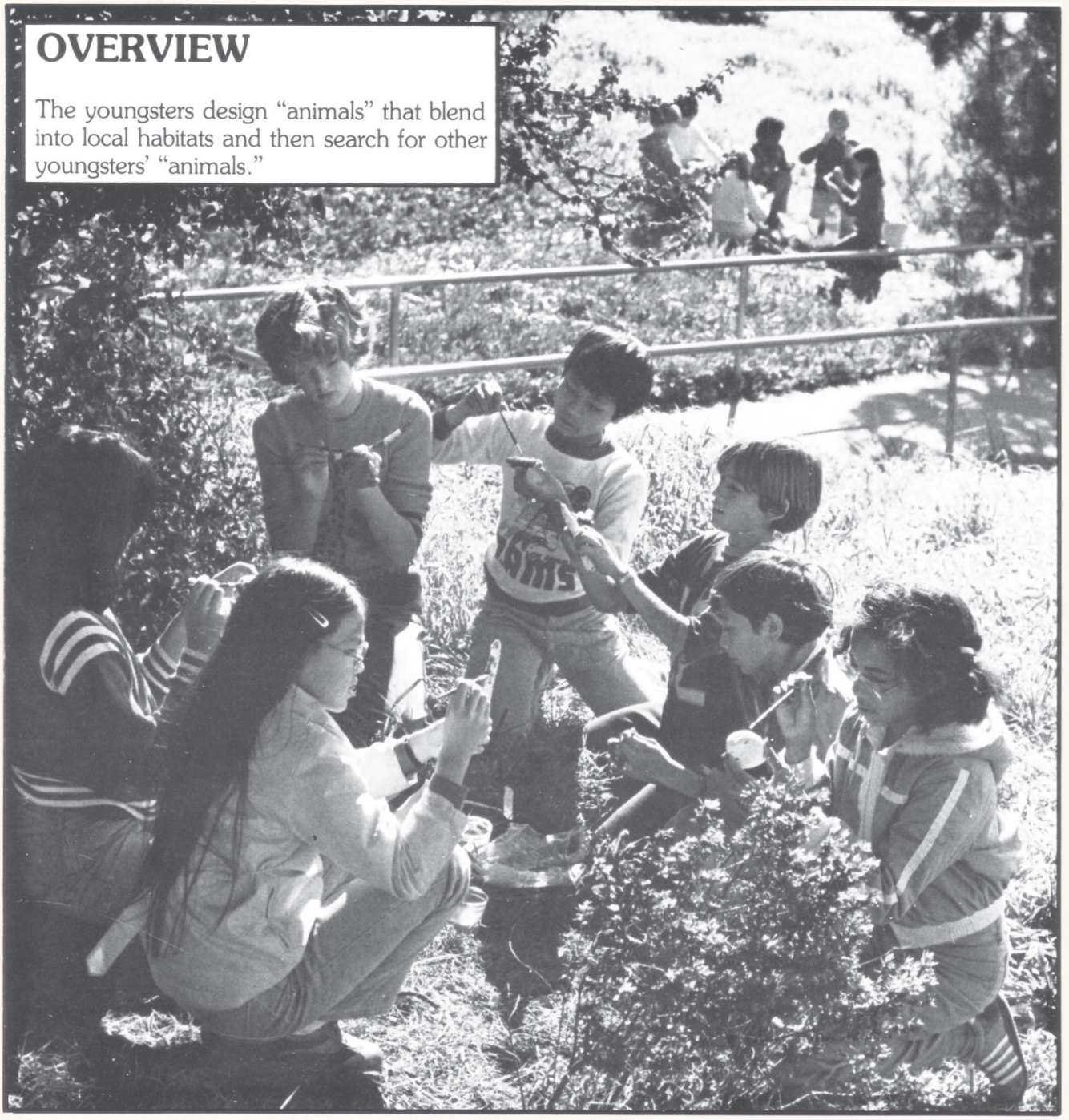
INVENT AN ANIMAL

BIO KEY

Simulation
Arts and Crafts
Camouflage

OVERVIEW

The youngsters design "animals" that blend into local habitats and then search for other youngsters' "animals."



BACKGROUND

A ***habitat*** is the place where an organism lives. Many animals have markings and colorations on their skin or coats that blend in with the colors and patterns in their habitats. The white winter coat of the Snowshoe Hare and the mottled brown feathers of the Bobwhite Quail help to conceal or camouflage these animals from would-be predators. Coloration that conceals may also enable a predator to get closer to its prey. The tawny coat of the mountain lion, for example, enables the big cat to inconspicuously stalk or lie in wait for its prey.

