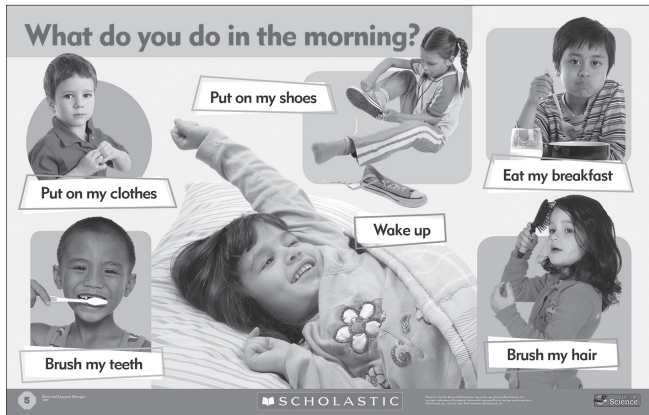


What Is My Daily Cycle?



Focus: Students will describe, sequence, and group their daily activities in relation to the day-night cycle. They will observe and describe daily changes in weather.

Specific Curriculum Outcomes

Students will be expected to:

- 9.0 sequence or group materials and objects [GCO 2]
- 10.0 predict based on an observed pattern [GCO 2]
- 11.0 explore how changes in sunlight affect living things [GCO 1/3]

Performance Indicators

Students who achieve these outcomes will be able to:

- make weather predictions
- describe their daily routine
- identify daytime and nighttime activities

NOTES:

Attitude Outcome Statements

Encourage students to:

- show interest in and curiosity about objects and events within the immediate environment [GCO 4]
- be open-minded in their explorations [GCO 4]
- be sensitive to the needs of other people, other living things, and the local environment [GCO 4]

Cross-Curricular Connections

Math

It is expected that students will:

- demonstrate understanding of repeating patterns [1PR1]

English Language Arts

Students will be expected to:

- speak and listen to explore, extend, clarify, and reflect on their thoughts, ideas, feelings, and experiences [GCO 1]
- communicate information and ideas effectively and clearly, and to respond personally and critically [GCO 2]
- respond personally to a range of texts [GCO 6]

Getting Organized

Program Components	Materials	Before You Begin	Vocabulary
• Science Card 5 • BLM <i>My Day</i> • Science Card 6 • IWB Activity 6 • BLM <i>My Weather Report</i> • IWB Activity 7 • BLM <i>What Is Your Favourite Game?</i> • IWB Activity 8	• index cards or masking tape • three colours of sticky notes • index cards • icons, cut outs, or sketches that represent weather conditions • items or pictures of items related to seasonal sports (e.g., hockey puck, skateboard, bike, skis, ice skates, jump rope, in-line skates, baseball, basketball) • reference materials that report day lengths	• Prepare sets of cards from BLM <i>My Day</i> (enough for one set per group of five students). • Create index cards with icons, cut outs, or sketches to represent different weather conditions (sun, cloud, raindrop, snowflake, fog, wind) and/or weather related words (hot, cold, foggy, windy). • Invite an elder, grandparent, or other person with knowledge of traditional cultures to talk to the class about the types of games that were played in each season in their culture.	• afternoon • behaviour • evening • location • morning • pattern • today • tomorrow • yesterday

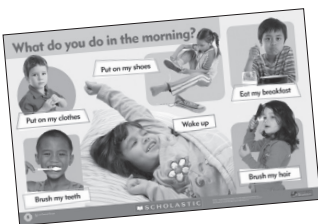
Science Background

- Humans have daily cycles, also called circadian rhythms or biorhythms. Circadian rhythms are predictable, repeating changes in bodily functions that follow a roughly 24-hour period, including body temperature, wakefulness, hunger, and elimination. Although caused by factors in the body, our circadian rhythms can be strongly affected by environmental factors, especially the presence of light.
- Many of our cultural conventions impact our circadian rhythms through changes in the timing of light exposure. These include travelling through time zones, shift work, and exposure to artificial light late in the day. Disruption in circadian rhythms is linked to jet lag, sleep disorders, obesity, diabetes, depression, and seasonal affective disorder.
- Earth's tilt causes a seasonal change in the number of hours of daylight. This difference is more pronounced as one approaches either pole. In the Northern Hemisphere, the days are shorter in the winter, when Earth is tilted away from the sun. Days are longer in the summer when Earth is tilted toward the sun.

Possible Misconceptions

Students may think that all the students in the class will have the same pattern of daily activities and may be surprised to find differences. Students may think that they get sleepy or hungry when they have used up all their energy by activity, rather than recognizing a regular pattern. They may also think that the timing of all daily activities is a matter of choice or is controlled by the time, since our society relies on tools such as alarm clocks and schedules.

