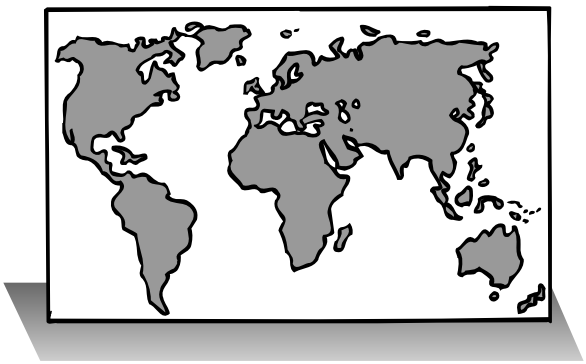
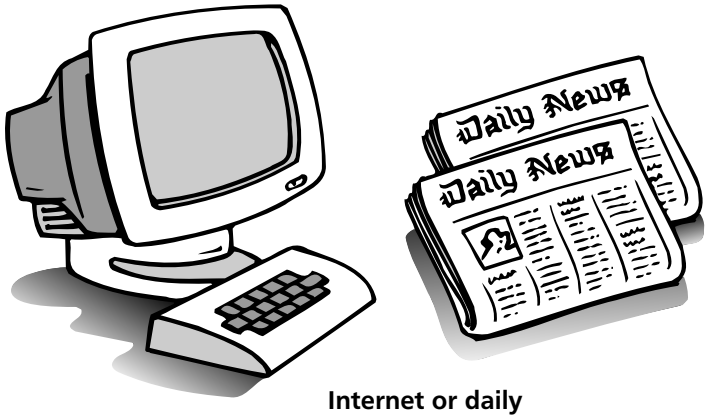
Chapter Science Investigation Name _____

Gathering Global Weather Data

What You Need



map of the world showing major cities



Internet or daily newspaper

Find Out

Do this activity to see what the weather conditions are like in different biomes around the world.

Process Skills

Predicting
Observing
Using Numbers
Interpreting Data
Communicating

Time

- 30 minutes the first day
- 10 minutes each day for two weeks
- 30 minutes the last day of the second week

What to Do

1. The map below shows the distribution of Earth's six major terrestrial biomes. Select one major city from your world map that fits each biome and **record** it.

2. Based on what you learn about conditions in the different biomes, **predict** what the average daily temperature and precipitation conditions will be for each city you selected for the next two weeks.

3. Each school day for the next two weeks, **record** the amount of precipitation for each city on Table 1. **Record** the high and low temperatures for each city on Table 2. You can get this information from either a major daily newspaper or the Internet.

4. When you finish, compare your **observations** with your predictions. How close were you?

5. **Compare** the results of your study with those of your classmates.

