count the number of cards you need. Delete the *Who has . . . ?* clue from the last card counted and replace with the sentence *Who has the first card?* Photocopy and cut apart the revised game for class play.



Matter— Properties and Changes



<p>I have the first card.</p> <p>Who has the three states of matter?</p>	<p>I have liquid state.</p> <p>Who has the level of attraction between the particles of a solid?</p>
<p>I have solid, liquid, and gas.</p> <p>Who has the state of matter with tightly packed particles?</p>	<p>I have strong attraction.</p> <p>Who has the level of attraction between the particles of a gas?</p>
<p>I have solid state.</p> <p>Who has the state of matter with the lowest density?</p>	<p>I have weak attraction.</p> <p>Who has one result of heating particles of matter?</p>
<p>I have gaseous state.</p> <p>Who has the state of matter with particles that stick together but flow easily?</p>	<p>I have heated particles gain more energy.</p> <p>Who has one physical effect of solid particles gaining more energy?</p>



Matter— Properties and Changes



I have solid particles
vibrate faster.

Who has the measure of how fast
the atoms of an object are moving?



I have **adding heat to a
liquid's particles.**

Who has what happens to atoms
when their temperature decreases?



I have **temperature.**

Who has the phase change
that occurs when a solid's
forces weaken rapidly?



I have **atoms slow down.**

Who has the term for liquid
particles moving away from each
other when heat is added?



I have **a solid can change
directly into a gas.**

Who has one major difference
between solids and liquids?



I have **boiling.**

Who has the definition of
gas pressure?



I have **liquids take the shape
of their container.**

Who has the action that increases
energy of a liquid's particles?



I have **gas particles hitting
a surface.**

Who has one way to increase
gas pressure?



Matter— Properties and Changes



<p>I have reduce the volume of its container.</p> <p>Who has the term for gas particles spreading out?</p>	<p>I have mass.</p> <p>Who has the name of the tool used to measure an object's mass?</p>
<p>I have diffusion.</p> <p>Who has an example of diffusion?</p>	<p>I have balance.</p> <p>Who has the effect on mass when a state of matter changes?</p>
<p>I have smelling perfume sprayed on the other side of the room.</p> <p>Who has diffusion's effect on gases or liquids?</p>	<p>I have no effect.</p> <p>Who has the term for the mass of an object divided by its volume?</p>
<p>I have gases or liquids mix together.</p> <p>Who has the term for the amount of material in an object?</p>	<p>I have density.</p> <p>Who has the scientific term for changing one substance into another substance?</p>



Matter— Properties and Changes



I have **chemical change**.

Who has the term for the ability of a substance to undergo a chemical change?



I have **gases**.

Who has evidence of a chemical change that you can see?



I have **reactivity**.

Who has the term for the ability of a substance to burn?



I have **change in color**.

Who has the gas released when mixing vinegar and baking soda?



I have **combustibility**.

Who has the name of a metal that changes by rusting?



I have **carbon dioxide**.

Who has the chemical change that results when iron and oxygen are combined?



I have **iron**.

Who has the products of chemical changes that you cannot see?



I have **rust**.

Who has the product made from combining hydrogen and oxygen?



Matter— Properties and Changes



<p>I have water.</p> <p>Who has the product made from combining sodium and chloride?</p>	<p>I have carving it into a baseball bat.</p> <p>Who has two ways physical changes may occur?</p>
<p>I have salt.</p> <p>Who has a change to an object's size or shape?</p>	<p>I have by adding heat or by removing heat.</p> <p>Who has examples of mixtures?</p>
<p>I have physical change.</p> <p>Who has an example of a physical change to paper?</p>	<p>I have paper, bread, and air.</p> <p>Who has examples of solutions?</p>
<p>I have cutting it with scissors.</p> <p>Who has an example of a physical change to wood?</p>	<p>I have ocean water and hot cocoa.</p> <p>Who has the first card?</p>



Matter—Properties and Changes

Draw a line from word to word to complete the maze as your classmates read the clues.

START	SOLID, LIQUID, GAS	LIQUID STATE	STRONG
DIFFUSION	SOLID STATE	GASEOUS STATE	WEAK
ADDING HEAT	LIQUIDS TAKE CONTAINER SHAPE	MASS	HEATED PARTICLES GAIN MORE ENERGY
ATOMS SLOW DOWN	SOLID CAN CHANGE DIRECTLY INTO A GAS	TEMPERATURE	VIBRATE FASTER
BOILING	CHEMICAL CHANGE	MASS	BALANCE
PARTICLES HITTING A SURFACE	SMELLING SPRAYED PERFUME	GASES OR LIQUIDS MIX	NO EFFECT
REDUCE THE VOLUME	DIFFUSION	COMBUSTIBILITY	DENSITY
REACTIVITY	PHYSICAL CHANGE	SALT	CHEMICAL CHANGE
CARVING IT INTO A BAT	CUTTING IT WITH SCISSORS	WATER	REACTIVITY
ADDING OR REMOVING HEAT	DENSITY	RUST	COMBUSTIBILITY
PAPER, BREAD, AIR	OCEAN WATER AND HOT COCOA	CARBON DIOXIDE	IRON
PHYSICAL CHANGE	FINISH	CHANGE IN COLOR	GASES









Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ particles spreading out
- _____ the amount of material in an object
- _____ mass divided by volume
- _____ the change in matter when one substance turns into another substance
- _____ the ability of a substance to burn
- _____ the result of changing the size, shape, or color of an object
- _____ the ability of a substance to undergo a chemical change



Atoms, Molecules, and Elements



 <p>I have the first card.</p> <p>Who has the substances that make up all materials?</p>	 <p>I have nucleus.</p> <p>Who has subatomic particles with a positive charge?</p>
 <p>I have elements.</p> <p>Who has three examples of elements?</p>	 <p>I have protons.</p> <p>Who has subatomic particles with a negative charge?</p>
 <p>I have iron, copper, and helium.</p> <p>Who has the smallest particles of elements?</p>	 <p>I have electrons.</p> <p>Who has subatomic particles with no charge?</p>
 <p>I have atoms.</p> <p>Who has the center of an atom?</p>	 <p>I have neutrons.</p> <p>Who has the particles whose attraction holds atoms together?</p>



Atoms, Molecules, and Elements



I have **electrons and protons**.

Who has two or more atoms
joined together?

I have **hydrogen**.

Who has the classification of
elements on the left side of the
Periodic Table?

I have **molecule**.

Who has the name for the chart that
arranges and classifies elements?

I have **metals**.

Who has the metal that is a liquid
at room temperature?

I have the **Periodic Table
of Elements**.

Who has how the Periodic Table
of Elements is ordered?

I have **mercury**.

Who has a major characteristic
of metals?

I have **from smallest to largest
number of protons in an element**.

Who has the lightest element?









I have **good conductors of heat**.

Who has an example of
a magnetic metal?



Atoms, Molecules, and Elements











 <p>I have iron.</p> <p>Who has the classification of the elements on the right side of the Periodic Table?</p>	 <p>I have group.</p> <p>Who has the elements in Group 1 of the Periodic Table?</p>
 <p>I have nonmetals.</p> <p>Who has one visible characteristic of nonmetals?</p>	 <p>I have alkali metals.</p> <p>Who has the elements on the far right column of the Periodic Table?</p>
 <p>I have not shiny.</p> <p>Who has a nonmetal commonly found in pencil lead?</p>	 <p>I have noble gases.</p> <p>Who has the number found on the top left corner in each element's box on the table?</p>
 <p>I have carbon, which forms graphite.</p> <p>Who has the term for each column of elements with very similar properties?</p>	 <p>I have atomic number.</p> <p>Who has the basis for the atomic number of an element?</p>



Atoms, Molecules, and Elements



 <p>I have number of protons in the nucleus of the atom.</p> <p>Who has the atomic number for helium?</p>	 <p>I have Ag.</p> <p>Who has the chemical symbol for iron?</p>
 <p>I have two.</p> <p>Who has the meaning of that number?</p>	 <p>I have Fe.</p> <p>Who has the chemical symbol for helium?</p>
 <p>I have one atom of helium has two protons.</p> <p>Who has the chemical symbol for gold?</p>	 <p>I have He.</p> <p>Who has the common name for sodium chloride?</p>
 <p>I have Au.</p> <p>Who has the chemical symbol for silver?</p>	 <p>I have salt.</p> <p>Who has the common name for H₂O?</p>



Atoms, Molecules, and Elements



<p>I have water.</p> <p>Who has two or more elements joined together?</p>	<p>I have chemical reaction.</p> <p>Who has the term for substances that are not chemically joined together?</p>
<p>I have compound.</p> <p>Who has one way to separate the elements in certain compounds?</p>	<p>I have mixtures.</p> <p>Who has two examples of mixtures?</p>
<p>I have passing an electric current through them.</p> <p>Who has the joining of atoms to form molecules?</p>	<p>I have sea water and air.</p> <p>Who has two techniques that separate mixtures?</p>
<p>I have chemical bond.</p> <p>Who has the process of combining chemicals to form new substances?</p>	<p>I have filtering and distilling.</p> <p>Who has the first card?</p>



Atoms, Molecules, and Elements

Draw a line from word to word to complete the maze as your classmates read the clues.

TWO	HELIUM HAS TWO PROTONS	ATOM	MOLECULE
NUMBER OF PROTONS	AU	HE	SALT
ATOMIC NUMBER	AG	FE	WATER
NOBLE GASES	CARBON	NOT SHINY	COMPOUND
ALKALI METALS	GROUP	NONMETALS	PASSING ELECTRIC CURRENT THROUGH THEM
COMPOUND	PROTON	IRON	CHEMICAL BOND
SMALLEST TO LARGEST NUMBER OF PROTONS	HYDROGEN	GOOD CONDUCTORS OF HEAT	CHEMICAL REACTION
PERIODIC TABLE OF ELEMENTS	METALS	MERCURY	MIXTURES
MOLECULE	ELECTRONS AND PROTONS	NEUTRONS	SEA WATER AND AIR
HYDROGEN	CONDUCT HEAT AND ELECTRICITY	ELECTRONS	FILTERING AND DISTILLING
ELEMENTS	IRON, COPPER, HELIUM	PROTONS	FINISH
START	ATOMS	NUCLEUS	MIXTURES

Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ the smallest particle of an element with all the properties of that element
- _____ the subatomic particles with a positive charge
- _____ two or more atoms joined together
- _____ the lightest element of the Periodic Table
- _____ a characteristic of metals
- _____ two or more elements joined together
- _____ substances not chemically joined together



Forms of Energy



<p>I have the first card.</p> <p>Who has the source responsible for causing changes in matter?</p>	<p>I have sound energy.</p> <p>Who has two examples of sound energy?</p>
<p>I have energy.</p> <p>Who has the form of energy that is luminous?</p>	<p>I have vocal chords and speakers.</p> <p>Who has the type of material that carries sound faster and farther than air?</p>
<p>I have light energy.</p> <p>Who has two examples of light energy?</p>	<p>I have solid material.</p> <p>Who has the form of energy that can be carried long distances in wires?</p>
<p>I have stars and candles.</p> <p>Who has the form of energy resulting from an object vibrating in air?</p>	<p>I have electrical energy.</p> <p>Who has two sources of electrical energy?</p>



Forms of Energy



I have **batteries and generators**.

Who has the energy related to the effects of heating?

I have a **rolling ball and a moving car**.

Who has energy related to an object's position?

I have **thermal energy**.

Who has one source of heat?

I have **potential energy**.

Who has one type of potential energy?

I have **burning coal**.

Who has energy related to motion?

I have **gravitational energy**.

Who has an example of decreasing potential energy?

I have **kinetic energy**.

Who has two examples of kinetic energy?

I have an **apple falling from a tree**.

Who has an example of increasing potential energy?



