HOME HELP MODIFY PRINT QUIT

TO GO TO ANY OF THE PAGES LISTED BELOW, CLICK ON ITS TITLE

ENGLISH AND SPANISH LESSON NOTES

Name _____ Class _____ Date _____

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1-1 What is life science?

Lesson Review

Complete the following.

1. What is life science? _____

_____

2. What is anatomy? _____

3. What is specialization? _____

4. Give two examples of how life science affects your life. _____

_____

5. Name three branches of life science and describe what is studied in each. _____

_____

_____

Skill Challenge

Skills: *applying definitions, inferring*

Complete the table by finding careers that relate to each branch of life science. You may use a dictionary if necessary.

BRANCHES OF LIFE SCIENCE		
Branch	**What Is Studied?**	**Related Careers**
Anatomy (uh-NAT-uh-mee)	parts that make up living things	
Physiology (fiz-ee-AHL-uh-jee)	how the parts of living things work	
Botany (BAHT-uhn-ee)	plants	
Zoology (zoh-AHL-uh-jee)	animals	
Microbiology (my-kroh-by-AHL-uh-jee)	microscopic living things	
Ecology (ee-KAHL-uh-jee)	interaction of living things and their surroundings	

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Careers in Life Science

Enrichment Activity for Lesson 1-1

Skills: *building vocabulary, classifying*

Use a dictionary or other reference material to identify what is studied in each area of life science listed. Then, identify a specialty in each of these areas.

1. **genetics:** _____

2. **taxonomy:** _____

3. **pathology:** _____

4. **horticulture:** _____

5. **bacteriology:** _____

6. **biochemistry:** _____

7. **virology:** _____

8. **entomology:** _____

9. **marine biology:** _____

10. **biogeography:** _____

11. **pharmacology:** _____

12. **embryology:** _____

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1-2 What are living things?

Lesson Review

PART A Complete the following.

1. Any living thing is called an _____ .
2. The basic unit of structure and function in living things is the _____ .
3. A reaction to a change in your surroundings is a _____ .
4. The source of energy for most living things is the _____ .
5. Everything around you is made up of _____ .
6. When two or more atoms from different elements join, they form a _____ .

PART B Place a check mark beside each statement that describes a characteristic that is true of all living things.

_____ **1.** have cells

_____ **2.** can move

_____ **3.** grow or develop

_____ **4.** produce more of their own kind

_____ **5.** use sunlight to make food

_____ **6.** use energy

_____ **7.** respond to changes

_____ **8.** have features that help them adapt to surroundings

Skill Challenge

Skills: *applying concepts, classifying*

Use the illustration below to answer the questions.

1. What is the source of energy for the puppies in the illustration? _____

_____

_____

2. In what ways will the puppies change to become more like their mother? _____

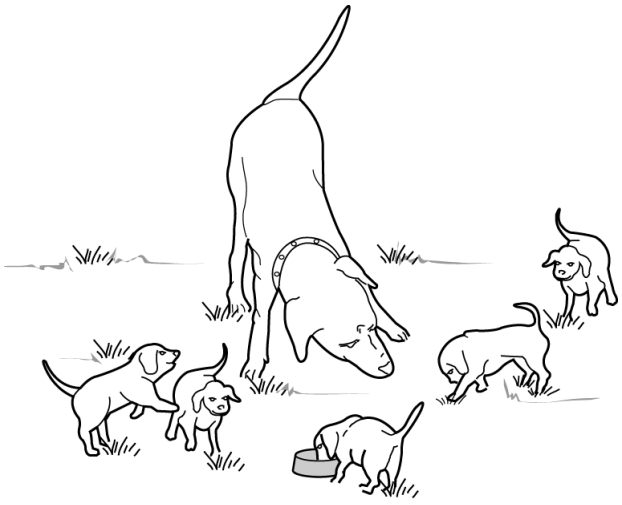
_____

_____

3. Which characteristics of living things are shown in the illustration? _____

_____

_____



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1-3 What are the needs of organisms?

Lesson Review

Write *true* if the statement is true. If the statement is false, change the underlined term to make the statement true. Write your answers in the spaces provided.