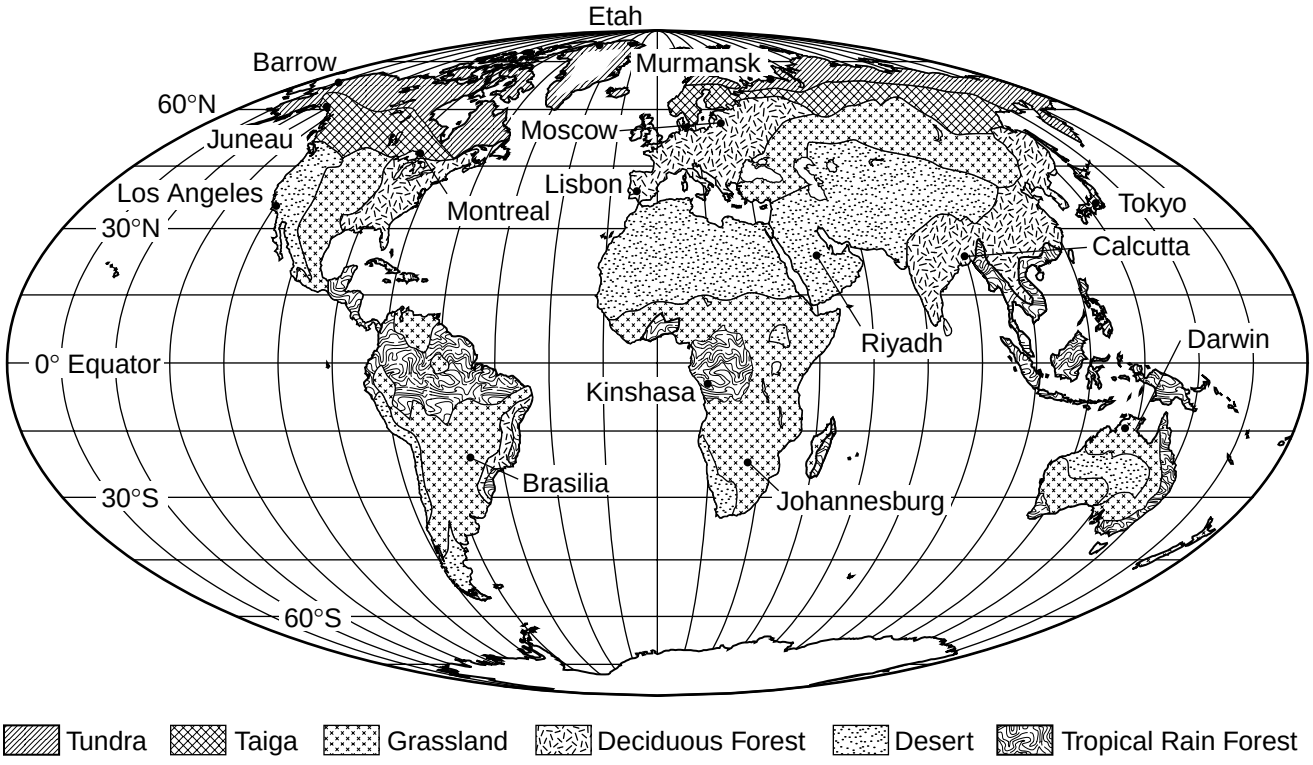


Table 1. Precipitation of World Biomes						
Biome	Tundra	Taiga	Grassland	Desert	Deciduous Forest	Tropical Rain Forest
City						
Day 1						
Day 2						
Day 3						
Day 4						
Day 5						
Day 6						
Day 7						
Day 8						
Day 9						
Day 10						
Predicted Average Precipitation						
Actual Average Precipitation						

Table 2. Temperatures of World Biomes																		
Biome	Tundra			Taiga			Grassland			Desert			Deciduous Forest			Tropical Rain Forest		
City																		
Temperature	High	Low	Avg	High	Low	Avg	High	Low	Avg	High	Low	Avg	High	Low	Avg	High	Low	Avg
Day 1																		
Day 2																		
Day 3																		
Day 4																		
Day 5																		
Day 6																		
Day 7																		
Day 8																		
Day 9																		
Day 10																		
Predicted Average Temperature																		
Actual Average Temperature																		

Conclusions

1. How do your results match what you know about the climate of each biome?

2. How were the results of your study similar to those of your classmates?

New Questions

1. Suppose you were planning to go on a vacation next week. Which of your cities would you want to visit? How could you get ready for your trip?

2. In general, latitude, height above sea level, and amount of precipitation determine a terrestrial location's biome. What kind of biome would you expect to find in a low-lying area near the equator that gets lots of rain? Why?

Name _____

ACTIVITY

Counting Populations

Draw a diagram of your group's plot. **Identify** any physical features such as rocks, trees, or pavement.

Record your findings in the chart below and **map** them on the diagram above.

	Number of Plants	Number of Animals
Square 1		
Square 2		
Square 3		
Square 4		
TOTAL		

Name _____

Conclusions

1. How were the organisms distributed in your plot? Was this different from the plots your classmates studied?

2. Did you see evidence of animals, without actually seeing them? If so, what was the evidence?

Asking New Questions

1. What are some factors that might make the number of plants or animals go up or down if you sampled the same area next week or next month?

2. Why is the class average a better estimate of the number of plants or animals in an area than just one plot?

Name _____

ACTIVITY

Modeling a Biome

Write a paragraph about your biome. Include information about the climate and identify major plants and animals. Imagine an organism that would be successful in this biome. Include a description of the organism in your paragraph. What factors in your biome would help the organism survive?

Make a drawing of your organism to accompany your paragraph.

Name _____

Conclusions

1. What factors led you to include certain plants or animals?

2. **Explain** how the kind of plants in your biome determine the kinds of animals.

Asking New Questions

1. If the climate changed in your biome, what would happen to the plants and animals that live there?

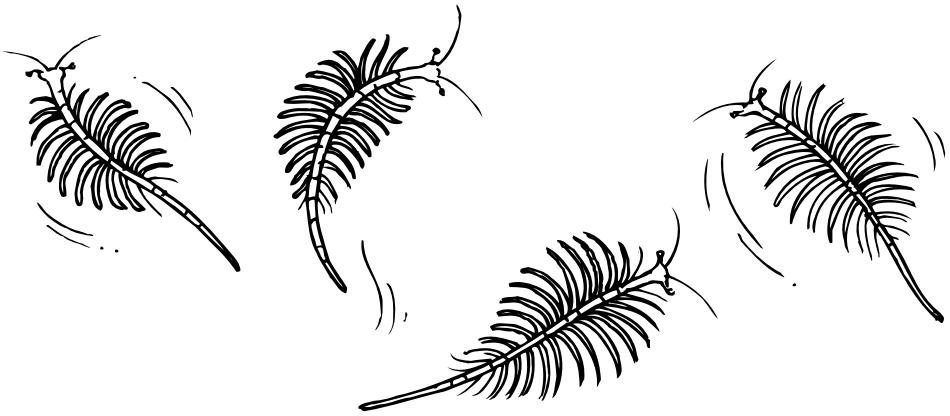
2. How could a species of animal inhabit more than one biome?

Name _____

ACTIVITY

Testing Factors

Draw a sketch of your brine shrimp below.



Record your **predictions** and **experimental results** of the brine shrimp reactions in the chart below.

	How Do You Predict the Brine Shrimp Will React?	**How Did the Brine Shrimp React?**
Light		
Warm Temperatures		
Cold Temperatures		

Name _____

Conclusions

1. How did the shrimp respond to light?

   To cold water?

   To warm water?

2. Based on your observations, were your predictions correct?

3. What did the shrimp eat?

4. What was the energy source for the environment in the jar?

5. Why was it important not to cover the jar?

Asking New Questions

1. What physical conditions in the jar are similar to those in the ocean? What conditions are different?

2. Make a **list** of the environmental factors brine shrimp need to live.