Forms of Energy



<p>I have a person climbing higher up a mountain.</p> <p>Who has the form of energy contained in food or fuel?</p>	<p>I have transformation.</p> <p>Who has an example of light energy changing to chemical energy?</p>
<p>I have chemical energy.</p> <p>Who has an example of mechanical energy in use?</p>	<p>I have growing plants.</p> <p>Who has an example of sound energy changing to electrical energy?</p>
<p>I have crushing a can.</p> <p>Who has two examples of mechanical potential energy?</p>	<p>I have a microphone.</p> <p>Who has an example of light energy changing to electrical energy?</p>
<p>I have stretched springs and rubber bands.</p> <p>Who has the term for changing energy from one form to another?</p>	<p>I have solar-powered calculator.</p> <p>Who has an example of chemical energy changing to thermal energy?</p>



Forms of Energy



I have **fire**.

Who has an example of kinetic energy changing to electrical energy?

I have **conduction, convection, and radiation**.

Who has the transfer of heat energy from a hotter to a cooler part of a substance?

I have a **wind turbine generator**.

Who has an example of chemical energy changing to electrical energy and then light energy?

I have **conduction**.

Who has the type of materials that allow heat energy to flow through them easily?

I have a **flashlight**.

Who has the origin of all forms of energy?

I have **conductors**.

Who has good conductors of heat energy?

I have **the sun**.

Who has the three ways that heat can be transferred?

I have **metals**.

Who has the term for materials that slow or stop the flow of heat energy?



Forms of Energy



<p>I have insulators.</p> <p>Who has an example of a good heat insulator?</p>	<p>I have energy cannot be created nor destroyed, only changed in form.</p> <p>Who has the empty space through which only radiation can transfer heat?</p>
<p>I have cork.</p> <p>Who has the term for movement of heat in liquid or gas particles?</p>	<p>I have vacuum.</p> <p>Who has the transfer of energy by the flow of electrons through a conductor?</p>
<p>I have convection.</p> <p>Who has the term for waves that transfer heat?</p>	<p>I have electric current.</p> <p>Who has material that slows the flow of electrons?</p>
<p>I have radiation.</p> <p>Who has the Principle of Conservation of Energy?</p>	<p>I have resistors.</p> <p>Who has the first card?</p>



Forms of Energy

Draw a line from word to word to complete the maze as your classmates read the clues.

ENERGY	START	ELECTRICAL ENERGY	BATTERIES AND GENERATORS
LIGHT ENERGY	VOCAL CHORDS AND SPEAKERS	SOLID MATERIAL	THERMAL ENERGY
STARS AND CANDLES	SOUND ENERGY	TRANSFORMATION	BURNING COAL
CLIMBING HIGHER UP A MOUNTAIN	APPLE FALLING FROM A TREE	INSULATOR	KINETIC ENERGY
CHEMICAL ENERGY	GRAVITATIONAL ENERGY	POTENTIAL ENERGY	A ROLLING BALL AND A MOVING CAR
CRUSHING A CAN	SOLID MATERIAL	FLASHLIGHT	THE SUN
STRETCHED SPRINGS AND RUBBER BANDS	FIRE	WIND TURBINE	CONDUCTION, CONVECTION, RADIATION
TRANSFORMATION	SOLAR-POWERED CALCULATOR	RADIATION	CONDUCTION
GROWING PLANTS	MICROPHONE	CHEMICAL ENERGY	CONDUCTORS
FINISH	RESISTORS	ELECTRIC CURRENT	METALS
KINETIC ENERGY	ENERGY CANNOT BE CREATED NOR DESTROYED, ONLY CHANGED	VACUUM	INSULATORS
MECHANICAL ENERGY	RADIATION	CONVECTION	CORK

Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ the type of material that will carry sound farther and faster than air
- _____ the form of energy that an object has when in motion
- _____ energy contained in food or fuel
- _____ stored energy due to stretching or compression
- _____ energy being changed from one form to another
- _____ a material that doesn't allow heat energy to flow easily
- _____ the transfer of heat by invisible heat waves



Renewable and Nonrenewable Resources



<p>I have the first card.</p> <p>Who has materials or energy obtained from naturally occurring sources?</p>	<p>I have fossil fuels.</p> <p>Who has three examples of fossil fuels?</p>
<p>I have natural resources.</p> <p>Who has the main use of the natural resources coal and oil?</p>	<p>I have coal, oil, and natural gas.</p> <p>Who has the rock-like fossil fuel formed from dead trees?</p>
<p>I have producing energy.</p> <p>Who has resources that could run out eventually?</p>	<p>I have coal.</p> <p>Who has an energy resource often found together with coal or oil?</p>
<p>I have nonrenewable resources.</p> <p>Who has the fuels created from long-dead plants and animals?</p>	<p>I have natural gas.</p> <p>Who has another name for crude oil?</p>



Renewable and Nonrenewable Resources



I have **petroleum**.

Who has common methods of getting fossil fuels?

I have **refining**.

Who has the most rapidly diminishing fossil fuel?

I have **mining and drilling**.

Who has two main elements of fossil fuels?

I have **oil**.

Who has three common products made from oil?

I have **carbon and hydrogen**.

Who has the common method of creating heat before fossil fuels were discovered?

I have **gasoline, pesticides, and plastics**.

Who has the harmful chemical by-products of burning fossil fuels?

I have **burning wood**.

Who has the process of purifying fossil fuels for use?

I have **chemical pollutants**.

Who has the main cause of earth's global warming?



Renewable and Nonrenewable Resources



<p>I have the Greenhouse Effect.</p> <p>Who has the materials that cause the Greenhouse Effect?</p>	<p>I have renewable resources.</p> <p>Who has one form of renewable energy being used to warm homes?</p>
<p>I have gases, such as carbon dioxide and water vapor.</p> <p>Who has two ways we can help reduce global warming?</p>	<p>I have solar energy.</p> <p>Who has an energy resource created by the sun heating the atmosphere and the oceans?</p>
<p>I have planting trees and using less gas.</p> <p>Who has positive effects of planting trees?</p>	<p>I have wind.</p> <p>Who has a machine that transforms wind energy into electricity?</p>
<p>I have trees absorb carbon dioxide and release oxygen.</p> <p>Who has energy resources that are continually being replaced?</p>	<p>I have wind turbine.</p> <p>Who has the type of energy generated using water?</p>



Renewable and Nonrenewable Resources



I have **hydroelectric power**.

Who has the way water produces hydroelectric power?

I have **biomass**.

Who has the term for decreasing energy use?

I have **falling water turns large turbines**.

Who has the type of energy generated from heat beneath earth's surface?

I have **conservation**.

Who has the three "R's" that help with conservation?

I have **geothermal energy**.

Who has the element that forms water when burned with oxygen?

I have **reduce, reuse, recycle**.

Who has the sequence for coal formation?

I have **hydrogen**.

Who has the renewable resource made up of plant and animal materials that can be turned into heat and electricity?

I have **peat, lignite, bitumen, and then anthracite**.

Who has the term for contaminating resources with harmful materials?



Renewable and Nonrenewable Resources



<p>I have pollution.</p> <p>Who has the result of air pollution on precipitation?</p>	<p>I have air pollution.</p> <p>Who has a resource that can be contaminated by improper use of pesticides?</p>
<p>I have acid rain.</p> <p>Who has one result of acid rain?</p>	<p>I have groundwater.</p> <p>Who has an indirect way water pollution reaches humans?</p>
<p>I have damage to plants and to animal habitats.</p> <p>Who has one significant type of pollution caused by excess garbage?</p>	<p>I have people eat fish from contaminated waters.</p> <p>Who has a strategy to avoid creating air, water, or land pollution?</p>
<p>I have land pollution.</p> <p>Who has one type of pollution that causes lung diseases?</p>	<p>I have disposing of toxic substances properly.</p> <p>Who has the first card?</p>



Renewable and Nonrenewable Resources

Draw a line from word to word to complete the maze as your classmates read the clues.

CARBON AND HYDROGEN	BIOMASS	GEOTHERMAL ENERGY	FOSSIL FUELS
FINISH	GROUNDWATER	AIR POLLUTION	LAND POLLUTION
DISPOSING OF TOXIC SUBSTANCES PROPERLY	EATING CONTAMINATED FISH	NONRENEWABLE RESOURCES	DAMAGE TO PLANTS AND HABITATS
FOSSIL FUELS	COAL, OIL, NATURAL GAS	COAL	ACID RAIN
NONRENEWABLE RESOURCES	PRODUCING ENERGY	NATURAL GAS	POLLUTION
START	NATURAL RESOURCES	PETROLEUM	PEAT, LIGNITE, BITUMEN, ANTHRACITE
WIND	NATURAL GAS	MINING AND DRILLING	REDUCE, REUSE, RECYCLE
GASOLINE, PESTICIDES, AND PLASTICS	OIL	CARBON AND HYDROGEN	CONSERVATION
CHEMICAL POLLUTANTS	REFINING	BURNING WOOD	BIOMASS
GREENHOUSE EFFECT	GASES, SUCH AS CARBON DIOXIDE AND WATER VAPOR	PLANTING TREES AND USING LESS GAS	HYDROGEN
SOLAR ENERGY	RENEWABLE RESOURCES	ABSORB CARBON DIOXIDE AND RELEASE OXYGEN	GEOTHERMAL ENERGY
WIND	WIND TURBINE	HYDROELECTRIC POWER	WATER TURNS TURBINES

Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ resources taken from the earth that may one day disappear
- _____ nonrenewable energy sources derived from the remains of dead life forms
- _____ a fossil fuel often found together with coal or oil
- _____ elements that make up most of the fossil fuels
- _____ a renewable resource created by the heating effect of the sun
- _____ a renewable resource formed by hot rock beneath the earth's surface
- _____ a renewable resource made up of plant and animal waste products that can be turned into heat and electricity



Electricity and Magnetism



<p>I have the first card.</p> <p>Who has the path in which electricity flows?</p>	<p>I have cell, battery, or power supply.</p> <p>Who has a device that acts like a pump, pushing the charge around the circuit?</p>
<p>I have circuit.</p> <p>Who has the flow of a charge around a circuit?</p>	<p>I have cell.</p> <p>Who has the type of charge that flows in a circuit?</p>
<p>I have electric current.</p> <p>Who has the impact of a break in the electric circuit?</p>	<p>I have negative charge.</p> <p>Who has the part of a circuit that produces light?</p>
<p>I have current won't flow.</p> <p>Who has some sources of electrons for an electrical current?</p>	<p>I have bulb.</p> <p>Who has the reason that the bulb emits energy as light and heat?</p>



Electricity and Magnetism



I have **electrical resistance**.

Who has the part of the circuit that turns a current “on” or “off”?



I have **series and parallel**.

Who has the type of circuit in which everything is connected in a single loop?



I have **switch**.

Who has what happens when the switch is closed?



I have **series circuit**.

Who has the strength of the current at different points of a series circuit?



I have **current flows**.

Who has the conductors that connect the components of a circuit?



I have **current is the same everywhere**.

Who has the type of circuit in which components are connected in more than one loop?



I have **wires**.

Who has the two types of circuits?



I have **parallel circuit**.

Who has a good example of a parallel circuit?



Electricity and Magnetism



<p>I have a car's headlights.</p> <p>Who has the position of the switch when the current is off?</p>	<p>I have amp.</p> <p>Who has the degree to which an object opposes an electric current?</p>
<p>I have open position.</p> <p>Who has the reason parallel circuits are used in a lamp with several bulbs?</p>	<p>I have resistance.</p> <p>Who has the effect on a bulb if a second battery is added to a series circuit?</p>
<p>I have to keep lights on when one bulb burns out.</p> <p>Who has the term for the instrument used to measure an electric current?</p>	<p>I have bulb gets brighter.</p> <p>Who has the unit of measure of electrical potential?</p>
<p>I have ammeter.</p> <p>Who has the unit of measure in electric current?</p>	<p>I have volt.</p> <p>Who has the result of a greater voltage of a cell, battery, or power supply?</p>



Electricity and Magnetism



I have **current increases**.