_____ **1.** All organisms require food and water for growth and energy.

_____ **2.** An autotroph is an organism that cannot make its own food.

_____ **3.** Many living things get the oxygen they need from the air or water.

_____ **4.** Most living things need oxygen to change food into energy.

_____ **5.** Living space provides an organism with air, water, food, and shelter.

_____ **6.** The ability of an organism to keep conditions inside its body constant is called homeostasis.

_____ **7.** An organism that can make its own food is a heterotroph.

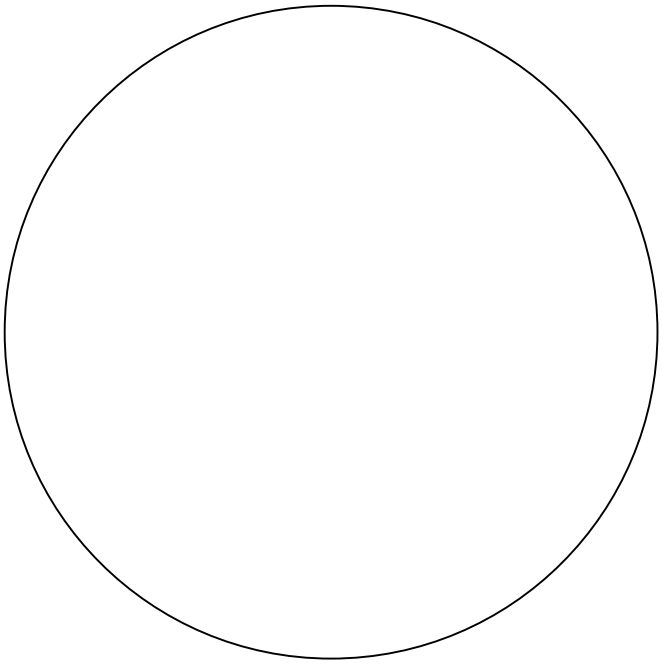
_____ **8.** Living things need a proper temperature to carry on their life processes.

Skill Challenge

Skill: *graphing*

Make a circle graph that shows the percentages of the gases that make up air. Use the information in the Data Table below to make your graph.

DATA TABLE: GASES IN AIR	
Oxygen	21%
Nitrogen	78%
Argon	0.94%
Carbon dioxide	0.04%
Other gases	0.02%



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Identifying an Organism's Needs

Enrichment Activity for Lesson 1-3

Skills: *researching, using resources*

Use an encyclopedia or other reference books to identify whether the organism is an autotroph or a heterotroph. If the animal is a heterotroph, find out what kinds of foods it eats.

1. **cactus:** _____

2. **polar bear:** _____

3. **bullfrog:** _____

4. **pine tree:** _____

5. **dolphin:** _____

6. **coral:** _____

7. **crocodile:** _____

8. **plankton:** _____

9. **camel:** _____

10. **python:** _____

11. **bison:** _____

12. **trout:** _____

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1-4 How do organisms use energy?

Lesson Review

Match each term in **Column B** with its description in **Column A**. Write the letter of the correct term in the space provided.

	Column A	Column B
_____	**1.** process of breaking down food so that it can be used by living things	**a.** ingestion
_____	**2.** process of taking in food	**b.** excretion
_____	**3.** process of getting rid of wastes	**c.** digestion
_____	**4.** chemical substance that is needed to carry out life processes	**d.** transport
_____	**5.** process of moving nutrients and wastes in a living thing	**e.** cellular respiration
_____	**6.** something produced in addition to the main product	**f.** life processes
_____	**7.** process by which a cell releases energy from food molecules	**g.** byproduct
_____	**8.** things an organism must do to stay alive	**h.** nutrient

Skill Challenge

Skills: *organizing, making a flowchart*

Create a flowchart to show the order of the four processes involved in moving food through the body of an animal. Include terms from Column B above in your flowchart.

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1-5 How do organisms respond to change?

Lesson Review

PART A Write the term that best completes each statement in the space provided.

1. The ways in which living things respond to stimuli is called _____ .
2. A change that causes a response is a _____ .
3. The inactive state of some animals during the winter months is _____ .
4. The seasonal movement of animals from one living place to another and back is called _____ .
5. Organisms respond to their _____ .
6. A hibernating animal does not need to use as much _____ .

PART B Identify each of the behaviors listed as either a learned behavior (*L*) or an instinct (*I*) Write the correct letter in the space provided.