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An animal's *shape* and *behavior* may also allow it to blend into its surroundings. Sometimes animals have forms that are similar in shape to objects in their habitats. For example, the Walking Stick, with its slender body and long legs, looks more like a twig than an insect. The most common behavior that camouflages an animal is remaining motionless. When alarmed, the American Bittern often stands rigid with its bill pointing straight up. This posture aligns the bird's striped breast with the reeds and other plants in its marshy habitat.

Colors, patterns, and behaviors that enable an animal to blend into its surroundings are examples of camouflage, one type of animal adaptation. ***Adaptations*** are features of organisms that help them to survive and reproduce.

CHALLENGE: INVENT AN IMAGINARY ANIMAL THAT BLENDS INTO ITS HABITAT.

MATERIALS

For each youngster:

1 or 2 vegetables (potatoes, string beans, or carrots) for "animal" bodies
1 small paintbrush*

For each of the two teams:

1 set of tempera paints* (yellow, blue, red, brown, and white) in baby food jars or other small containers
paper cups* (for mixing paints)
1 Invent-an-Animal Junk Box* containing: toothpicks, popsicle sticks, masking tape, rubber bands, string, clay, cotton, pipe cleaners, and construction paper
1 small container of water
paper towels*
scissors*
colored gel* (for "Branching Out" section)

For the group:

white, non-toxic latex paint*
1 large paintbrush*
8 strips of flagging* (for marking sites)
twigs, leaves, and other natural materials found on site

*Available from Delta Education.

PREPARATION

Group Size. This activity is suitable for ten to thirty participants.

Time. Plan on forty to fifty minutes for this activity.

Site. Select *two* areas with different prevailing colors for activity sites. You will need about eight square meters for each participant. (For example, with ten participants in each group, each site should measure about eighty square meters.) The sites should have a visual barrier between them or be far enough apart so that one group cannot see what the other group is doing. Clearly mark the boundaries of each site with flagging before the activity.

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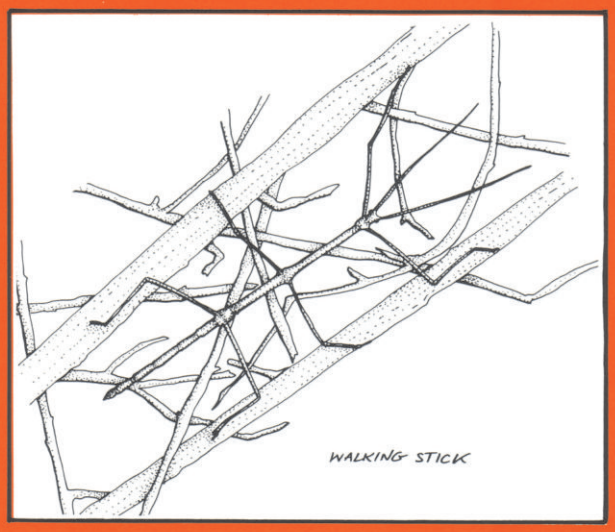
"Animal" Bodies. Obtain fairly small potatoes and carrots, or cut large ones into sections. Paint the vegetables with the white latex paint the day before the activity. The white paint makes camouflaging the bodies a definite challenge. For snow-covered sites, use black paint or a bright-color paint such as red or yellow. You can use crumpled white paper for bodies instead of vegetables, but paper bodies are more difficult to work with.



Tempera Paints. Mix the paints so they are thick. (Popsicle sticks make good stirrers.) The youngsters can mix blue and yellow to make green or mix other colors to get just the right shades to match the habitats they select.

ACTION

Setting the Stage

1. Introduce the challenge: "Invent an imaginary animal that blends into its habitat by camouflaging a white vegetable." Explain that ***habitat*** is the place where an animal lives. Mention some examples of camouflage (from the "Background" section), and ask the group for other examples.

2. Quickly outline the activity. Explain that there will be two teams and each will work in a different site. Each participant will:

- find a "home" or habitat for his animal in his team's site.
- camouflage his animal so that its color and shape blend into or match its surroundings.
- place his animal in its habitat spot *without burying or hiding the animal!* (Animals must be out in the open).

After the animals are in place, the teams will switch sites and try to find the other team's animals.