Who has the space around a magnet that experiences a force?



I have **they repel each other**.

Who has a navigational tool that works with a magnetic field?



I have **magnetic field**.

Who has the term for either end of a bar magnet?



I have **compass**.

Who has the term for a magnet that can be switched on and off?



I have **pole**.

Who has two possible interactions of the poles of a magnet?



I have **electromagnet**.

Who has the way to adjust a coil to increase the strength of an electromagnet?



I have **repel or attract**.

Who has the interaction of two magnetic north poles?



I have **increase the number of turns on the coil**.

Who has the effect of adding more batteries to an electromagnet?



Electricity and Magnetism



<p>I have increases the strength of the magnetic field.</p> <p>Who has another way to strengthen the electromagnet?</p>	<p>I have short circuit.</p> <p>Who has the type of electric current in a flashlight?</p>
<p>I have insert a soft iron core into the coil.</p> <p>Who has two examples of electromagnets?</p>	<p>I have direct current.</p> <p>Who has the type of electricity used in the outlets in your home?</p>
<p>I have doorbell and metal detector.</p> <p>Who has the type of wire that must be used in the circuits in a house?</p>	<p>I have alternating current.</p> <p>Who has the part of a power plant that creates electrical energy?</p>
<p>I have insulated wire.</p> <p>Who has one result if a bare wire was used in a house?</p>	<p>I have generator.</p> <p>Who has the first card?</p>



Electricity and Magnetism

Draw a line from word to word to complete the maze as your classmates read the clues.

FINISH	GENERATOR	ALTERNATING CURRENT	DIRECT CURRENT
AMMETER	ELECTRIC CURRENT	INSULATED WIRE	SHORT CIRCUIT
THEY REPEL EACH OTHER	COMPASS	DOORBELL AND METAL DETECTOR	INSERT A SOFT IRON CORE
REPEL OR ATTRACT	ELECTROMAGNET	INCREASE THE NUMBER OF TURNS ON THE COIL	INCREASES THE STRENGTH OF THE MAGNETIC FIELD
POLE	VOLT	BULB GETS BRIGHTER	RESISTANCE
MAGNETIC FIELD	CURRENT INCREASES	AMMETER	AMP
HEADLIGHTS	OPEN	KEEP LIGHTS ON IF ONE BURNS OUT	SERIES CIRCUIT
PARALLEL CIRCUIT	CURRENT IS THE SAME EVERYWHERE	SWITCH	ELECTRICAL RESISTANCE
PARALLEL CIRCUIT	SERIES	CURRENT FLOWS	BULB
INSULATED WIRE	SERIES AND PARALLEL	WIRES	NEGATIVE
START	CIRCUIT	ELECTRIC CURRENT	CELL
ELECTROMAGNET	MAGNETIC FIELD	CURRENT WON'T FLOW	CELL, BATTERY OR POWER SUPPLY

Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ the flow of a charge around a circuit
- _____ the type of circuit in which all components are connected in one loop
- _____ the type of circuit in which each component is connected separately in its own loop
- _____ instrument used to measure an electric current
- _____ the space around a magnet that experiences a force
- _____ a magnet that can be switched on and off
- _____ the type of wire used in a circuit in a home



From Animal Cells to Body Systems



<p>I have the first card.</p> <p>Who has the tiny building blocks of all living things?</p>	<p>I have cytoplasm.</p> <p>Who has groups of similar cells that perform specific functions?</p>
<p>I have cells.</p> <p>Who has the thin outer covering that holds the cell together?</p>	<p>I have tissues.</p> <p>Who has groups of different tissues that perform specific functions?</p>
<p>I have cell membrane.</p> <p>Who has the control center of an animal cell?</p>	<p>I have organs.</p> <p>Who has groups of organs that perform functions?</p>
<p>I have nucleus.</p> <p>Who has the jelly-like material that fills a cell?</p>	<p>I have systems.</p> <p>Who has the system that breaks down food for absorption and use?</p>



From Animal Cells to Body Systems



I have **digestive system**.

Who has the organ that contains
bacteria-killing acid within its
muscular bag?

I have **respiratory system**.

Who has the element absorbed into
the blood during respiration?

I have **stomach**.

Who has the organ where most
chemical digestion takes place?

I have **oxygen**.

Who has the system responsible
for pumping blood throughout
the entire body?

I have **small intestine**.

Who has the tiny tubes
in the small intestine?

I have **circulatory system**.

Who has the three types of
vessels that carry blood
throughout the body?

I have **villi**.

Who has the system responsible
for taking in oxygen and removing
carbon dioxide?

I have **arteries, veins,
and capillaries**.

Who has the tubes that carry
blood to the heart?



From Animal Cells to Body Systems



<p>I have veins.</p> <p>Who has the tubes that carry blood away from the heart?</p>	<p>I have brain, spinal cord, and nerves.</p> <p>Who has the nerves' main task?</p>
<p>I have arteries.</p> <p>Who has the blood vessels in which materials are exchanged between blood and cells?</p>	<p>I have send messages to and from the brain.</p> <p>Who has the part of the brain that processes thoughts?</p>
<p>I have capillaries.</p> <p>Who has the system that is the control center of your entire body?</p>	<p>I have cerebrum.</p> <p>Who has the system that is the structure and support for the human body?</p>
<p>I have nervous system.</p> <p>Who has the main components of the nervous system?</p>	<p>I have skeletal system.</p> <p>Who has the number of bones in the human body?</p>



From Animal Cells to Body Systems



I have **206**.

Who has the body part with
the smallest bones?

I have **muscular system**.

Who has the muscles within
your control?

I have **ears**.

Who has the main components
of the skeletal system?

I have **voluntary muscles**.

Who has the muscles, such as
the heart and stomach muscles,
that you cannot control?

I have **bones, ligaments,
and tendons**.

Who has bands of tissue that
hold bones together?

I have **involuntary muscles**.

Who has the system of glands
that controls body growth
and metabolism?

I have **ligaments**.

Who has the system that works
with the skeletal system to
generate movement?

I have **endocrine system**.

Who has the part of the endocrine
system that uses hormones to turn
other glands on and off?



From Animal Cells to Body Systems



<p>I have pituitary gland.</p> <p>Who has the system that functions to produce offspring?</p>	<p>I have immune system.</p> <p>Who has the immune system cells that fight germs?</p>
<p>I have reproductive system.</p> <p>Who has the system that removes waste material from our bodies?</p>	<p>I have white blood cells.</p> <p>Who has the action the immune system takes upon finding a cancerous tumor?</p>
<p>I have excretory system.</p> <p>Who has organs that filter waste material out of the blood?</p>	<p>I have attacks and eliminates abnormal cells.</p> <p>Who has the material that makes up 50%-65% of the human body?</p>
<p>I have kidneys.</p> <p>Who has the system that battles germs?</p>	<p>I have water.</p> <p>Who has the first card?</p>



From Animal Cells to Body Systems

Draw a line from word to word to complete the maze as your classmates read the clues.

ENDOCRINE SYSTEM	CIRCULATORY SYSTEM	ARTERIES, VEINS, AND CAPILLARIES	VEINS
RESPIRATORY SYSTEM	OXYGEN	CAPILLARIES	ARTERIES
VILLI	TISSUE	NERVOUS SYSTEM	BRAIN, SPINAL CORD, NERVES
SMALL INTESTINE	SYSTEMS	ORGANS	SEND MESSAGES TO AND FROM THE BRAIN
STOMACH	DIGESTIVE SYSTEM	TISSUES	CEREBRUM
START	CELLS	CYTOPLASM	SKELETAL SYSTEM
CAPILLARIES	CELL MEMBRANE	NUCLEUS	206
EXCRETORY SYSTEM	REPRODUCTIVE SYSTEM	KIDNEYS	EARS
KIDNEYS	PITUITARY GLAND	ENDOCRINE SYSTEM	BONES, LIGAMENTS, TENDONS
IMMUNE SYSTEM	IMMUNE SYSTEM	INVOLUNTARY MUSCLES	LIGAMENTS
WHITE BLOOD CELLS	ATTACKS ABNORMAL CELLS	VOLUNTARY MUSCLES	MUSCULAR SYSTEM
SMALL INTESTINE	WATER	FINISH	CELL MEMBRANE

Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ the thin cell covering that holds the parts of the cell together
- _____ a group of similar cells that work together to perform a specific function
- _____ where all products of digestion are absorbed into the bloodstream
- _____ blood vessels in which materials are exchanged between blood and cells
- _____ the system that includes the glands that control body growth
- _____ organs that filter the waste material out of the blood
- _____ the system responsible for battling germs



From Plant Cells to Plants



<p>I have the first card.</p> <p>Who has the control center of plant cells?</p>	<p>I have cell wall.</p> <p>Who has the organelle that stores food, water, and other materials in the cell?</p>
<p>I have nucleus.</p> <p>Who has the jelly-like material that fills the plant cell?</p>	<p>I have vacuole.</p> <p>Who has the process by which plants use light to make their own food?</p>
<p>I have cytoplasm.</p> <p>Who has the thin covering that controls what enters and leaves plant cells?</p>	<p>I have photosynthesis.</p> <p>Who has the part of the plant cell that contains chlorophyll?</p>
<p>I have cell membrane.</p> <p>Who has the rigid nonliving box around a plant cell?</p>	<p>I have chloroplast.</p> <p>Who has two materials needed for photosynthesis?</p>



From Plant Cells to Plants



I have **water and carbon dioxide**.

Who has three parts of a plant cell that are also in an animal cell?

I have **guard cells**.

Who has the compound that enters the leaf through the stomata?

I have **nucleus, cytoplasm, and cell membrane**.

Who has the compound that is transported from the roots to the leaf of a plant?

I have **carbon dioxide**.

Who has the element released from the stomata along with water?

I have **water**.

Who has the substance that is transported from the leaf back to the roots?

I have **oxygen**.

Who has the thin layer of protective cells on the outer surface of a leaf?

I have **glucose**.

Who has cells that open and close the stomata?

I have **epidermis**.

Who has how a plant uses products of photosynthesis to provide energy?



From Plant Cells to Plants



<p>I have cellular respiration.</p> <p>Who has the materials used by the plants during cellular respiration?</p>	<p>I have stigma.</p> <p>Who has the male part of a flower?</p>
<p>I have oxygen and glucose.</p> <p>Who has the female part of a flower?</p>	<p>I have stamen.</p> <p>Who has the purpose of the stamen?</p>
<p>I have pistil.</p> <p>Who has the part of the flower where seeds develop?</p>	<p>I have to produce pollen.</p> <p>Who has the term for the union of male and female reproductive cells?</p>
<p>I have ovary.</p> <p>Who has the part of the flower that receives pollen?</p>	<p>I have fertilization.</p> <p>Who has the process in which pollen grains are transferred to the stigma?</p>



From Plant Cells to Plants



I have **pollination**.

Who has the developing plant still inside the seed?

I have **spore**.

Who has the system of structures that carry water and minerals through leafy plants?

I have **embryo**.

Who has the sprouting of a seed?

I have **vascular tissue**.

Who has the tubes in vascular plants that circulate water and dissolved minerals?

I have **germination**.

Who has the new plant that will continue to grow and mature?

I have **xylem**.

Who has the location of old, inactive xylem tissue?

I have **seedling**.

Who has the single reproductive cell that grows into a new plant?

I have **woody part of a plant**.

Who has the plant cells that transport sugars?