_____ **1.** a bird building a nest

_____ **2.** buttoning your shirt

_____ **3.** ironing a shirt

_____ **4.** blinking your eyes

_____ **5.** cooking your dinner

_____ **6.** a robin feeding her young

_____ **7.** a newborn crying

_____ **8.** a plant turning to face the Sun

_____ **9.** playing the piano

_____ **10.** dancing

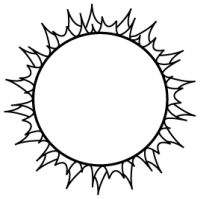
Skill Challenge

Skills: *relating cause and effect, applying concepts*

PART A Responses to stimuli are an example of cause-and-effect relationships. The stimulus is the cause. The response is the effect. Read each cause-and-effect statement. Underline the cause. Circle the effect.

1. You jump when you hear a loud noise.
2. A bird flies to a warmer climate in the winter to find food.
3. A chipmunk begins to hibernate when the weather becomes cooler.
4. You call the fire department after smelling smoke.
5. Carlos slips on a wet floor.

PART B Describe the stimulus and response shown in the diagram. Use a separate sheet of paper if necessary.



_____

_____

_____

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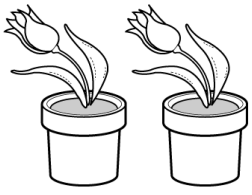

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THE **Big** IDEA *Integrating Earth Science*

Chapter 1 How do organisms adapt to changes of the seasons?

Lesson Review

Refer to the article, call outs, and Figure 1-15 on pages 26 and 27 of your text to answer the following questions. Write *true* if the statement is true. If the statement is false, change the underlined term to make the statement true. Write your answers in the spaces provided.

_____ **1.** The seasons are caused by the tilt in the Earth's axis.

_____ **2.** The climate is an imaginary line through the center of the Earth.

_____ **3.** Colder weather is the result of one-half of Earth being tilted away from the Sun.

_____ **4.** Warmer weather is the result of one half of Earth being tilted away from the Sun.

_____ **5.** As Earth revolves around the Moon, the seasons change.

_____ **6.** The snowshoe hare's fur changes from grayish brown to white to protect it during the winter.

_____ **7.** When summer turns to winter, animals that can fly and swim may hibernate before the temperature drops.

_____ **8.** After they give birth, elk hide their calves for about 10 days to protect them from predators.

Skill Challenge

Skills: *inferring, synthesizing*

Complete the following.

1. How do the cells of evergreen trees compare to the cells of trees that lose their leaves every winter?

_____

_____

2. The snowshoe hare has very long hind feet, furry soles, and toes that can spread out like snow shoes. How do these features help it survive in a cold climate? _____

_____

3. The Columbian ground squirrel lives in a cold climate. Do you think squirrels in warmer climates hibernate as long? Why or why not? _____

_____

Science Log Writing Activity

Complete the Science Log on a separate sheet of paper. To complete the Big Idea Online, go to www.conceptsandchallenges.com. Follow the online instructions.

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1-6 Where do organisms come from?

Lesson Review

Complete the following.

1. What is spontaneous generation? _____

_____

2. What was Francesco Redi's hypothesis about spontaneous generation? _____

_____

3. What did Redi do to test his hypothesis? _____

4. What did Redi's experiment show? _____

5. What was the control for Redi's experiment? _____

Skill Challenge

Skills: *interpreting, analyzing*

In the nineteenth century, Louis Pasteur performed an experiment to show that microscopic organisms did not come from broth or from air. Pasteur poured broth into two swan-necked flasks. The broth was made up of water, air, and nutrients. He then boiled the broth in both flasks. One flask was left standing straight up while the other was tilted. The broth in the tilted flask was able to come into contact with dust particles in the neck of the flask. The setup for Pasteur's experiment is shown below.

Use the diagrams and information above to answer the questions.

