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## Understanding Life Systems

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Students will focus on investigating the basic needs of living things, examining their similarities and differences, and learning about their general characteristics. The physical characteristics of plants will also be studied to learn how they help plants meet their basic needs. Moreover, students will identify the location and function of major parts of the human body, including sense organs. They will also study the characteristics of different parts of the human body and explain how those characteristics help us meet our needs and explore the world around us.

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## Understanding Structures and Mechanisms

Students will learn about the variety of materials used to make objects and the properties of those materials. They will learn that a structure is not only an object but also a supporting framework that holds an object together. Furthermore, they will investigate how materials suit the purposes of structures or objects and how choice of material affects the environment. They will also learn about different fasteners and be able to identify their uses.

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## Section 3

### Understanding Matter and Energy

Students will develop an understanding of how and why work, movement, growth, and change require energy. They will be able to identify the sources of energy and learn that some energy sources are difficult to reach or are limited; hence, they should be used efficiently. In addition, students will investigate how the sun's energy allows us to meet our basic needs and explore the effects of light and heat from the sun. They will also identify food as a source of energy for themselves and other living things.

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## Understanding Earth and Space Systems

Students will discover that a daily cycle creates day and night, and a yearly cycle creates seasons. They will learn how these cycles affect living things, including humans, and how living things adapt to changing seasons. Additionally, students will learn about the changes in the amount of light from the sun that occur throughout the day and the year. They will describe and compare the four seasons in terms of temperature and types of precipitation, and learn how humans prepare for and respond to daily and seasonal changes by wearing appropriate clothing and accessories.

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# 3 Seasonal Cycles and Living Things

In this unit, you will see how different plants and animals adapt to the changes in seasons. They all have their own ways of adapting to the variety of changes.



**After completing this unit, you will**

- know that the cycle of seasons affects living things.
- know that living things adapt to changing seasons.

*Sweet dreams, my cub. When spring comes, I'll wake you up.*

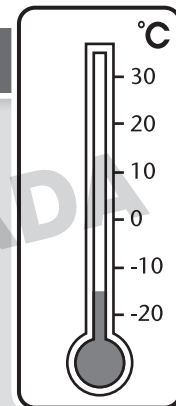
**temperature:**  
**-15°C (cold)**

## vocabulary

**temperature:** a measurement of how hot or cold something is

**dormancy:** slowing down, deep sleep, or inactivity

**migration:** seasonal movement from one place to another



## Extension

We can find many animals all around us. Do we see animals at certain times of the year more than at others? Record in the chart below when you see certain types of animals most and when you see very few or none at all.

yes /  
no



**Skunk**



**Butterfly**



**Snail**



**Canada  
Goose**

**Spring**

**Summer**

**Fall**

**Winter**

### A. Read what each animal says. Determine what each one does to adapt to the change of season.

1.



*My coat is warm enough for the summer, but it is getting cold outside.*

Adaptation: grow a \_\_\_\_\_ coat  
thicker/thinner

2.



*I am white in the winter, but in the summer, when the snow melts, white is not the right colour for me.*

Adaptation: change \_\_\_\_\_  
shape/colour





## Experiment

### Introduction

*Day and night happen because Earth spins, making one complete turn every 24 hours. When one side of Earth faces the sun, it is daytime there; on the other side, it is nighttime.*



### Hypothesis

**Day and night happen because Earth spins.**

*This experiment doesn't prove that Earth's spinning causes day and night, but it demonstrates how it works.*

#### Steps

1. Ask a friend to do this experiment with you.
2. You will represent the sun by holding the flashlight in a dark room.
3. As planet Earth, your friend will face you, standing a few steps away.
4. Ask your friend to slowly spin counterclockwise on the spot while you remain still.

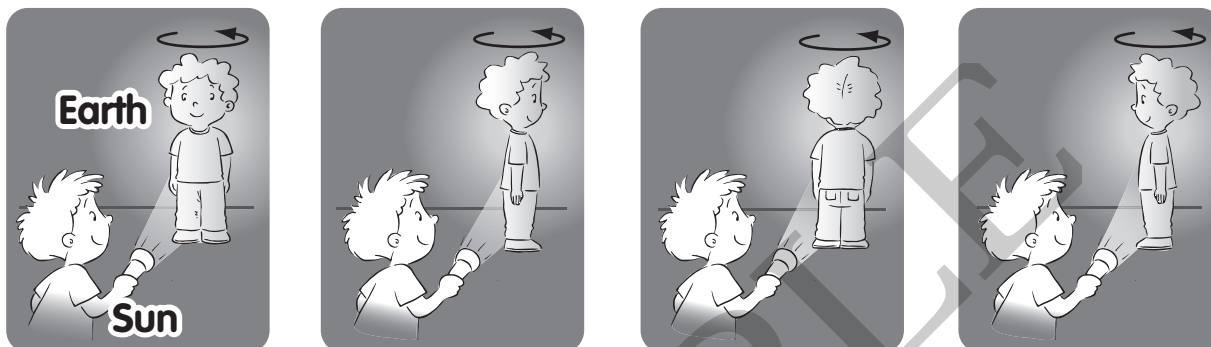


#### Materials

- **a flashlight**

- Notice the amount of light on your friend's face as he or she does one complete spin.
- Compare the light on your friend's face with that on the child's face below.

### Spinning Counterclockwise



### Result

Write "day", "sunset", "night", and "sunrise" to show how the experiment copies night and day on Earth.



\_\_\_\_\_

### Conclusion

The hypothesis was: \_\_\_\_\_

\_\_\_\_\_

My experiment \_\_\_\_\_ the hypothesis. supported/did not support