From Plant Cells to Plants



<p>I have phloem.</p> <p>Who has the term for flowering, fruit-producing plants?</p>	<p>I have transpiration.</p> <p>Who has one effect of stronger light on the rate of photosynthesis?</p>
<p>I have angiosperm.</p> <p>Who has the term for plants with unprotected seeds?</p>	<p>I have photosynthesis would speed up.</p> <p>Who has one result of too little water in a plant during photosynthesis?</p>
<p>I have gymnosperm.</p> <p>Who has an example of a gymnosperm?</p>	<p>I have photosynthesis would slow down.</p> <p>Who has an example of a nonvascular plant?</p>
<p>I have pine tree.</p> <p>Who has the process by which leaves give off water?</p>	<p>I have moss.</p> <p>Who has the first card?</p>



From Plant Cells to Plants

Draw a line from word to word to complete the maze as your classmates read the clues.

GLUCOSE	START	NUCLEUS	CYTOPLASM
FINISH	PHOTOSYNTHESIS SPEEDS UP	TRANSPIRATION	CELL MEMBRANE
MOSS	PHOTOSYNTHESIS SLOWS DOWN	PINE TREE	CELL WALL
CHLOROPLAST	ANGIOSPERM	GYMNOSPERM	VACUOLE
VACUOLE	PHLOEM	CELLULAR RESPIRATION	PHOTOSYNTHESIS
XYLEM	WOODY PART OF A PLANT	WATER AND CARBON DIOXIDE	CHLOROPLAST
VASCULAR TISSUE	SPORE	NUCLEUS, CYTOPLASM, CELL MEMBRANE	WATER
GERMINATION	SEEDLING	XYLEM	GLUCOSE
EMBRYO	ANGIOSPERM	CARBON DIOXIDE	GUARD CELLS
POLLINATION	EPIDERMIS	OXYGEN	SPORE
FERTILIZATION	CELLULAR RESPIRATION	OXYGEN AND GLUCOSE	PISTIL
TO PRODUCE POLLEN	STAMEN	STIGMA	OVARY

Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ the organelle that stores food, water, and other materials in the cell
- _____ the part of a plant cell that contains chlorophyll used for photosynthesis
- _____ the substance that is transported from the leaf back to the roots
- _____ the process through which glucose and oxygen provide energy to a plant
- _____ a single reproductive cell that grows into a new plant
- _____ the tubes in plants that transport water and minerals
- _____ a flowering, fruit-producing plant



Classification of Plants and Animals



<p>I have the first card.</p> <p>Who has the term for grouping things according to a set of rules?</p>	<p>I have mushrooms and mold.</p> <p>Who has living things that have one cell with a nucleus?</p>
<p>I have classification.</p> <p>Who has the classification that places organisms into six main groups?</p>	<p>I have protists.</p> <p>Who has living things that have one cell without a nucleus?</p>
<p>I have kingdoms.</p> <p>Who has the kingdom that includes only decomposers?</p>	<p>I have prokaryotes.</p> <p>Who has an example of a prokaryote?</p>
<p>I have fungi.</p> <p>Who has two examples of fungi?</p>	<p>I have bacteria.</p> <p>Who has the most specific classification of living things?</p>



Classification of Plants and Animals



<p>I have species.</p> <p>Who has two main subdivisions of the animal kingdom?</p>	<p>I have mammals.</p> <p>Who has scaly vertebrates that breathe through lungs?</p>
<p>I have vertebrates and invertebrates.</p> <p>Who has animals with backbones?</p>	<p>I have reptiles.</p> <p>Who has scaly vertebrates with fins and gills?</p>
<p>I have vertebrates.</p> <p>Who has five classes of vertebrates?</p>	<p>I have fish.</p> <p>Who has feathered vertebrates with wings and beaks but no teeth?</p>
<p>I have fish, amphibians, reptiles, birds, and mammals.</p> <p>Who has vertebrates covered in hair?</p>	<p>I have birds.</p> <p>Who has vertebrates that breathe through moist skin and lungs?</p>



Classification of Plants and Animals



<p>I have amphibians.</p> <p>Who has animals without backbones?</p>	<p>I have snails and mussels.</p> <p>Who has invertebrates with segmented bodies and no legs?</p>
<p>I have invertebrates.</p> <p>Who has three classes of invertebrates?</p>	<p>I have annelids.</p> <p>Who has two examples of annelids?</p>
<p>I have annelids, mollusks, and arthropods.</p> <p>Who has invertebrates with unsegmented bodies?</p>	<p>I have earthworms and leeches.</p> <p>Who has the class that can be subdivided into crustaceans, arachnids, and insects?</p>
<p>I have mollusks.</p> <p>Who has two examples of mollusks?</p>	<p>I have arthropods.</p> <p>Who has arthropods that breathe through gills and have an external skeleton?</p>



Classification of Plants and Animals



I have **crustaceans**.

Who has two examples
of crustaceans?



I have **insects**.

Who has two examples of insects?



I have **woodlice and lobsters**.

Who has arthropods that have four
pairs of legs and no wings?



I have **bees and beetles**.

Who has the kingdom that includes
redwood trees and dandelions?



I have **arachnids**.

Who has two examples
of arachnids?



I have **plant kingdom**.

Who has single-celled reproductive
structures used by some plants?



I have **spiders and scorpions**.

Who has the group of arthropods
that have three pairs of legs
and wings?



I have **spores**.

Who has the reproductive structures
used by flowering plants?



Classification of Plants and Animals



<p>I have seeds.</p> <p>Who has the type of plants with tube-like structures that transport water?</p>	<p>I have ferns.</p> <p>Who has three groups of plants with spores but no vascular system?</p>
<p>I have vascular plants.</p> <p>Who has plants that absorb water only through their surfaces?</p>	<p>I have algae, liverworts, and mosses.</p> <p>Who has two types of seeds produced in plants?</p>
<p>I have nonvascular plants.</p> <p>Who has the two plant groups with vascular systems?</p>	<p>I have seeds produced in cones and seeds produced from flowers.</p> <p>Who has the name of the plants having seeds produced in cones?</p>
<p>I have vascular plants with spores and vascular plants with seeds.</p> <p>Who has an example of vascular plants with spores?</p>	<p>I have conifers.</p> <p>Who has the first card?</p>



Classification of Plants and Animals

Draw a line from word to word to complete the maze as your classmates read the clues.

FERNS	ALGAE, LIVERWORTS, MOSSES	SEEDS PRODUCED IN CONES AND SEEDS PRODUCED FROM FLOWERS	CONIFERS
VASCULAR PLANTS WITH SPORES AND VASCULAR PLANTS WITH SEEDS	SPECIES	PROTISTS	FINISH
NONVASCULAR PLANTS	FISH, AMPHIBIANS, REPTILES, BIRDS, MAMMALS	VERTEBRATES	VERTEBRATES AND INVERTEBRATES
VASCULAR PLANTS	MAMMALS	CONIFERS	SPECIES
SEEDS	REPTILES	PROKARYOTES	BACTERIA
SPORES	FISH	PROTISTS	START
PLANT KINGDOM	BIRDS	MUSHROOMS AND MOLD	CLASSIFICATION
BEES AND BEETLES	AMPHIBIANS	FUNGI	KINGDOMS
INSECTS	INVERTEBRATES	ANNELIDS, MOLLUSKS, ARTHROPODS	ARACHNIDS
SPIDERS AND SCORPIONS	ARACHNIDS	MOLLUSKS	SNAILS AND MUSSELS
ANNELIDS	WOODLICE AND LOBSTERS	EARTHWORMS AND LEECHES	ANNELIDS
MOLLUSKS	CRUSTACEANS	ARTHROPODS	FUNGI

Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ living things that have one cell with a nucleus
- _____ the most specific group into which animals are classified
- _____ invertebrates that have unsegmented bodies, such as snails or mussels
- _____ arthropods with two divided body parts, four pairs of legs, no wings, an external skeleton, and jointed legs
- _____ plants with seeds produced in cones
- _____ invertebrates with segmented bodies such as earthworms or leeches
- _____ living things that decompose dead plants and animals



Adaptation and Food Chains











<p>I have the first card.</p> <p>Who has places where organisms live?</p>	<p>I have adaptations.</p> <p>Who has changes to external features that help animals get food or attract mates?</p>
<p>I have habitats.</p> <p>Who has two examples of habitats?</p>	<p>I have physical adaptations.</p> <p>Who has an environment that is very cold all year with short summers?</p>
<p>I have woodlands and meadows.</p> <p>Who has conditions in a habitat?</p>	<p>I have Arctic.</p> <p>Who has a mammal that has adapted to the Arctic environment?</p>
<p>I have environment.</p> <p>Who has changes to an organism that help it survive in its environment?</p>	<p>I have polar bear.</p> <p>Who has an example of how a polar bear's physical features have adapted to the Arctic snow?</p>



Adaptation and Food Chains



 <p>I have a white coat disguises it.</p> <p>Who has two examples of a polar bear's adaptations to keep it warm?</p>	 <p>I have closing their shells completely.</p> <p>Who has two physical adaptations of burrowing mammals?</p>
 <p>I have thick layer of fat and waterproof fur.</p> <p>Who has the cause of change to the Arctic environment to which polar bears may not be able to adapt?</p>	 <p>I have large, powerful front paws and a streamlined shape.</p> <p>Who has one environment with very little precipitation?</p>
 <p>I have Global Warming.</p> <p>Who has a mollusk that adapts to varying tides by clinging to rocks?</p>	 <p>I have desert.</p> <p>Who has an example of animals that have adapted to survive in hot deserts?</p>
 <p>I have mussels.</p> <p>Who has the adaptation of mussels that helps them avoid drying out during low tide?</p>	 <p>I have camels.</p> <p>Who has one example of the camel's adaptations?</p>



Adaptation and Food Chains



<p>I have it can drink up to 20 gallons at once.</p> <p>Who has the reason why the camel's hump is an important adaptation?</p>	<p>I have sharp claws, beaks, and/or teeth.</p> <p>Who has the behavioral adaptations that help predators catch prey?</p>
<p>I have it stores fat that can be converted to water and energy.</p> <p>Who has the term for animals that hunt and eat other animals?</p>	<p>I have stealth and ambush techniques.</p> <p>Who has the term for animals that are hunted by predators?</p>
<p>I have predators.</p> <p>Who has the reason that the eyes of many predators point directly ahead?</p>	<p>I have prey.</p> <p>Who has one survival adaptation used by prey to hide from predators?</p>
<p>I have this gives them a good sense of distance.</p> <p>Who has an example of a physical adaptation that helps predators hunt?</p>	<p>I have camouflage.</p> <p>Who has adaptations that help prey animals detect predators?</p>



Adaptation and Food Chains



I have **acute hearing and a good sense of smell.**

Who has a group adaptation that helps prey animals avoid predators?

I have **migration.**

Who has the behavioral adaptation that helps squirrels survive winter months?

I have **crowding together.**

Who has a reason why adapting to seasons is important?

I have **storing food.**

Who has the term for different organisms living in one habitat?

I have **to avoid stress from changes in weather.**

Who has the behavioral adaptation that allows animals to sleep through cold weather?

I have **community.**

Who has the term for a community and its environment?

I have **hibernation.**

Who has the behavioral adaptation when animals move to warmer climates?

I have **ecosystem.**

Who has the order of what eats what in a community?



Adaptation and Food Chains



<p>I have food chain.</p> <p>Who has the original source of energy for all food chains?</p>	<p>I have herbivores.</p> <p>What do arrows show in a food chain in addition to order?</p>
<p>I have the sun.</p> <p>Who has the organisms in the food chain that convert sunlight to food?</p>	<p>I have the flow of energy.</p> <p>Who has the direction of energy flow in a food chain?</p>
<p>I have green plants.</p> <p>Who has the reason why plants in a food chain are called producers?</p>	<p>I have from producers to top consumers.</p> <p>Who has the term for many interconnected food chains?</p>
<p>I have they produce the food that begins a food chain.</p> <p>Who has the name for the organisms that consume plants?</p>	<p>I have food web.</p> <p>Who has the first card?</p>



Adaptation and Food Chains

Draw a line from word to word to complete the maze as your classmates read the clues.