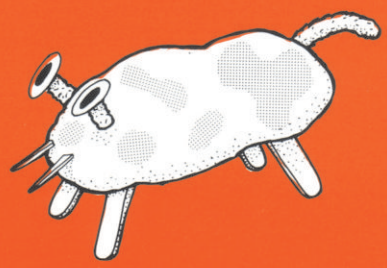
Inventing Animals

1. Point out the camouflage materials to the youngsters. Tell them that they can use some natural materials such as leaves, twigs, and dirt (along with the paint and other materials you have brought) to design and camouflage their animals. Because all colors are not provided, the youngsters will have to mix small amounts of paint to make other colors.

2. Divide the group into two teams and send one team to each site to choose habitats for their "animals." Point out each site's boundaries.

3. As the teams select habitats, set out vegetable bodies and camouflage materials in each site.

4. After the youngsters have selected habitats, let them invent their animals. Encourage the youngsters to use natural materials and to visit the habitat as they are camouflaging their animals to check color and pattern matches. Circulate between the teams as they work.



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5. As the students finish, have them place their animals in their habitats. Again emphasize that the animals should not be hidden or buried. If time permits, some of the youngsters may want to design and camouflage more than one animal.

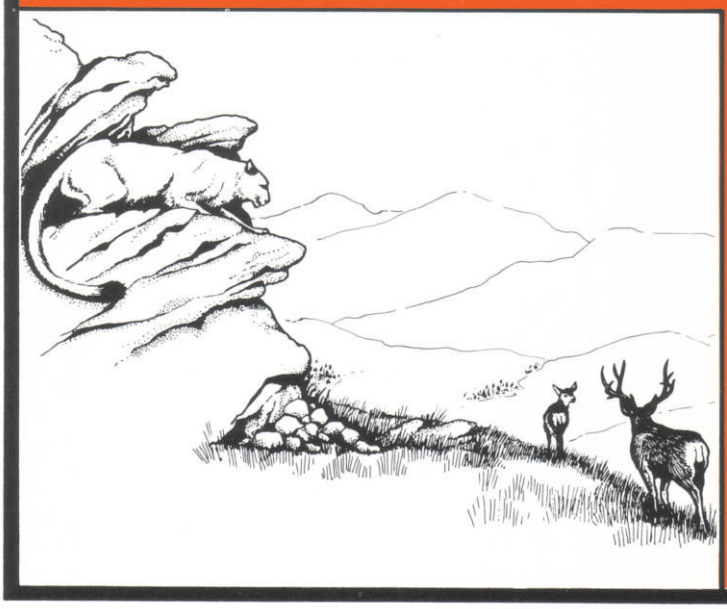
Hunting for Animals

1. After everyone has finished (about thirty minutes), call the teams together at one of the sites. Ask how many animals were set out in each site. Have the teams switch sites and look for each others' animals. Point out each site's boundaries for the hunting teams.

2. Ask the hunters to pick up the animals that they find and place them together at the edge of the site.

3. After five to ten minutes of searching, call one team over to see if the other team has found all of their "animals." Ask the "inventors" of any undiscovered animals to point out their obviously well camouflaged creations to the hunters by playing the old "You're getting warm, you're getting cold" game. Keep these hard-to-find animals separate from other animals that were found.

4. Now take the teams over to the other site and repeat the process. Place the animals from the two sites next to each other for the discussion.



CAMOUFLAGED COMMENTS

1. Why were the hard-to-find animals so difficult to locate? Why were some animals easy to spot?

2. If you had been predators searching for animals to eat, which animals would have survived?

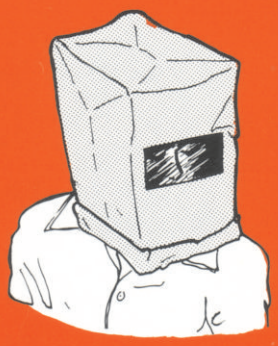
3. Look at the animals from the two sites. In what ways are they different? Why might that be?

4. In what other habitats might some of these animals also be camouflaged?

5. Mention that camouflage is one type of animal adaptation. Explain that an ***adaptation*** is any feature of an organism that helps it to survive and reproduce.

BRANCHING OUT

Many animals do not have the same quality of vision that humans have. Dogs, cats,



and most other mammals view the world in shades of gray. The vision of animals that see varying shades of one color can be simulated with colored-gel masks. (Dark red and green are good colors to use.) A mask can be made by taping some colored gel over an eye slot in a paper bag. Have the group set out some of the animals again and search for them while wearing gel masks. Compare the results of this hunt with the results of the first hunt.

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