ACTIVATE



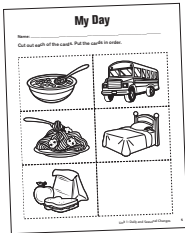
My Morning

On the board, make a table with each of the activities shown on Science Card 5 as headings: *put on my clothes*; *brush my teeth*; *put on my shoes*; *wake up*; *eat my breakfast*; *brush my hair*. Show Science Card 5 to the class and invite answers to the question: *What do you do in the morning?* Have students tell you the sequence in which they do these activities during a morning. Record students' answers in the table. Note any similarities and differences between classmates' routines. Then ask:

- **Do you always do these activities in the same order? Why?**

Remind students that the order that we do these things is also called a sequence. Ask for and/or share other examples of sequences of events (e.g., the order in which clothes are put on, the morning activities in your class).

CONNECT



My Day

Make copies of BLM *My Day* and cut out the cards. The class will work in groups of five; you will need to make one set of cards for each group. Keep the sets separated.

Divide the class into groups of five. Next to each group, put an index card or a piece of masking tape on the floor marked “morning.” Give a set of cards to each group, so that each group member has a different card. Hold a copy of BLM *My Day* in front of the class and ask for volunteers to describe what is on each card. Then, tell the students that you want each group to form a line behind the word “morning” so that their cards show the order in which they do the activities. Allow students time to agree on an order for their group.

Have the students sit down while remaining in line. Make a chart with headings 1, 2, 3, 4, and 5. When all the groups have formed their line, have the first student in each line call out the activity on their card. Record these in column 1. Repeat this for all the students in each line. Discuss any differences in the order of activities between groups. Invite students to give reasons for their choices.



Remind the class that when things are in an order, they form a sequence. Point to this word on your Word Wall, then add “yesterday,” “today,” and “tomorrow” to the Word Wall and ask students to put these in sequence. You also could introduce or review the days of the week at this time.

Have students stand up in their lines. Challenge them to rearrange themselves so that the line begins with something they do at noon. Ask students to describe the similarities and differences in the sequence. Ask:

- **Where is the person who was first now?**
- **Who else moved?**

Repeat this activity beginning with something they do in the evening. Finally, challenge students to arrange themselves to form a circle while keeping the order intact. When they have formed circles, tell students that the sequence has turned into a cycle. Remind students that the seasons also form a cycle. Ask:

- **Why are the seasons a cycle?**

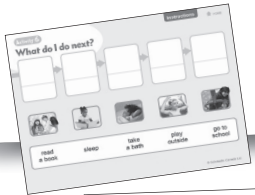
Morning, Afternoon, Evening

Share Science Card 6 with the class. Provide three different colours of sticky notes, one for morning, one for afternoon, and one for evening. Make a chart with three headings labelled *Morning*, *Afternoon*, and *Evening*. Ask the students to place a sticky note on each of the activities on Science Card 6 that is a morning activity. List the activities they chose on the chart and then remove the sticky notes from the card. Repeat for afternoon and evening.



IWB Activity:

- Have students sequence activities they do during the day using Activity 6: *What do I do next?* (see the Teacher's Website).



My Weather Report

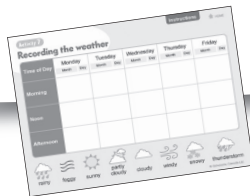
Write out three days of the week. Then give the weather that day to the class. The weather can be sunny, cloudy, rainy, or snowy.

Day	Weather
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

Icons: sun, cloud, rain, snow, fog, wind, umbrella, hot, cold.

IWB Activity:

- You may choose to use Activity 7: *Recording the weather* (see the Teacher's Website—clone this slide to make multiple copies) to help students to record the weather for the morning, noon, and afternoon. Print and compare weather charts for various weeks with the class.



Review the chart with the class. Point out any activities that were placed in more than one group (e.g., reading, playing outside). If no activities were placed in more than one group by the students, choose activities from the list and prompt students to consider other groups in which they could be placed.

Tracking Weather

Tell students that you are wondering if the weather stays the same all day. Explain that you plan to find out by tracking the weather over several days. Create a weather chart with the following sections: *Morning*, *Noon*, and *Afternoon*. Challenge students to name some activities they usually do at these times that are part of their daily cycle. Alternatively, ask the class to suggest times they would like to track the weather. Create index cards with icons, cut outs, or sketches to represent different weather conditions, such as a sun, cloud, raindrop, snowflake, fog, wind, and/or weather-related words such as “hot,” “cold,” “foggy,” or “windy.” Show these to the class and ask the students to help you devise a way to use them to record the weather over the day. Make suggestions, such as using two snowflakes if there is a lot of snow, if necessary. Students can follow along by filling in BLM *My Weather Report* (or you might have students fill out the BLM in small groups instead). Challenge students to make a prediction. Ask:

- Do you predict that the weather will always stay the same all day or change?
- How do you know?