FLOW OF ENERGY	HERBIVORES	STORING FOOD	MIGRATION
PRODUCERS TO TOP CONSUMERS	PRODUCE FOOD TO BEGIN FOOD CHAIN	COMMUNITY	HIBERNATION
FOOD WEB	GREEN PLANTS	ECOSYSTEM	AVOID STRESS FROM WEATHER CHANGES
FINISH	THE SUN	FOOD CHAIN	CROWDING TOGETHER
AVOID STRESS FROM WEATHER CHANGES	PREDATOR	CAMOUFLAGE	ACUTE HEARING AND A GOOD SENSE OF SMELL
WOODLANDS AND MEADOWS	ENVIRONMENT	PREY	STEALTH AND AMBUSH TECHNIQUES
HABITATS	ADAPTATIONS	GIVES THEM A GOOD SENSE OF DISTANCE	SHARP CLAWS, BEAKS, AND/OR TEETH
START	PHYSICAL ADAPTATIONS	PREDATORS	MIGRATION
FOOD CHAIN	ARCTIC	STORES FAT TO CONVERT TO ENERGY AND WATER	ADAPTATION
WHITE COAT	POLAR BEAR	CAN DRINK UP TO 20 GALLONS AT ONCE	CAMELS
THICK LAYER OF FAT AND THICK, WATERPROOF FUR	GLOBAL WARMING	PHYSICAL ADAPTATIONS	DESERT
PREY	MUSSELS	CLOSING THEIR SHELLS COMPLETELY	LARGE, POWERFUL FRONT PAWS AND A STREAMLINED SHAPE

Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ a way an animal's body helps it survive in its environment
- _____ animal with eyes pointing directly ahead to help it judge distance
- _____ adaptation of moving to warmer climates when it gets cold
- _____ term for what eats what in an ecosystem
- _____ animal hunted and caught by other animals
- _____ reason why adaptation to seasonal changes is important
- _____ adaptations that depend upon bodily features for survival



The Changing Earth



<p>I have the first card.</p> <p>Who has the approximate shape of the earth?</p>	<p>I have iron.</p> <p>Who has a benefit of the magnetic field for life on earth?</p>
<p>I have spherical.</p> <p>Who has the central section of the earth?</p>	<p>I have protection from harmful parts of solar radiation.</p> <p>Who has the area around the outer core?</p>
<p>I have solid inner core.</p> <p>Who has the area surrounding the inner core?</p>	<p>I have mantle.</p> <p>Who has the material that makes up the mantle?</p>
<p>I have outer core.</p> <p>Who has the component of the earth's core that is responsible for its magnetic field?</p>	<p>I have molten rock.</p> <p>Who has how pressure within the earth changes at different depths?</p>



The Changing Earth



I have **pressure increases toward the center.**

Who has the name of the earth's surface layer?

I have **large pieces of the crust move as they float on the mantle.**

Who has two types of tectonic plate?

I have **crust.**

Who has the land mass that broke apart to form today's continents?

I have **continental plates and oceanic plates.**

Who has the plate that makes up the deep ocean floor?

I have **Pangaea (from the Greek word meaning all-earth).**

Who has the name for the theory of Pangaea's change?

I have **abyssal plain.**

Who has the opening in the crust where ocean plates separate?

I have **the theory of plate tectonics.**

Who has the explanation of this theory?

I have **mid-oceanic ridge.**

Who has the deepest part of the ocean?



The Changing Earth



<p>I have ocean trench.</p> <p>Who has the edges that form the fringes of the continental plates?</p>	<p>I have seismic waves.</p> <p>Who has the natural disaster that results from slippage along a boundary?</p>
<p>I have continental slopes.</p> <p>Who has the point at which two or more plates meet?</p>	<p>I have earthquake.</p> <p>Who has the areas where slippage creates earthquakes?</p>
<p>I have plate boundary.</p> <p>Who has the movement of the earth's continents relative to each other?</p>	<p>I have faults.</p> <p>Who has three types of faults?</p>
<p>I have continental drift.</p> <p>Who has the waves that travel through the earth, mostly as a result of a tectonic earthquake?</p>	<p>I have normal, reverse, and strike slip.</p> <p>Who has the type of fault caused by horizontal shearing?</p>



The Changing Earth



I have **strike slip fault**.

Who has the type of fault caused when compression forces one block of rock on top of another?

I have **volcanic eruption**.

Who has volcanoes with gently sloping sides?

I have **reverse fault**.

Who has the layer of molten rock just beneath the continental plates?

I have **shield volcanoes**.

Who has cone-shaped volcanoes that are mainly composed of ash?

I have **asthenosphere**.

Who has the name for fluid, molten rock beneath the crust?

I have **composite volcanoes, or stratovolcanoes**.

Who has volcanoes that devastate on a large scale?

I have **magma**.

Who has the natural disaster caused by release of magma from below the surface?

I have **supervolcanoes**.

Who has the name of the horseshoe-shaped volcanic area surrounding the Pacific Ocean?



The Changing Earth



<p>I have the Pacific Ring of Fire.</p> <p>Who has the percent of the world's earthquakes that occur in the Ring of Fire?</p>	<p>I have adds nutrients, such as minerals, to the soil.</p> <p>Who has the portion of land surface that is permafrost?</p>
<p>I have 75 percent.</p> <p>Who has molten rock spewed from a volcano?</p>	<p>I have 1/5 of the earth's land.</p> <p>Who has the term for large, slow-moving masses of ice?</p>
<p>I have lava.</p> <p>Who has minerals that are mined from cooled lava?</p>	<p>I have glaciers.</p> <p>Who has the force that moves glaciers?</p>
<p>I have gold, silver, diamonds, copper, and zinc.</p> <p>Who has the result of volcanic activity on the soil?</p>	<p>I have gravity.</p> <p>Who has the first card?</p>



The Changing Earth

Draw a line from word to word to complete the maze as your classmates read the clues.

SPHERICAL	START	MOLTEN ROCK	PRESSURE INCREASES
SOLID INNER CORE	OUTER CORE	MANTLE	CRUST
SEISMIC WAVES	IRON	PROTECTION FROM HARMFUL PARTS OF SOLAR RADIATION	PANGAEA
OCEAN TRENCH	MID-OCEANIC RIDGE	ABYSSAL PLAIN	PLATE TECTONICS
CONTINENTAL SLOPES	MANTLE	CONTINENTAL PLATES AND OCEANIC PLATES	LARGE PIECES OF CRUST FLOAT ON THE MANTLE
PLATE BOUNDARY	EARTHQUAKE	FAULTS	OCEAN TRENCH
CONTINENTAL DRIFT	SEISMIC WAVES	NORMAL, REVERSE, AND STRIKE SLIP	STRIKE SLIP
COMPOSITE VOLCANO	SHIELD VOLCANO	VOLCANIC ERUPTION	REVERSE FAULT
SUPERVOLCANOES	PLATE TECTONICS	MAGMA	ASTHENOSPHERE
PACIFIC RING OF FIRE	GOLD, SILVER, DIAMONDS, COPPER, ZINC	ADDS NUTRIENTS TO SOILS	1/5 OF THE EARTH'S LAND
75 PERCENT	LAVA	GRAVITY	GLACIERS
ASTHENOSPHERE	ABYSSAL PLAIN	FINISH	CONTINENTAL DRIFT





Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ a broad section of oceanic plate that makes up the deep ocean floor
- _____ the scientific theory that the earth has moving plates
- _____ the deepest part of the ocean
- _____ the movement of the earth's continents relative to each other
- _____ the layer around the outer core of the earth
- _____ the layer of molten rock just beneath the continental plates
- _____ waves that travel through the earth



Weather



 <p>I have the first card.</p> <p>Who has the state of our atmosphere at any particular time and place?</p>	 <p>I have relative humidity.</p> <p>Who has what happens when relative humidity reaches 100 percent?</p>
 <p>I have weather.</p> <p>Who has the state of our atmosphere over a period of time at a particular place?</p>	 <p>I have water vapor condenses and forms clouds, fog, rain, or snow.</p> <p>Who has the effect on temperature when molecules move faster?</p>
 <p>I have climate.</p> <p>Who has the amount of water vapor in the air?</p>	 <p>I have temperature increases.</p> <p>Who has two common systems for measuring temperature?</p>
 <p>I have humidity.</p> <p>Who has the amount of water vapor in the air compared to the maximum possible amount?</p>	 <p>I have Fahrenheit and Celsius.</p> <p>Who has the part of the earth at which temperatures tend to be warmest?</p>



Weather



I have **equator**.

Who has the units used to measure temperature in most parts of the world?



I have **liquid expands**.

Who has the weight of the atmosphere pushing down on the earth?



I have **degrees on the Celsius scale**.

Who has the freezing point of water?



I have **atmospheric pressure**.

Who has the instrument used to measure atmospheric pressure?



I have **0° Celsius**.

Who has the boiling point of water?



I have **barometer**.

Who has the direction air tends to move in an area of high pressure?



I have **100° Celsius**.

Who has what happens to the liquid in a thermometer when temperature rises?



I have **air sinks**.

Who has the direction air tends to move in an area of low pressure?



Weather



<p>I have air rises.</p> <p>Who has the motion of air from high pressure areas to low pressure areas?</p>	<p>I have from west to east.</p> <p>Who has the source of energy for prevailing winds?</p>
<p>I have wind.</p> <p>Who has winds caused by temperature changes in a particular area?</p>	<p>I have the warming of the atmosphere and the oceans by the sun.</p> <p>Who has large circulating storms fed by energy from the ocean?</p>
<p>I have local winds.</p> <p>Who has global winds that blow steadily from the same direction?</p>	<p>I have hurricanes.</p> <p>Who has two other names for tropical hurricanes?</p>
<p>I have prevailing winds.</p> <p>Who has the direction of the prevailing winds in the northern part of the United States?</p>	<p>I have typhoons and tropical cyclones.</p> <p>Who has the large body of air that has the same characteristics throughout?</p>



Weather



I have **air mass**.

Who has the two characteristics used to classify an air mass?



I have **gusty winds**.

Who has the kind of temperature change during a cold front?



I have **temperature and humidity**.

Who has what forms when two air masses meet?



I have **sudden drop in temperature**.

Who has the kind of air pressure changes during a cold front?



I have **front**.

Who has what usually occurs when a front passes an area?



I have **it dips and then rises sharply**.

Who has the change in weather when a high pressure air mass forms?



I have **change in the weather**.

Who has the type of winds experienced at a cold front?



I have **weather will get cooler and drier**.

Who has a strong storm that produces a great deal of rain, thunder, and lightning?



Weather



<p>I have thunderstorm.</p> <p>Who has the cause of thunder during a thunderstorm?</p>	<p>I have cool, dry air that moves east on top of warm, moist air.</p> <p>Who has the nickname for the area of the United States in which most tornadoes occur?</p>
<p>I have lightning.</p> <p>Who has the speed at which a tropical storm becomes a hurricane?</p>	<p>I have Tornado Alley.</p> <p>Who has states that are a part of Tornado Alley?</p>
<p>I have 74 mph.</p> <p>Who has a spinning column of air that creates some of the fastest winds on earth?</p>	<p>I have Oklahoma, Arkansas, and Kansas.</p> <p>Who has the term for the climate of a very small area?</p>
<p>I have tornado.</p> <p>Who has the conditions that cause a tornado to form?</p>	<p>I have microclimate.</p> <p>Who has the first card?</p>



Weather

Draw a line from word to word to complete the maze as your classmates read the clues.

