

Cob Creature Houses

Overview: Children will create houses for garden insects and other creatures using a natural building material called *cob*, made out of clay, sand, and straw. These houses can be placed in the garden for children to observe insect behavior.

Subject area: Backyard Science

Grade level: K-5th

Oregon Benchmarks/Common Core Standards:

- *K-LS1 From Molecules to Organisms: Structures and Processes*
LS1.C: Organization for Matter and Energy Flow in Organisms
- *1-LS1 From Molecules to Organisms: Structures and Processes*
LS1.A: Structures and Functions
LS1.B: Growth and Development of Organisms
LS1.D: Information Processing
- *2-LS4 Biological Evolution: Unity and Diversity*
2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats
LS4.D: Biodiversity and Humans
- *3-LS1 From Molecules to Organism: Structures and Processes*
LS1.B: Growth and Development of Organism
- *4-LS1 From Molecules to Organism: Structures and Processes*
4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction
4-LS1-2: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
- *5-LS2 Ecosystems: Interaction, Energy, and Dynamics*
5-LS2-1: Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment
LS2.A: Interdependent Relationship in Ecosystems
LS2-B: Cycles of Matter and Energy Transfer in Ecosystems

Objectives: Children will learn how to make cob and observe insect behavior.

Prep time: 15 minutes

Lesson time: 30+ minutes

Materials needed:

- Clay type soil to fill 1/3 of the bucket

- Sand to fill 2/3 of the bucket
- A couple handfuls of 1-inch pieces of straw (e.g. 2 handfuls for a 2 gallon bucket)
- Water
- Pencil-sized sticks or twigs to poke holes in the cob
- 1 bucket to mix the cob (size depends on the group; 1 gallon bucket of cob makes enough for 5 children)
- 1 cardboard square (1 ft. x 1 ft.) per child

Space needed: Flat outdoor surface

Staff needed: 1 staff per 10 children

Preparation steps: Cut up straw into 1-inch pieces

Presentation steps:

1. As a demonstration, or with the help of children, mix clay soil, sand, and straw in the bucket. Then mix with water to make the cob material. It should be wet enough that it can be formed into a ball.
2. Have children test the consistency of the cob material.
3. Give each child a cardboard piece and about 2 cups of cob material.
4. Let them design a home of their choice, using rocks and twigs to create tunnels and other hiding spaces for the insects.
5. Let them dry overnight (in cool temperatures, this may take several days).
6. When dry, have children place their cob structures near plants in the garden and observe them for a few days as insects move in.