



Outdoor Biology Instructional Strategies

PLANTS AROUND A BUILDING

OVERVIEW

The Physical environment is the complex interaction of a number of changeable factors: wind, moisture, temperature, light, slope, etc. These changeable factors, which we call **environmental variables**, affect all living things. Humans construct buildings to alter *his* environment, and in doing so, affects the environment of other organisms. Many variables are influenced. Buildings create shade where direct sun shined before. Buildings change wind patterns. Moisture collects in places previously dry, and traffic from human feet compacts the soil. Humans select plants and maintains part or all of the area around a building. In this activity, a walk around the building enables one to appreciate the effect that the structure and its maintenance have on life around it. The building affects distribution of light, moisture, temperature, and traffic. Humans may garden the area around the building more or less intensively. This gardening is found to have significant effects on the number, kind, and size of plants growing in the vicinity.

CHALLENGE

Discover how the conditions around a building affect the growth of plants.

MATERIALS

For each team of three or four participants:

Outline map of building and environs

Marker

Pencil or crayon

Set of Action Cards

PREPARATION

1. Select a building site for the activity. Any kind of building is fine, but one in an open area is preferred. Results will be quite different depending on whether or not the perimeter of the building is gardened.
2. Prepare and have available, one outline map of the building and the land around it for each team of three or four participants. Also prepare one large outline map. The map needs to show only the outline of the building and any other significant nearby structure.

3. Reproduce enough Action Cards for each team to have one card. Include some of your own that reflect features of the particular building you have chosen.

ACTION

1. Divide the group into teams of two to four.
2. Distribute outline maps and help the group figure out orientation of the map to the building.
3. Distribute Action Cards and tell the teams to find as many examples as they can of the situation described on the team card. They should mark each place selected on the outline map.

Action Cards:

- Find and mark on your map those places where plants seem to grow much larger than the same kind of plants in other places around the building. What do you think is causing this, in each case?
- Find and mark on your map those places where the number of plants in a small area is high. What do you think is causing this, in each case?
- Find and mark on your map those places where the number of plants in a small area is very low. What do you think is causing this, in each case?
- Find and mark on your map those places where no plants grow. What do you think is causing this, in each case?
- Find and mark on your map the least common plant growing around the building. Are there any special conditions which permit it to grow in that place or places?
- After fifteen or twenty minutes, gather the group together, have them transfer their records to a large outline map, and discuss what might have caused the observed results. Introduce the idea that environmental factors such as moisture, light, temperature, or trampling might be responsible.

FOLLOW UP

1. Reinforce the concept of environmental variable. Select a variable (temperature, moisture, light, etc.) and tour the site observing how plants respond to that variable. Challenge the participants to relate the results to the evidence you have acquired on plant growth around the building. (A more quantitative measurement of environmental variables is obtained in the *Terrestrial Hi-Lo Hunt* activity.)
2. Orient a building map according to the compass, and have participants hunt for evidence of differences in plant growth on the north, south, east and west

sides of the building. Can the youngsters relate these differences to environmental factors caused by the building's exposure? What about the effect of gardening or the lack of it?

3. Carry out the activity at a different season of the year, and compare the results in relation to each environmental factor.

WHAT TO DO NEXT

Terrestrial Hi-Lo Hunt

Plant Hunt

Invent a Plant

ACTION CARD
PLANTS AROUND A BUILDING

Find and mark on your map those places where plants seem to grow much larger than the same kind of plants in other places around the building. What do you think is causing this, in each case?

ACTION CARD
PLANTS AROUND A BUILDING

Find and mark on your map those places where plants seem to grow much smaller than the same kind of plants in other places around the building. What do you think is causing this, in each case?

ACTION CARD
PLANTS AROUND A BUILDING

Find and mark on your map those places where the number of plants in a small area is high. What do you think is causing this, in each case?

ACTION CARD
PLANTS AROUND A BUILDING

Find and mark on your map those places where the number of plants in a small area is very low. What do you think is causing this, in each case?

ACTION CARD
PLANTS AROUND A BUILDING

Find and mark on your map those places where no plants grow. What do you think is causing this, in each case?

ACTION CARD
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Find and mark on your map the least common plant growing around the building. Are there any special conditions which permit it to grow in that place or places?

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