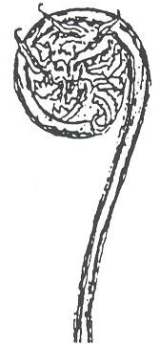


SOLAR TREATS

Activity 33

AGE LEVEL = 7-12 (5-6)
DURATION = 15-20 min.
LEARNING STATION = Anywhere
RELATED ACTIVITIES = ← Ecosystem Chorus
→ Woody Theater

WHEN =



UNDERSTANDING: Plants capture sunlight and convert carbon dioxide, water and nutrients into sugar (food).

SPECIAL NOTES: Recommended number of participants: 25 to 35. Suggested breakdown: Plants = 4 to 6, sunlight = 3, leaves = 5 to 6, soil = 3, water = 3, CO₂ = 3 or 6, O₂ = 2 or 4, chlorophyll = 2.

MATERIALS: None

PREPARATION: Review the photosynthesis process and requirements for optimal plant growth.

LESSON:

Warm-up: Gather and discuss the following: “How many have heard the word photosynthesis? What does it mean? Do other creatures get energy from the sun? How?” Explain that each child will play a crucial role. Tell them that the photosynthesis process will fail if any ingredient is not included.

Activity: Choose several children to be plants. The plants stand in clumps with arms extended to serve as branches. The plants sway about, as if blown by a gentle breeze, and say “Grow, grow, grow.”

Remind the group that plants don’t grow without help. Ask for suggestions on what they need to grow (soil, water, sunlight, carbon dioxide). Divide up into groups to represent these elements. The soil group sits at the base of the plants and chants: “Soil, soil, soil.” The water group acts like pumps squirting water at the plants, while chanting: “Dribble, dribble, drop, drop.” The sunlight group stands facing the plants with thumbs to ears and fingers waving chanting: “Shine! Shine!”

The carbon dioxide groups (CO₂) are in threes. (Have only one or two CO₂ groups.) Bouncing up and down like pistons, have them in turn say: “C,” “O,” “2.”

Have other children represent plant leaves, and attach themselves to the plants chanting: “Swish, swish.”

Then introduce chlorophyll as an aid to photosynthesis. Choose two people as Chlora and Phil to walk around the group and pretend to trap sunlight and change carbon and soil nutrients into food (carbohydrates).

Lastly, select two people to act as oxygen. Oxygen is given off by plants. The two people hold hands and run around the group chanting: “I’m free!” “I’m free!”

After each group has had a chance to practice its part, have the plants start chanting, followed by the soil, water, sunlight, CO₂, leaves, Chlora and Phil, and oxygen.

Wrap-up: Summarize and review the key elements for photosynthesis. Ask: 1) What would happen if the sun suddenly stopped shining? 2) What would happen to people if we chopped down all the trees,

mowed all the shrubs and grass and replaced it with blacktop and buildings? 3) Can you think of ways that people disrupt photosynthesis?

OPTIONS AND FURTHER EXPLORATIONS:

For further study, experiment with houseplants. Have each student cover a small portion of several leaves on different plants for several days, then compare covered and uncovered areas.