

SCIENCE·3D

RATTLESNAKES

In this packet, sample student answers are provided in **red** and notes to teachers are in **blue**.

In this **Explore Your Backyard** activity, students will characterize the climate they live in, collect data on weather in their backyard, and describe how the climate and weather affect a local animal of their choice.

Note: Students will need a thermometer and rain gauge to complete some of these activities.



Rattlesnakes and kangaroo rats respond to changes in the weather in the desert. For example, they seek shelter when it is too hot and sunny. They have traits that help them survive the climate of the desert. Climate describes the conditions over a long period of time. The climate of the Sonoran Desert is hot with little rain. Let's investigate the climate and weather in your backyard!

Activity 1: Weather and Climate

- Describe** the climate you live in by filling in the table below using the following words. You may use some words more than once and others not.

Temperature: Very hot, hot, cool, cold, very cold

Type of precipitation: rain, snow

Amount of precipitation: very little, some, a lot

Hint:

On a *very hot* day it feels too hot to go outside.

On a *cold* day it could snow.

On a *very cold* day it feels too cold to go outside even with the right clothes.

Season	Temperature	Type of precipitation	Amount of precipitation
Winter	Very cold	Snow	Very little
Spring	Cool	Rain	A lot
Summer	Hot	Rain	Some
Autumn	Cool	Rain	Very little

Extend the Lesson: Have students go online to find the average temperature during each season. Alternatively, have students collect information on the Sonoran Desert or other locations and compare and contrast the climate in these areas.

2. Use the space below to record your observations of the weather for one week.

	Monday	Tuesday	Wednesday	Thursday	Friday
Weather	Rainy	Rainy	Rainy	Rainy	Sunny

Have students go outside to record weather conditions. Have them record the temperature in the shade and in the sun. Have them set up a gauge to measure the amount of rain or snow. Have them do online research to determine the wind speed and direction.

Extend the Lesson: Have students record wind speeds for themselves! See instructions at: <https://www.scientificamerican.com/article/bring-science-home-wind-speed/>

Date and Time	Temperature (in shade)	Temperature (in sun)	Cloudy, sunny or foggy	Precipitation type	Precipitation amount	Wind direction	Wind speed (km/hr)
4/14 14:00	14°C 57°F	N/A	Cloudy	Rain	15 cm	NW	132 km/hr

3. **Compare** the temperature in the shade to the temperature in the sun.

The temperature in the shade is always slightly less than the temperature in the sun.

4. Were the weather conditions the same every day? **Describe** the similarities and differences across the days.

Answers will vary.

Extend the Lesson:

- Revisit this activity in multiple seasons, and have students compare and contrast the weather results in the different seasons.
- Give students weather maps that predict conditions for the next several days. Have them use the maps to determine what the conditions (temperature, precipitation) will be like for the next few days. You could also have students consult the predicted temperatures and other conditions for the next week and compare these to what they observe. Were their predictions accurate? How did accuracy of their predictions change based on how far in the future the prediction was?

Activity 2: Organism Traits and Weather

Go outside to observe organisms. Alternatively, investigate organisms in environments using websites of local parks or protected areas. Tell students to be on the lookout for traits or behaviors that help organisms survive in their climate or respond to changes in weather. For example, some animals have thick fur coats in cold climates, or others seek shelter when it rains.

Now it's time to explore! Use the space below to **draw** one of the animals that you observed or researched in your exploration. **Label** any traits that help it survive. Note how it responds to changes in the weather.

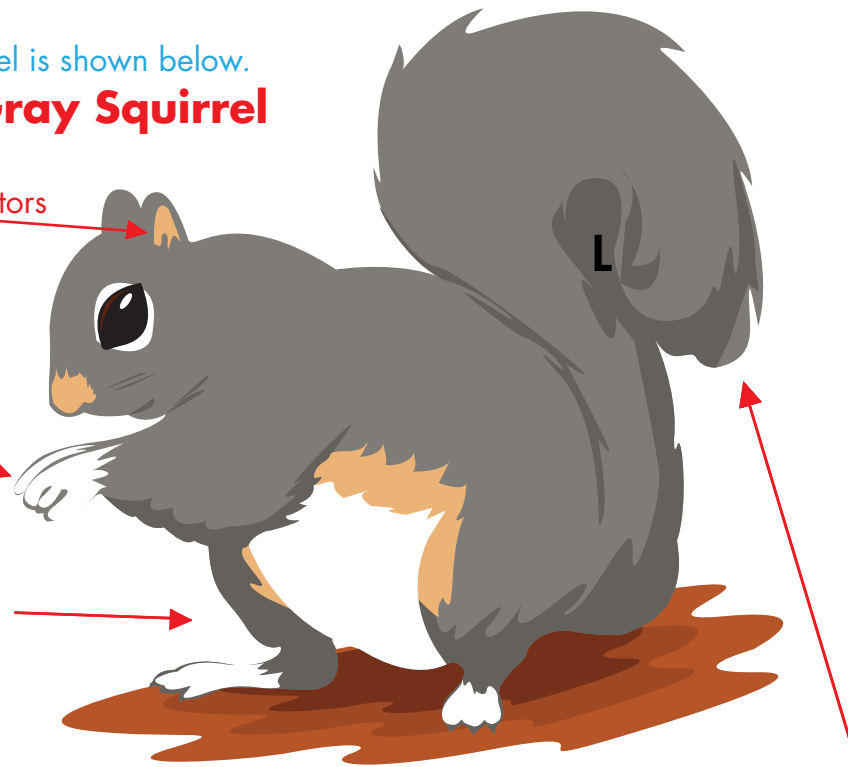
An example of a gray squirrel is shown below.

Gray Squirrel

Big ears for detecting predators

Claws for climbing trees and digging holes

Powerful legs for jumping from tree to tree



Big bushy tail acts as shade to keep cool in the summer and as a blanket to stay warm in the winter