1. What variable was tested in Pasteur's experiment? _____

_____

2. Which part of Pasteur's experiment represents the control? _____

_____

3. Why do you think the broth was boiled first?

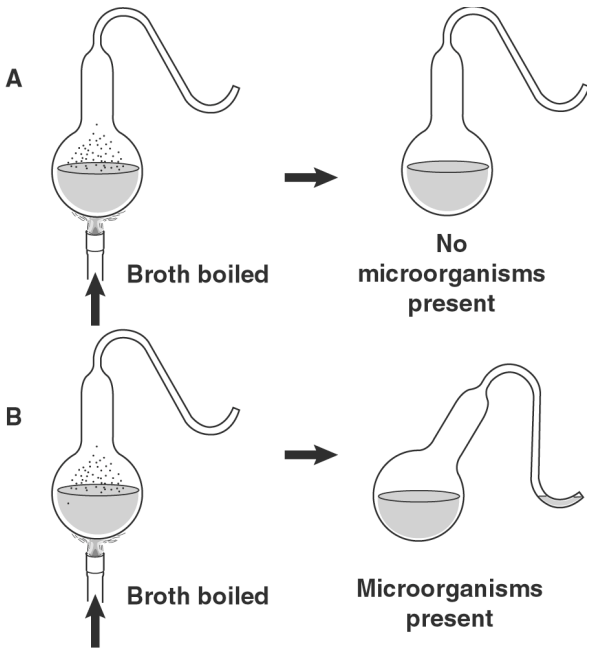
_____

_____

4. How is the experiment performed by Pasteur similar to the experiment performed by Redi?

_____

_____



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1-7 How do organisms make more of their own kind?

Lesson Review

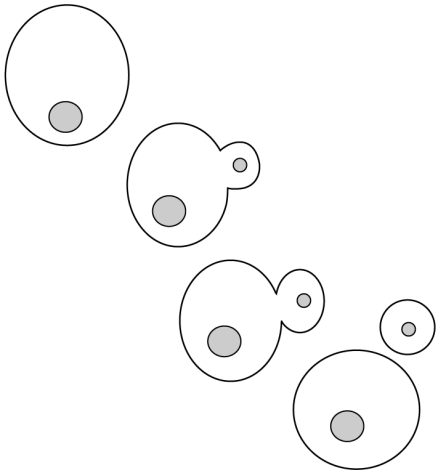
Match each term in **Column B** with its description in **Column A**. Write the letter of the correct term in the space provided.

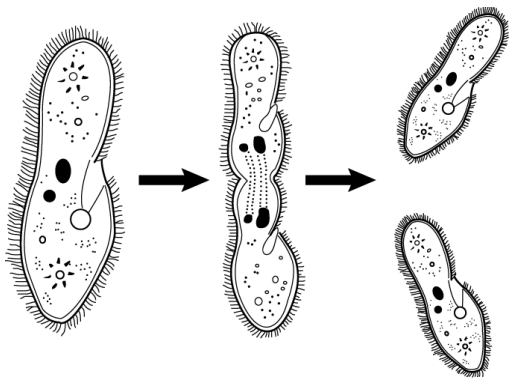
	Column A	Column B
_____	**1.** reproduction needing only one parent	**a.** offspring
_____	**2.** reproduction requiring two parents	**b.** budding
_____	**3.** new organisms produced by a living thing	**c.** sexual reproduction
_____	**4.** process by which living things produce new organisms like themselves	**d** asexual reproduction
_____	**5.** growth of a new organism from the parent organism	**e.** fission
_____	**6.** reproduction where an organism splits in two	**f.** reproduction

Skill Challenge

Skills: *interpreting diagrams, identifying*

Study the diagrams below. Decide which diagram shows *fission* and which diagram shows *budding*. Write the correct term in the space provided.





1. _____ **2.** _____

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Chapter 1 Key Term Review

Match each Key Term in **Column B** with its definition in **Column A**. Write the correct letter in the space provided.

	Column A	Column B
_____	**1.** ways in which living things respond to stimuli	**a.** migration
_____	**2.** reproduction needing only one parent	**b.** cellular respiration
_____	**3.** any living thing	**c.** offspring
_____	**4.** idea that living things come from nonliving things	**d.** hibernation
_____	**5.** an organism that can make its own food	**e.** asexual reproduction
_____	**6.** process of getting rid of wastes	**f.** digestion
_____	**7.** something produced in addition to the main product	**g.** cell
_____	**8.** change that causes a response	**h.** excretion
_____	**9.** chemical substance that is needed to carry out life processes	**i.** spontaneous generation
_____	**10.** new organisms produced by a living thing	**j.** ingestion
_____	**11.** reproduction needing two parents	**k.** byproduct
_____	**12.** movement of animals from one living place to another	**l.** homeostasis
_____	**13.** process by which a cell releases energy from food molecules	**m.** organism
_____	**14.** basic unit of structure and function in living things	**n.** reproduction
_____	**15.** inactive state of some animals during winter months	**o.** transport
_____	**16.** process by which living things produce new organisms	**p.** behavior
_____	**17.** process of breaking down food into usable forms	**q.** nutrient
_____	**18.** ability of a living thing to keep conditions inside its body constant	**r.** autotroph
_____	**19.** process of moving nutrients and wastes in a living thing	**s.** stimulus
_____	**20.** process of taking in food	**t.** sexual reproduction