HURRICANE	COOL, DRY AIR MOVES EAST ON TOP OF WARM, MOIST AIR	TORNADO	74 MPH
FINISH	TORNADO ALLEY	THUNDERSTORM	LIGHTNING
MICROCLIMATE	OKLAHOMA, ARKANSAS, AND KANSAS	WEATHER WILL GET COOLER AND DRIER	DIPS THEN RISES SHARPLY
RELATIVE HUMIDITY	TEMPERATURE AND HUMIDITY	FRONT	SUDDEN DROP IN TEMPERATURE
TYPHOON AND TROPICAL CYCLONE	AIR MASS	A CHANGE IN THE WEATHER	GUSTY WINDS
HURRICANES	WARMING OF ATMOSPHERE AND OCEANS BY THE SUN	TEMPERATURE	AIR SINKS
PREVAILING WINDS	FROM WEST TO EAST	PREVAILING WINDS	LOCAL WINDS
BAROMETER	AIR SINKS	AIR RISES	WIND
ATMOSPHERIC PRESSURE	TEMPERATURE INCREASES	WATER VAPOR CONDENSES	ATMOSPHERIC PRESSURE
LIQUID EXPANDS	FAHRENHEIT AND CELSIUS	RELATIVE HUMIDITY	HUMIDITY
100° CELSIUS	EQUATOR	FRONT	CLIMATE
0° CELSIUS	DEGREES ON THE CELSIUS SCALE	START	WEATHER

Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ the amount of water in the air compared to how much it can hold at that temperature
- _____ the measure of heat or how fast molecules move
- _____ the weight of the atmosphere pressing down on the earth
- _____ global winds that blow constantly from the same direction
- _____ what forms when two air masses meet
- _____ a tropical storm that developed over water and reached wind speeds of 74 mph or more
- _____ what happens to air within an area of high pressure



The Solar System



I have the **first card**.

Who has the star in our solar system?

I have **sunspots**.

Who has how sunspots demonstrate that the sun rotates?

I have **the sun**.

Who has the main elements in the sun?

I have **sunspots move across the face of the sun**.

Who has bursts of energy produced in the same area as sunspots?

I have **hydrogen and helium**.

Who has the layer of the sun that we see?

I have **solar flares**.

Who has the very hot layer of the sun just beneath its surface?

I have **photosphere**.

Who has the term for areas on the surface of the sun that appear to be dark?

I have **corona**.

Who has the part of the sun that contains most of its mass?



The Solar System



I have **core**.

Who has the layer of the sun in which cooler particles are pulled down by gravity?

I have **gravity**.

Who has the mass of rotating gases that generates heat due to the pressure of gravity?

I have **convection zone**.

Who has the name for the series of changes in size and temperature of stars over a very long period of time?

I have **protostar**.

Who has the process that generates energy in the core of a star?

I have **life cycle of a star**.

Who has how stars begin?

I have **nuclear fusion**.

Who has what hydrogen converts to during the process of nuclear fusion?

I have **as clouds of gas and dust in space**.

Who has the force that slowly pulls these clouds together into clumps?

I have **helium and energy**.

Who has the temperature of the sun's core where fusion occurs?



The Solar System



I have **15 million degrees**.

Who has the form in which energy from the sun travels?

I have **orbits**.

Who has the effect on a planet's orbiting speed when it is closer to the sun?

I have **in waves**.

Who has a huge collection of stars held together by gravity?

I have **planets closer to the sun orbit faster**.

Who has the small rocky objects between Mars and Jupiter that orbit the sun?

I have **galaxy**.

Who has large spherical objects that move around a sun ?

I have **asteroids**.

Who has small orbiting objects made out of dust, ice, and gases?

I have **planets**.

Who has the paths the planets make around the sun?

I have **comets**.

Who has the object that revolves around the earth?



The Solar System



I have **moon**.

Who has the composition
of the moon?

I have **Earth**.

Who has the imaginary line on
which the earth turns?

I have **igneous rock**.

Who has a comparison of the moon's
density to the earth's density?

I have **axis**.

Who has the phenomenon caused
by the earth rotating on its axis?

I have **the moon is less dense
than the earth**.

Who has the term for small
objects that orbit around a much
larger object?

I have **alternating day and night**.

Who has the weather shifts created
from the tilt of the earth's axis?

I have **satellites**.

Who has an example of a natural
satellite of the sun?

I have **seasons**.

Who has the length of a full day
and night on the moon?



The Solar System



<p>I have 27.3 earth days.</p> <p>Who has the term for small objects sent into space to orbit around the earth?</p>	<p>I have satellite dishes for radio, television, and telephone systems.</p> <p>Who has the location of infrared satellites used to study distant space?</p>
<p>I have artificial satellites.</p> <p>Who has the type of information collected by weather satellites?</p>	<p>I have above Earth's atmosphere.</p> <p>Who has the reason infrared satellites must be above the atmosphere?</p>
<p>I have information about the movement of clouds and air masses.</p> <p>Who has the purpose of weather satellites?</p>	<p>I have to eliminate interference from water vapor in the atmosphere.</p> <p>Who has the world's first reusable spacecraft?</p>
<p>I have to predict the weather.</p> <p>Who has examples of devices that receive information from communications satellites?</p>	<p>I have space shuttle.</p> <p>Who has the first card?</p>



The Solar System

Draw a line from word to word to complete the maze as your classmates read the clues.

SEASONS	27.3 EARTH DAYS	IN WAVES	PHOTOSPHERE
ALTERNATING DAY AND NIGHT	ARTIFICIAL SATELLITES	RADIO, TELEVISION, AND TELEPHONE	ABOVE EARTH'S ATMOSPHERE
AXIS	MOVEMENT OF CLOUDS AND AIR MASSES	PREDICT THE WEATHER	TO ELIMINATE INTERFERENCE FROM WATER VAPOR
EARTH	SATELLITES	MOON IS LESS DENSE THAN EARTH	SPACE SHUTTLE
HYDROGEN AND HELIUM	NUCLEAR FUSION	IGNEOUS ROCK	FINISH
15 MILLION DEGREES	IN WAVES	MOON	COMETS
HELIUM AND ENERGY	GALAXY	ABOVE EARTH'S ATMOSPHERE	ASTEROIDS
NUCLEAR FUSION	PLANETS	ORBITS	PLANETS CLOSER TO THE SUN ORBIT FASTER
PROTOSTAR	SEASONS	SUNSPOTS MOVE ACROSS THE SUN	SUNSPOTS
GRAVITY	CORONA	SOLAR FLARES	PHOTOSPHERE
CLOUDS OF GAS AND DUST	CORE	SATELLITE	HYDROGEN AND HELIUM
LIFE CYCLE OF A STAR	CONVECTION ZONE	START	THE SUN








Look at the words you did **not** use in the maze above. Write one of those words for each definition.

- _____ the main elements of the sun
- _____ the process that generates energy in the core of the star
- _____ a small object that is in orbit around a much larger object
- _____ what is caused on Earth due to the tilt of the axis
- _____ the location of artificial satellites
- _____ the form in which energy from the sun travels
- _____ the layer of the sun that we see



Important Life Science Terms



 <p>I have the first card.</p> <p>Who has the blood vessels that carry food and oxygen to the body's cells?</p>	 <p>I have organisms.</p> <p>Who has the place where an organism lives?</p>
 <p>I have arteries.</p> <p>Who has animals with backbones?</p>	 <p>I have habitat.</p> <p>Who has animals that only eat other animals?</p>
 <p>I have vertebrates.</p> <p>Who has the main producers in most ecosystems?</p>	 <p>I have carnivores.</p> <p>Who has the tiny parts that make up all living things?</p>
 <p>I have plants.</p> <p>Who has the term that refers to all living things?</p>	 <p>I have cells.</p> <p>Who has the process that plants use to make food?</p>



Important Life Science Terms



I have **photosynthesis**.

Who has the term for the grouping of organisms based on their similarities?



I have **cellular respiration**.

Who has the term for differences in living things?



I have **classification**.

Who has animals that hunt prey?



I have **variations**.

Who has the blood vessels that take blood back to the heart?



I have **predators**.

Who has organisms in the food chain that can make their own food?



I have **veins**.

Who has the term that means an organism is suited to the environment in which it lives?



I have **producers**.

Who has the term for using oxygen to turn food into energy?



I have **adapted**.

Who has the term for flowering plants?



Important Life Science Terms



<p>I have angiosperms.</p> <p>Who has the smallest blood vessels?</p>	<p>I have symbiosis.</p> <p>Who has the most specific group in the classification system of living things?</p>
<p>I have capillaries.</p> <p>Who has the thin covering that encloses a cell?</p>	<p>I have species.</p> <p>Who has the female part of the flower?</p>
<p>I have cell membrane.</p> <p>Who has cells that work together to perform a specific function?</p>	<p>I have pistil.</p> <p>Who has natural behaviors that an animal has at birth?</p>
<p>I have tissue.</p> <p>Who has the name for the relationship between organisms in which each organism benefits?</p>	<p>I have instincts.</p> <p>Who has the term for artificially combining parts of different plants?</p>



Important Life Science Terms



I have **grafting**.

Who has the consumers that break down the tissues of dead organisms?



I have **organ**.

Who has plants that produce cones?



I have **decomposers**.

Who has the jelly-like substance that fills the cell?



I have **conifers**.

Who has the term for a community of organisms together with their habitat?



I have **cytoplasm**.

Who has the compound that helps plants use light energy to produce glucose?



I have **ecosystem**.

Who has the part of a plant or animal cell that controls the activities of the cell?



I have **chlorophyll**.

Who has two or more tissues working together?











I have **nucleus**.

Who has the system of the body that includes the heart and blood vessels?



Important Life Science Terms



 <p>I have circulatory system.</p> <p>Who has the process by which many materials move in and out of cells?</p>	 <p>I have ligaments.</p> <p>Who has the group of animals that have moist skin, no scales, and need water to breed?</p>
 <p>I have diffusion.</p> <p>Who has the human organ that removes impurities from blood for disposal?</p>	 <p>I have amphibians.</p> <p>Who has a single reproductive cell that turns into a new plant?</p>
 <p>I have kidneys.</p> <p>Who has the name for plants without tubes for transporting food and water?</p>	 <p>I have a spore.</p> <p>Who has the chemical that carries information from one generation to the next?</p>
 <p>I have nonvascular.</p> <p>Who has the bands of connective tissue that hold a skeleton together?</p>	 <p>I have DNA.</p> <p>Who has the first card?</p>



Important Physical Science Terms



I have the **first card**.

Who has the term for air pushing back against you when you move through it?

I have **friction**.

Who has what is generated by friction?

I have **air resistance**.

Who has the term for the flow of electrons in a circuit?

I have **heat**.

Who has the force that pulls us toward the center of the earth?

I have **electric current**.

Who has a push or pull?

I have **gravity**.

Who has the materials that don't allow heat to pass through?

I have **force**.

Who has the force between things that are touching?

I have **insulators**.

Who has what opens and closes a circuit to turn the current off and on?



Important Physical Science Terms



<p>I have switch.</p> <p>Who has the way something moves to produce a sound?</p>	<p>I have electromagnet.</p> <p>Who has the nonrenewable fuels formed from the remains of dead organisms?</p>
<p>I have vibration.</p> <p>Who has the center of an atom?</p>	<p>I have fossil fuels.</p> <p>Who has the type of energy that originates from heat inside the earth?</p>
<p>I have nucleus.</p> <p>Who has the energy an object has because of its location or condition?</p>	<p>I have geothermal energy.</p> <p>Who has the type of circuits connected by independent loops?</p>
<p>I have potential energy.</p> <p>Who has a magnet made by passing an electric current through a coiled wire?</p>	<p>I have parallel circuits.</p> <p>Who has the instrument used to measure electric current?</p>



Important Physical Science Terms



I have **ammeter**.

