

## LAB

## 7.2

## MAPPING



# Global Soils and Climate

**S**oil is one of our most important natural resources. Humans and other animals depend on plants, which usually grow in soil, for their food and shelter. Except for some mountainous terrain and extremely cold areas on Earth, soil is found everywhere. Soil formation depends on the weathering of bedrock. The type and amount of weathering is closely related to the local climate. Because soils form from different parent bedrock and undergo different climatic conditions, soils vary greatly from one place to another.

## PREPARATION

### PROBLEM

Are soil types influenced by precipitation and temperature?

### MATERIALS

ruler

### OBJECTIVES

- Use maps to **compare** climate and soils in different regions.
- **Relate** regional soil types to temperature and rainfall.

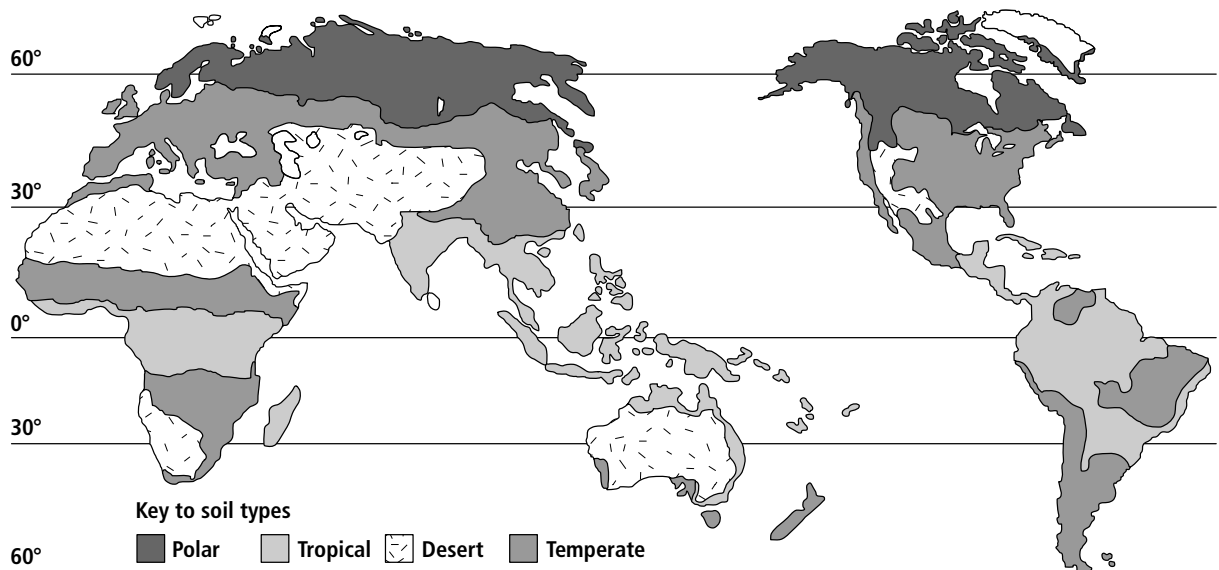


Figure 1

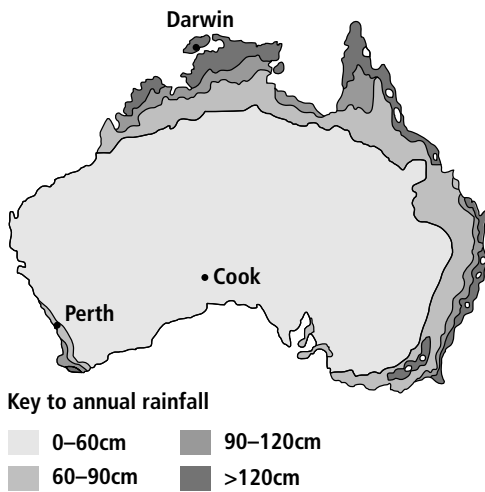


Figure 2

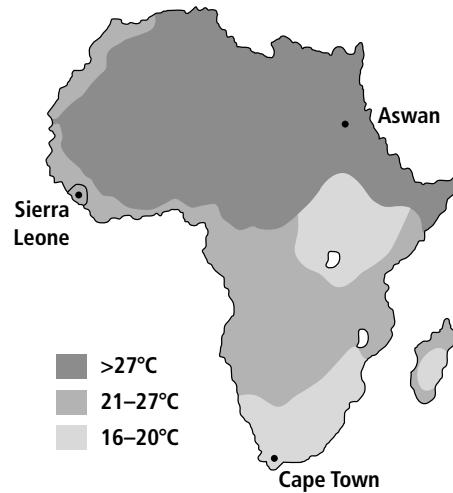


Figure 3

## PROCEDURE

1. Examine Figure 1. The map covers roughly 70°N to 60°S latitude. Notice the key to the four soil types.
2. Estimate the range of latitudes for polar soils, and record your estimate in Table 1.
3. Estimate and record the range of latitudes for tropical soils.
4. Estimate and record the range of latitudes for temperate soils in the northern hemisphere.
5. Examine Figure 2, an annual rainfall map of Australia. In Table 2, record the range of rainfall for the cities of Perth, Cook, and Darwin.
6. Examine Figure 3, a typical temperature day during the summer in Africa. Record the range of temperatures in the cities of Sierra Leone, Aswan, and Cape Town.



## DATA AND OBSERVATIONS

**Table 1**

Soil Type	Range of Latitudes
Polar	
Tropical	
Northern temperate	

**Table 2**

City	Range of Rainfall
Perth	
Cook	
Darwin	
	Range of Temperature
Sierra Leone	
Aswan	
Cape Town	

## ANALYZE

1. At what latitudes in the northern and southern hemispheres are desert soils found?

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2. What might be the reason for polar soils reaching down to about 40°N in the United States, while in the rest of the world they stay up around 50°N?

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3. Compare the rainfall pattern in Australia to the soil types found there.

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**ANALYZE, continued**

4. Compare the temperature map of Africa with the soil types found in that country.

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**CONCLUDE AND APPLY**

1. Are the soil types found in different areas of Earth related to the climate of that area? Explain your answer.

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2. Are the soil types more closely related to temperature or to rainfall?

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3. If you had to predict the type of soil found in an area on Earth, what information would you seek?

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