

Build a Bug – Activity

Subjects: Life Sciences, Adaptations, Insects

Duration: Prep: 20 minutes; Activity: 1 hour

Skills: Observation, Experimentation, Critical Thinking, Note Taking

Next Generation Science Standards: Structure and Function, Variation of Traits, Adaptation; Biodiversity

Objectives: Students will learn the characteristics of insects, as well as some examples of insect adaptations.

Materials:

Parts of an Insect Vocabulary Sheet

Build a Bug Activity Sheet

Habitat Cards

Food Source Cards

Crayons/pencil crayons/paint

Optional pictures of existing insects

Background:

Insects are in a group called arthropods, which also include spiders, scorpions, millipedes, centipedes, crabs and lobsters. Arthropods have an exoskeleton (a hard skeleton that surrounds their body), a segmented body plan, and jointed body parts (legs, antennae, and mouthparts). Insects have three body segments: the head, thorax, and abdomen. They have compound eyes and antennae on their heads. On the thorax they have three pairs of legs and two pairs of wings; however some insects have only one pair or even none. For example, all flies have just one pair of wings and ants don't usually have any wings (except for the queen). The small size and hard exoskeleton of insects allow them to live in habitats where other animals cannot. The body plan of insects has been adapted for the specific environment where each species lives and also for its specific lifestyle.

Preparation:

Print one activity sheet and one Parts of an Insect sheet for each student or group. This activity can be done individually or in small groups. Discuss the parts of an insect with students and confirm that they can distinguish insects from other arthropods, like spiders, centipedes, and millipedes. Discuss different adaptations that insects use to survive in their environments.

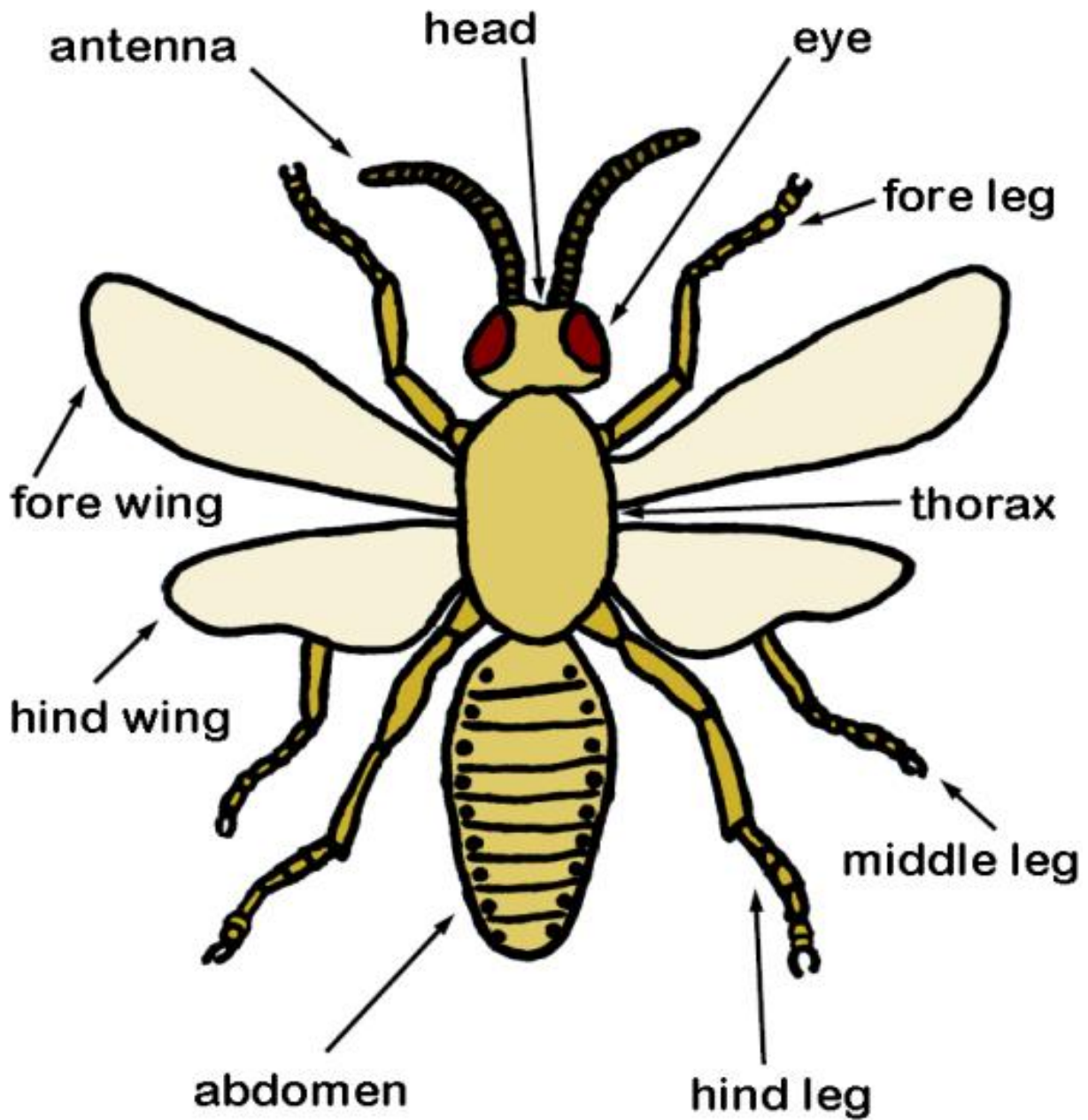
Activity:

Give each student or group one Parts of the Insect Sheet, one Build a Bug Activity Sheet, one Habitat Card, and one Food Source Card. Each student or group should invent an insect adapted to live in the habitat and eat the food source that was on their cards. Students should fill out the questions on the Build a Bug Activity Sheet and then draw their insect on the sheet labeling all the essential parts of an insect. The insect should be based in reality (no jet packs or flame-throwers). Give the students 30-40 minutes to invent their insect. Ask students to share some of the adaptations that they invented. Compare the insects that the students created, especially looking at different ways students had their insect adapt to the same food source or habitat.

Extensions:

Add more habitats (mountains) or food sources (parasite). Let students make a 3D version of their insect with available art supplies. Have students make a food web of all their insects. Write stories with their insect as the main character. Show students examples of real insects that are found in the habitats that were used in the activity.

Parts of an Insect



Build a Bug – Activity Sheet

Name: _____

1. Insect Habitat: _____

2. Insect Food Source: _____

3. How the insect finds its food: _____

4. How the insect eats its food: _____

5. How the insect gets around: _____

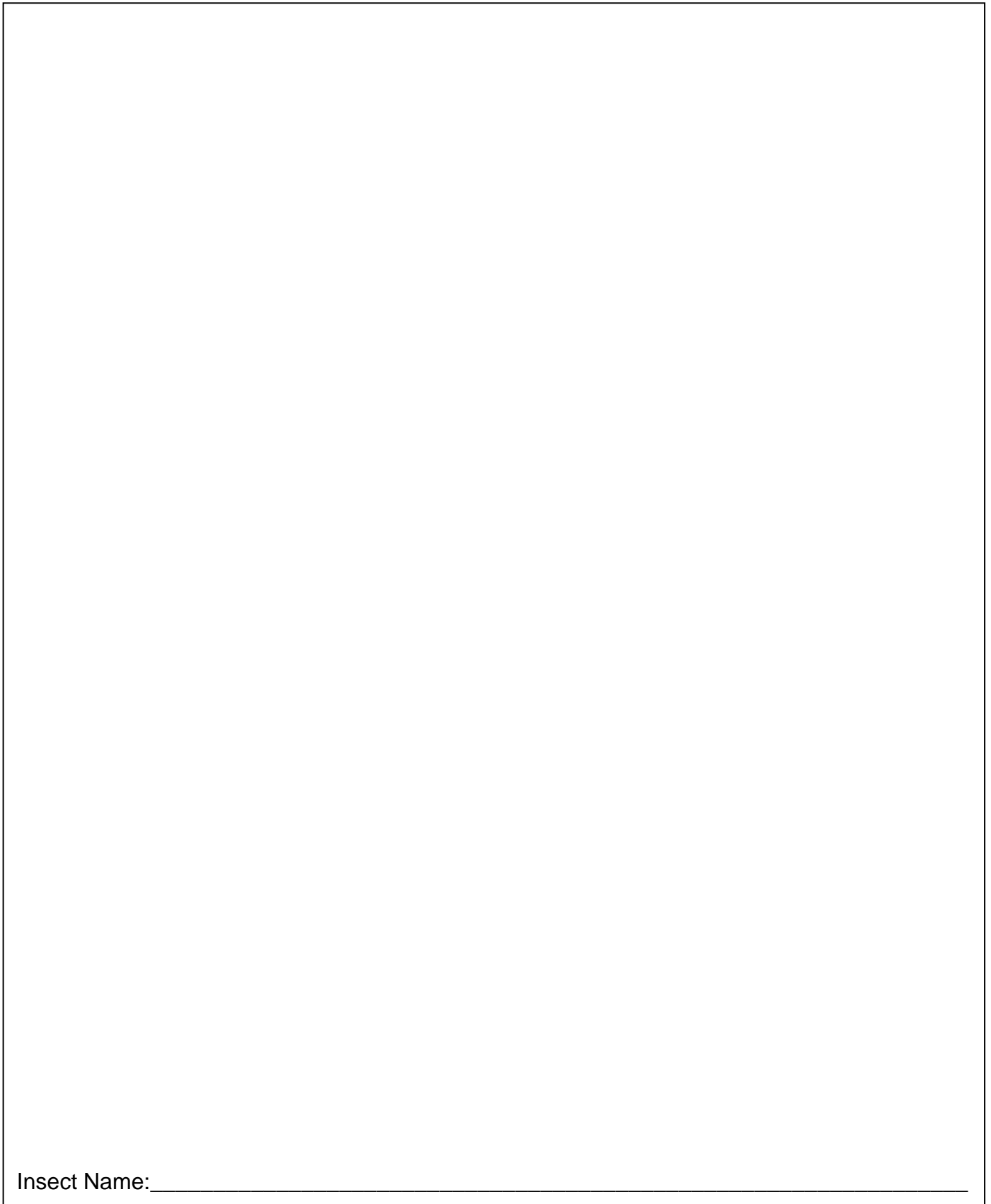
6. What eats the insect: _____

7. How the insect escapes its predators: _____

Build a Bug – Activity Sheet

Name: _____

Draw your insect below! Don't forget to label all its body parts.



Insect Name: _____

Habitat Cards



Underground

soil, rotting plants and animals, other insects



Forest

leaf litter, shade, rotting plants and animals, trees, other insects



Desert

flowers, rotting plants and animals, other insects, very hot and dry!



Cold/Snowy

rotting plants and animals, other insects, very cold!



Aquatic

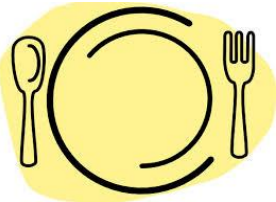
leaves, rotting plants and animals, other insects, need to breathe!



Meadow/Grassland

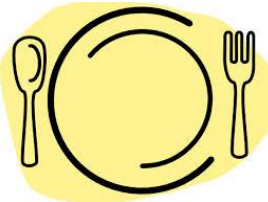
many plants and flowers, lots of sun, open space, other insects

Food Source Cards



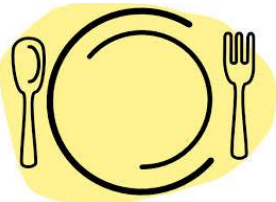
Predators

eat other insects



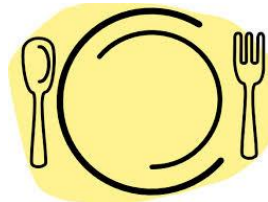
Plant-Feeders

eat plants



Flower-Feeders

eat nectar and pollen from flowers



Scavengers

eat rotting plants and animals