Who has the substances that generally make the best conductors of energy?

I have **straight line**.

Who has the term for force applied over an area?

I have **metals**.

Who has the energy of an object's motion?

I have **pressure**.

Who has the space affected by a magnet?

I have **kinetic energy**.

Who has the result of light hitting a plane surface and having the direction of movement changed?

I have **magnetic field**.

Who has the energy contained in food or fuel?

I have **reflection**.

Who has the type of path that light follows?

I have **chemical energy**.

Who has the process of a gas changing into a liquid?



Important Physical Science Terms



<p>I have condensation.</p> <p>Who has the subatomic particle with the positive charge?</p>	<p>I have molecule.</p> <p>Who has the transfer of heat due to the mixing of a liquid or a gas?</p>
<p>I have proton.</p> <p>Who has the table of elements grouped by their properties?</p>	<p>I have convection.</p> <p>Who has the transfer of thermal energy by electromagnetic waves?</p>
<p>I have the Periodic Table of Elements.</p> <p>Who has the first element in the Periodic Table?</p>	<p>I have radiation.</p> <p>Who has materials that resist the flow of electrons?</p>
<p>I have hydrogen.</p> <p>Who has two or more atoms joined together?</p>	<p>I have resistors.</p> <p>Who has the chemical property of being able to burn?</p>



Important Physical Science Terms



I have **combustibility**.

Who has subatomic particles with a negative charge?

I have **series circuit**.

Who has the transfer of heat from a region of higher temperature to a region of lower temperature?

I have **electrons**.

Who has substances made up of two or more different elements?

I have **conduction**.

Who has the resources that may one day run out?

I have **compounds**.

Who has the state of matter in which particles have the least attraction to one another?

I have **nonrenewable resources**.

Who has a renewable resource made from plant and animal products?

I have **gaseous state**.

Who has the type of circuit in which everything is connected together in one loop?

I have **biomass**.

Who has the first card?



Important Earth Science Terms



<p>I have the first card.</p> <p>Who has the term for the large pieces of the earth's crust?</p>	<p>I have fuels.</p> <p>Who has the name of the scientific theory that supports the past existence of Pangaea?</p>
<p>I have tectonic plates.</p> <p>Who has the location of 75% of the world's volcanoes?</p>	<p>I have theory of plate tectonics.</p> <p>Who has the winds that result from changes in temperature in a particular area?</p>
<p>I have Ring of Fire.</p> <p>Who has the type of rocks that are grainy, crumbly, and may contain fossils?</p>	<p>I have local winds.</p> <p>Who has the fluid from the earth's mantle that comes to the surface in a volcano?</p>
<p>I have sedimentary rocks.</p> <p>Who has the substances that release useful amounts of energy when they burn?</p>	<p>I have magma.</p> <p>Who has the type of rock formed by cooled magma?</p>



Important Earth Science Terms



I have **igneous rock**.

Who has the type of rock that forms when pressure is applied to igneous rock?



I have **mid-oceanic ridge**.

Who has the cause of earthquakes and volcanoes?



I have **metamorphic rock**.

Who has the spinning of the earth on its axis?



I have **tectonic plate movement**.

Who has a giant wave caused by an underwater earthquake?



I have **rotation**.

Who has the instrument used to magnify distant objects so they appear closer?



I have **tsunami**.

Who has a brief burst of energy from the sun's photosphere?



I have **telescope**.

Who has an underwater mountain range that forms where two tectonic plates are separating?



I have **solar flare**.

Who has a small mass of dust and ice that orbits the sun in a long, elliptical path?



Important Earth Science Terms



I have **comet**.

Who has the law that states that all objects in the universe are attracted to all other objects?



I have **corona**.

Who has the term that means to travel in a closed path around an object?



I have **law of universal gravitation**.

Who has the term for a part of an organism preserved in rock?



I have **revolve**.

Who has the process by which gases, such as carbon dioxide and water vapor, trap heat in the earth's atmosphere?



I have **fossil**.

Who has the type of mountains that form when the forces inside the earth push horizontal rock layers together?



I have **Greenhouse Effect**.

Who has the deep valleys of the ocean floor?



I have **folded mountains**.

Who has the very hot layer beneath the sun's surface?



I have **trenches**.

Who has the underground point of origin of an earthquake?



Important Earth Science Terms



I have **focus**.

Who has the area on the surface directly above the focus?



I have **satellite**.

Who has the global winds that blow steadily from the same direction?



I have **epicenter**.

Who has a map of weather conditions at a particular time, including fronts and centers of high or low pressure?



I have **prevailing winds**.

Who has the boundary where two air masses meet?



I have **surface map**.

Who has the passing of one object through the shadow of another object?



I have **front**.

Who has the instrument that measures the intensity of an earthquake?



I have **eclipse**.

Who has an object that orbits around a planet?



I have **seismograph**.

Who has the amount of water vapor in the air compared with the maximum possible amount?



Important Earth Science Terms



I have **relative humidity**.

Who has the term for any form of water that falls from the clouds?



I have **deposition**.

Who has a break in the lithosphere where pieces of the earth's crust move?



I have **precipitation**.

Who has a brown haze in the atmosphere created from burning fossil fuels?



I have **fault**.

Who has the way the surface of a mineral reflects light?



I have **smog**.

Who has a stream of water that flows like a river through the ocean?



I have **luster**.

Who has the process of breaking rock into soil, sand, and other tiny materials?



I have **current**.

Who has the process of dropping sediment in a new location?



I have **weathering**.

Who has the first card?

Answer Key

Matter –Properties and Changes (Page 11)

START	SOLID, LIQUID, GAS	LIQUID STATE	STRONG
DIFFUSION	SOLID STATE	GASEOUS STATE	WEAK
ADDING HEAT	LIQUIDS TAKE CONTAINER SHAPE	MASS	HEATED PARTICLES GAIN MORE ENERGY
ATOMS SLOW DOWN	SOLID CAN CHANGE DIRECTLY INTO A GAS	TEMPERATURE	VIBRATE FASTER
BOILING	CHEMICAL CHANGE	MASS	BALANCE
PARTICLES HITTING A SURFACE	SMELLING SPRAYED PERFUME	GASES OR LIQUIDS MIX	NO EFFECT
REDUCE THE VOLUME	DIFFUSION	COMBUSTIBILITY	DENSITY
REACTIVITY	PHYSICAL CHANGE	SALT	CHEMICAL CHANGE
CARVING IT INTO A BAT	CUTTING IT WITH SCISSORS	WATER	REACTIVITY
ADDING OR REMOVING HEAT	DENSITY	RUST	COMBUSTIBILITY
PAPER, BREAD, AIR	OCEAN WATER AND HOT COCOA	CARBON DIOXIDE	IRON
PHYSICAL CHANGE	FINISH	CHANGE IN COLOR	GASES

1. diffusion
2. mass
3. density
4. chemical change
5. combustibility
6. physical change
7. reactivity

Forms of Energy (Page 23)

ENERGY	START	ELECTRICAL ENERGY	BATTERIES AND GENERATORS
LIGHT ENERGY	VOCAL CHORDS AND SPEAKERS	SOLID MATERIAL	THERMAL ENERGY
STARS AND CANDLES	SOUND ENERGY	TRANSFORMATION	BURNING COAL
CLIMBING HIGHER UP A MOUNTAIN	APPLE FALLING FROM A TREE	INSULATOR	KINETIC ENERGY
CHEMICAL ENERGY	GRAVITATIONAL ENERGY	POTENTIAL ENERGY	A ROLLING BALL AND A MOVING CAR
CRUSHING A CAN	SOLID MATERIAL	FLASHLIGHT	THE SUN
STRETCHED SPRINGS AND RUBBER BANDS	FIRE	WIND TURBINE	CONDUCTION, CONVECTION, RADIATION
TRANSFORMATION	SOLAR-POWERED CALCULATOR	RADIATION	CONDUCTION
GROWING PLANTS	MICROPHONE	CHEMICAL ENERGY	CONDUCTORS
FINISH	RESISTORS	ELECTRIC CURRENT	METALS
KINETIC ENERGY	ENERGY CANNOT BE CREATED NOR DESTROYED, ONLY CHANGED	VACUUM	INSULATORS
MECHANICAL ENERGY	RADIATION	CONVECTION	CORK

1. solid material
2. kinetic energy
3. chemical energy
4. mechanical energy
5. transformation
6. insulator
7. radiation

Atoms, Molecules, and Elements (Page 17)

TWO	HELIUM HAS TWO PROTONS	ATOM	MOLECULE
NUMBER OF PROTONS	AU	HE	SALT
ATOMIC NUMBER	AG	FE	WATER
NOBLE GASES	CARBON	NOT SHINY	COMPOUND
ALKALI METALS	GROUP	NONMETALS	PASSING ELECTRIC CURRENT THROUGH THEM
COMPOUND	PROTON	IRON	CHEMICAL BOND
SMALLEST TO LARGEST NUMBER OF PROTONS	HYDROGEN	GOOD CONDUCTORS OF HEAT	CHEMICAL REACTION
PERIODIC TABLE OF ELEMENTS	METALS	MERCURY	MIXTURES
MOLECULE	ELECTRONS AND PROTONS	NEUTRONS	SEA WATER AND AIR
HYDROGEN	CONDUCT HEAT AND ELECTRICITY	ELECTRONS	FILTERING AND DISTILLING
ELEMENTS	IRON, COPPER, HELIUM	PROTONS	FINISH
START	ATOMS	NUCLEUS	MIXTURES

1. atom
2. proton
3. molecule
4. hydrogen
5. conduct heat and electricity
6. compound
7. mixtures

Renewable and Nonrenewable Resources (Page 29)

CARBON AND HYDROGEN	BIOMASS	GEOTHERMAL ENERGY	FOSSIL FUELS
FINISH	GROUNDWATER	AIR POLLUTION	LAND POLLUTION
DISPOSING OF TOXIC SUBSTANCES PROPERLY	EATING CONTAMINATED FISH	NONRENEWABLE RESOURCES	DAMAGE TO PLANTS AND HABITATS
FOSSIL FUELS	COAL, OIL, NATURAL GAS	COAL	ACID RAIN
NONRENEWABLE RESOURCES	PRODUCING ENERGY	NATURAL GAS	POLLUTION
START	NATURAL RESOURCES	PETROLEUM	PEAT, LIGNITE, BITUMEN, ANTHRACITE
WIND	NATURAL GAS	MINING AND DRILLING	REDUCE, REUSE, RECYCLE
GASOLINE, PESTICIDES, AND PLASTICS	OIL	CARBON AND HYDROGEN	CONSERVATION
CHEMICAL POLLUTANTS	REFINING	BURNING WOOD	BIOMASS
GREENHOUSE EFFECT	GASES, SUCH AS CARBON DIOXIDE AND WATER VAPOR	PLANTING TREES AND USING LESS GAS	HYDROGEN
SOLAR ENERGY	RENEWABLE RESOURCES	ABSORB CARBON DIOXIDE AND RELEASE OXYGEN	GEOTHERMAL ENERGY
WIND	WIND TURBINE	HYDROELECTRIC POWER	WATER TURNS TURBINES

1. nonrenewable
2. fossil fuels
3. natural gas
4. carbon and hydrogen
5. wind
6. geothermal energy
7. biomass

Electricity and Magnetism (Page 35)