After students describe how they know, point out what type of evidence they used, such as direct observation or hearing reports from experts. Tell the class that there are many different ways to explore questions and that finding ways that work is part of the inquiry process. Work with the class to fill in the chart or the BLM over the day. Tell students that they will help you to track the weather during the day again tomorrow. Prompt consideration of other ways of exploring and viewing the world by asking:

- Does anyone know about how early Indigenous peoples predicted when the bad weather was coming? How could we find out?

CONSOLIDATE

What Is Your Favourite Game?
Draw a picture of your favourite outdoor game for each season.

Spring	Summer
Fall	Winter

IWB Activity:

- Challenge students to identify the season(s) when the sports are played outdoors using Activity 8: *Sports and seasons* (see the Teacher's Website).

Sports and seasons

winter	spring
summer	fall

When Shall We Play?

Display items, or pictures of items, related to seasonal sports such as a hockey puck, skateboard, bike, skis, ice skates, jump rope, in-line skates, baseball, or basketball. Allow students to explore freely, and encourage them to connect the sports to weather and the seasons by asking questions such as:

- **When do you play this sport outside?**
- **Is there weather in which you can't play this sport?**
- **Is there a season you don't play this sport outside?**

Guide students to notice how some sports and games can be played in more than one season and ask for explanations. Hand out copies of BLM *What Is Your Favourite Game?* to each student. Have students record their favourite game under the name of the season in which they play it outside. Students can choose more than one season. Then, direct students to exchange their work with a partner. Have partners explain to each other why they play their favourite game in that season. Alternatively, students can draw a picture or write the name of their favourite game for each season. Circulate as students work and ask for the rationale behind their choices. Student work can be posted in the classroom to share with classmates.

EXPLORE MORE

Longer or Shorter?

Ask students to predict whether the days will be shorter or longer next month and encourage them to give reasons for their predictions. Provide access to websites or printed resources that report day lengths. Have students work in small groups to find out if their predictions are correct. As they are working, wonder aloud questions such as:

- **I wonder when the longest day is? the shortest day?**
- **I wonder if the days get longer or shorter in spring? in fall?**

Have students communicate their findings orally with classmates.

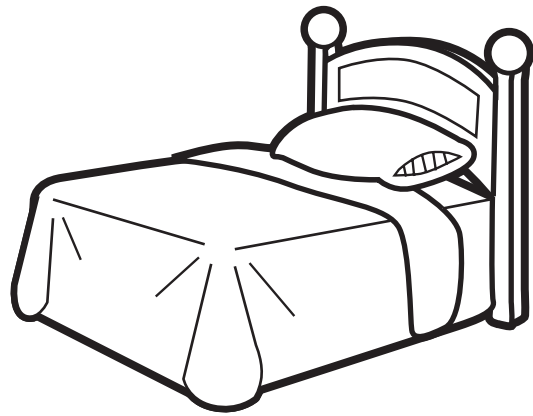
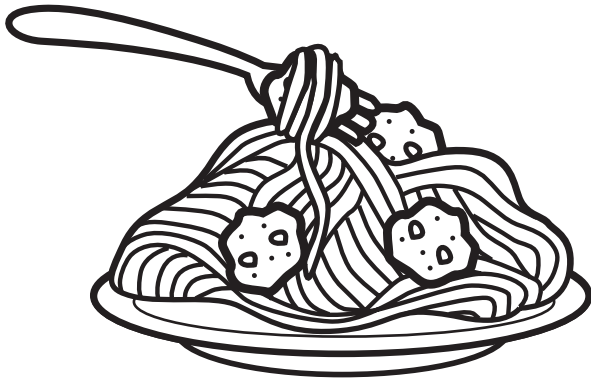
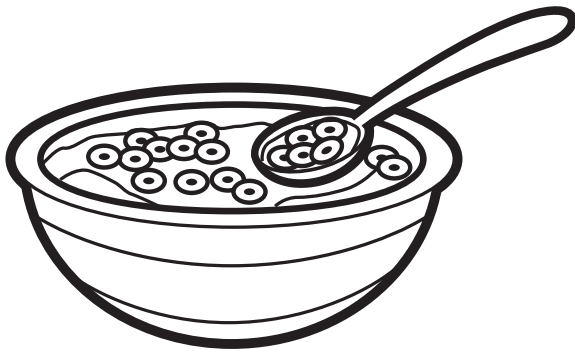
What Did You Play?

Invite an elder, grandparent, or other person with knowledge of traditional cultures to talk to the class about the types of games that were played in each season in their culture.

My Day

Name: _____

Cut out each of the cards. Put the cards in order.



My Weather Report

Name: _____

Write the days of the week. Then draw the symbols that describe the weather in the morning, at noon, and in the afternoon.

Day of the Week	Morning	Noon	Afternoon

 sunny	 partly cloudy	 cloudy	 rainy	 thunderstorm	 snowy
 windy	 foggy	 hot	 warm	 cool	 cold

What Is Your Favourite Game?

Name: _____

Draw a picture of your favourite outdoor game for each season.

 Spring	 Summer
 Fall	 Winter