FINISH	GENERATOR	ALTERNATING CURRENT	DIRECT CURRENT
AMMETER	ELECTRIC CURRENT	INSULATED WIRE	SHORT CIRCUIT
THEY REPEL EACH OTHER	COMPASS	DOORBELL AND METAL DETECTOR	INSERT A SOFT IRON CORE
REPEL OR ATTRACT	ELECTROMAGNET	INCREASE THE NUMBER OF TURNS ON THE COIL	INCREASES THE STRENGTH OF THE MAGNETIC FIELD
POLE	VOLT	BULB GETS BRIGHTER	RESISTANCE
MAGNETIC FIELD	CURRENT INCREASES	AMMETER	AMP
HEADLIGHTS	OPEN	KEEP LIGHTS ON IF ONE BURNS OUT	SERIES CIRCUIT
PARALLEL CIRCUIT	CURRENT IS THE SAME EVERYWHERE	SWITCH	ELECTRICAL RESISTANCE
PARALLEL CIRCUIT	SERIES	CURRENT FLOWS	BULB
INSULATED WIRE	SERIES AND PARALLEL	WIRES	NEGATIVE
START	CIRCUIT	ELECTRIC CURRENT	CELL
ELECTROMAGNET	MAGNETIC FIELD	CURRENT WON'T FLOW	CELL, BATTERY OR POWER SUPPLY

1. electric current
2. series circuit
3. parallel circuit
4. ammeter
5. magnetic field
6. electromagnet
7. insulated wire

From Plant Cells to Plants (Page 47)

GLUCOSE	START	NUCLEUS	CYTOPLASM
FINISH	PHOTOSYNTHESIS SPEEDS UP	TRANSPIRATION	CELL MEMBRANE
MOSS	PHOTOSYNTHESIS SLOWS DOWN	PINE TREE	CELL WALL
CHLOROPLAST	ANGIOSPERM	GYMNOSPERM	VACUOLE
VACUOLE	PHLOEM	CELLULAR RESPIRATION	PHOTOSYNTHESIS
XYLEM	WOODY PART OF A PLANT	WATER AND CARBON DIOXIDE	CHLOROPLAST
VASCULAR TISSUE	SPORE	NUCLEUS, CYTOPLASM, CELL MEMBRANE	WATER
GERMINATION	SEEDLING	XYLEM	GLUCOSE
EMBRYO	ANGIOSPERM	CARBON DIOXIDE	GUARD CELLS
POLLINATION	EPIDERMIS	OXYGEN	SPORE
FERTILIZATION	CELLULAR RESPIRATION	OXYGEN AND GLUCOSE	PISTIL
TO PRODUCE POLLEN	STAMEN	STIGMA	OVARY

1. vacuole
2. chloroplast
3. glucose
4. cellular respiration
5. spore
6. xylem
7. angiosperm

From Animal Cells to Body Systems (Page 41)

ENDOCRINE SYSTEM	CIRCULATORY SYSTEM	ARTERIES, VEINS, AND CAPILLARIES	VEINS
RESPIRATORY SYSTEM	OXYGEN	CAPILLARIES	ARTERIES
VILLI	TISSUE	NERVOUS SYSTEM	BRAIN, SPINAL CORD, NERVES
SMALL INTESTINE	SYSTEMS	ORGANS	SEND MESSAGES TO AND FROM THE BRAIN
STOMACH	DIGESTIVE SYSTEM	TISSUES	CEREBRUM
START	CELLS	CYTOPLASM	SKELETAL SYSTEM
CAPILLARIES	CELL MEMBRANE	NUCLEUS	206
EXCRETORY SYSTEM	REPRODUCTIVE SYSTEM	KIDNEYS	EARS
KIDNEYS	PITUITARY GLAND	ENDOCRINE SYSTEM	BONES, LIGAMENTS, TENDONS
IMMUNE SYSTEM	IMMUNE SYSTEM	INVOLUNTARY MUSCLES	LIGAMENTS
WHITE BLOOD CELLS	ATTACKS ABNORMAL CELLS	VOLUNTARY MUSCLES	MUSCULAR SYSTEM
SMALL INTESTINE	WATER	FINISH	CELL MEMBRANE

1. cell membrane
2. tissue
3. small intestine
4. capillaries
5. endocrine system
6. kidneys
7. immune system

Classification of Plants and Animals (Page 53)

FERNS	ALGAE, LIVERWORTS, MOSSES	SEEDS PRODUCED IN CONES AND SEEDS PRODUCED FROM FLOWERS	CONIFERS
VASCULAR PLANTS WITH SPORES AND VASCULAR PLANTS WITH SEEDS	SPECIES	PROTISTS	FINISH
NONVASCULAR PLANTS	FISH, AMPHIBIANS, REPTILES, BIRDS, MAMMALS	VERTEBRATES	VERTEBRATES AND INVERTEBRATES
VASCULAR PLANTS	MAMMALS	CONIFERS	SPECIES
SEEDS	REPTILES	PROKARYOTES	BACTERIA
SPORES	FISH	PROTISTS	START
PLANT KINGDOM	BIRDS	MUSHROOMS AND MOLD	CLASSIFICATION
BEEES AND BEETLES	AMPHIBIANS	FUNGI	KINGDOMS
INSECTS	INVERTEBRATES	ANNELIDS, MOLLUSKS, ARTHROPODS	ARACHNIDS
SPIDERS AND SCORPIONS	ARACHNIDS	MOLLUSKS	SNAILS AND MUSSELS
ANNELIDS	WOODLICE AND LOBSTERS	EARTHWORMS AND LEECHES	ANNELIDS
MOLLUSKS	CRUSTACEANS	ARTHROPODS	FUNGI

1. protists
2. species
3. mollusks
4. arachnids
5. conifers
6. annelids
7. fungi

Adaptation and Food Chains (Page 59)

FLOW OF ENERGY	HERBIVORES	STORING FOOD	MIGRATION
PRODUCERS TO TOP CONSUMERS	PRODUCE FOOD TO BEGIN FOOD CHAIN	COMMUNITY	HIBERNATION
FOOD WEB	GREEN PLANTS	ECOSYSTEM	AVOID STRESS FROM WEATHER CHANGES
FINISH	THE SUN	FOOD CHAIN	CROWDING TOGETHER
AVOID STRESS FROM WEATHER CHANGES	PREDATOR	CAMOUFLAGE	ACUTE HEARING AND A GOOD SENSE OF SMELL
WOODLANDS AND MEADOWS	ENVIRONMENT	PREY	STEALTH AND AMBUSH TECHNIQUES
HABITATS	ADAPTATIONS	GIVES THEM A GOOD SENSE OF DISTANCE	SHARP CLAWS, BEAKS, AND/OR TEETH
START	PHYSICAL ADAPTATIONS	PREDATORS	MIGRATION
FOOD CHAIN	ARCTIC	STORES FAT TO CONVERT TO ENERGY AND WATER	ADAPTATION
WHITE COAT	POLAR BEAR	CAN DRINK UP TO 20 GALLONS AT ONCE	CAMELS
THICK LAYER OF FAT AND THICK, WATERPROOF FUR	GLOBAL WARMING	PHYSICAL ADAPTATIONS	DESERT
PREY	MUSSELS	CLOSING THEIR SHELLS COMPLETELY	LARGE, POWERFUL FRONT PAWS AND A STREAMLINED SHAPE

1. adaptation
2. predator
3. migration
4. food chain
5. prey
6. avoid stress from weather changes
7. physical adaptations

Weather (Page 71)

HURRICANE	COOL, DRY AIR MOVES EAST ON TOP OF WARM, MOIST AIR	TORNADO	74 MPH
FINISH	TORNADO ALLEY	THUNDERSTORM	LIGHTNING
MICROCLIMATE	OKLAHOMA, ARKANSAS, AND KANSAS	WEATHER WILL GET COOLER AND DRIER	DIPS THEN RISES SHARPLY
RELATIVE HUMIDITY	TEMPERATURE AND HUMIDITY	FRONT	SUDDEN DROP IN TEMPERATURE
TYPHOON AND TROPICAL CYCLONE	AIR MASS	A CHANGE IN THE WEATHER	GUSTY WINDS
HURRICANES	WARMING OF ATMOSPHERE AND OCEANS BY THE SUN	TEMPERATURE	AIR SINKS
PREVAILING WINDS	FROM WEST TO EAST	PREVAILING WINDS	LOCAL WINDS
BAROMETER	AIR SINKS	AIR RISES	WIND
ATMOSPHERIC PRESSURE	TEMPERATURE INCREASES	WATER VAPOR CONDENSES	ATMOSPHERIC PRESSURE
LIQUID EXPANDS	FAHRENHEIT AND CELSIUS	RELATIVE HUMIDITY	HUMIDITY
100° CELSIUS	EQUATOR	FRONT	CLIMATE
0° CELSIUS	DEGREES ON THE CELSIUS SCALE	START	WEATHER

1. relative humidity
2. temperature
3. atmospheric pressure
4. prevailing winds
5. front
6. hurricane
7. air sinks

The Changing Earth (Page 65)

SPHERICAL	START	MOLTEN ROCK	PRESSURE INCREASES
SOLID INNER CORE	OUTER CORE	MANTLE	CRUST
SEISMIC WAVES	IRON	PROTECTION FROM HARMFUL PARTS OF SOLAR RADIATION	PANGAEA
OCEAN TRENCH	MID-OCEANIC RIDGE	ABYSSAL PLAIN	PLATE TECTONICS
CONTINENTAL SLOPES	MANTLE	CONTINENTAL PLATES AND OCEANIC PLATES	LARGE PIECES OF CRUST FLOAT ON THE MANTLE
PLATE BOUNDARY	EARTHQUAKE	FAULTS	OCEAN TRENCH
CONTINENTAL DRIFT	SEISMIC WAVES	NORMAL, REVERSE, AND STRIKE SLIP	STRIKE SLIP
COMPOSITE VOLCANO	SHIELD VOLCANO	VOLCANIC ERUPTION	REVERSE FAULT
SUPERVOLCANOES	PLATE TECTONICS	MAGMA	ASTHENOSPHERE
PACIFIC RING OF FIRE	GOLD, SILVER, DIAMONDS, COPPER, ZINC	ADDS NUTRIENTS TO SOILS	1/2 OF THE EARTH'S LAND
75 PERCENT	LAVA	GRAVITY	GLACIERS
ASTHENOSPHERE	ABYSSAL PLAIN	FINISH	CONTINENTAL DRIFT

1. abyssal plain
2. plate tectonics
3. ocean trench
4. continental drift
5. mantle
6. asthenosphere
7. seismic waves

The Solar System (Page 77)

SEASONS	27.3 EARTH DAYS	IN WAVES	PHOTOSPHERE
ALTERNATING DAY AND NIGHT	ARTIFICIAL SATELLITES	RADIO, TELEVISION, AND TELEPHONE	ABOVE EARTH'S ATMOSPHERE
AXIS	MOVEMENT OF CLOUDS AND AIR MASSES	PREDICT THE WEATHER	TO ELIMINATE INTERFERENCE FROM WATER VAPOR
EARTH	SATELLITES	MOON IS LESS DENSE THAN EARTH	SPACE SHUTTLE
HYDROGEN AND HELIUM	NUCLEAR FUSION	IGNEOUS ROCK	FINISH
15 MILLION DEGREES	IN WAVES	MOON	COMETS
HELIUM AND ENERGY	GALAXY	ABOVE EARTH'S ATMOSPHERE	ASTEROIDS
NUCLEAR FUSION	PLANETS	ORBITS	PLANETS CLOSER TO THE SUN ORBIT FASTER
PROTOSTAR	SEASONS	SUNSPOTS MOVE ACROSS THE SUN	SUNSPOTS
GRAVITY	CORONA	SOLAR FLARES	PHOTOSPHERE
CLOUDS OF GAS AND DUST	CORE	SATELLITE	HYDROGEN AND HELIUM
LIFE CYCLE OF A STAR	CONVECTION ZONE	START	THE SUN

1. hydrogen and helium
2. nuclear fusion
3. satellite
4. seasons
5. above Earth's atmosphere
6. in waves
7. photosphere

[illegible]