

Ground Wasps

Big World of Insects, Spiders & Bugs Series

Subject Areas: Science, Life Science, Biology

Synopsis: Two species of ground-dwelling wasps are explored: the burrowing wasp and the ammophila or digger wasp. Unlike some other wasps, these solitary insects do not live in communal hives. These wasps make nests in small holes in the ground for each individual egg and then provide for the young larva by hunting for food. Also, see how a parasitic wasp can take advantage of this situation.

Learning Objectives:

- Objective 1)** Students will be able to describe and identify the characteristics of an insect, including the three body parts and six legs.
- Objective 2)** Students will be able to describe the life cycle of both the burrowing and the digger wasp.
- Objective 3)** Students will be able to define the term parasite and cite one example from the program.

Vocabulary: Define and discuss the following key terms:

Burrow, emerge, social, solitary, inert, larva, parasite, pollen, ammophila, predator, caterpillar, grub, paralyzed, mental map, maturation

Pre-Viewing Questions and Discussion:

- 1) Can you think of any insects that build? What do these insects build? What are the 'buildings' used for?
- 2) What is the difference between a social insect and a solitary insect?

Post-Viewing Questions and Discussion:

- 1) Why is the first wasp in the program called a burrowing wasp?
- 2) What does the burrowing wasp build? Describe the nest.
- 3) Describe the burrowing wasp. What does it look like?
- 4) Why do the wasps build their nests close to one another? What is the difference between a social and a solitary wasp?
- 5) Describe the fire wasp. Why is this wasp so curious about the burrowing wasps' nests? Where does the fire wasp lay her eggs?
- 6) What is the prey of the burrowing wasp? What is the prey used for?
- 7) Why might the fire wasp have a negative effect on the burrowing wasps?

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- 8) Describe the ammophila wasp. How do her physical characteristics differ from those of the burrowing wasp? Why is this wasp called a digger wasp?
- 9) Describe the hole that the ammophila wasp digs. How does she dig? Why does she scatter the sand around? How deep is the hole?
- 10) Once the hole is dug, why does the ammophila conceal it? How does she do this?
- 11) What does the ammophila catch to put in the hole?
- 12) How is the ammophila able to transport her prey?
- 13) What is a 'mental map'?
- 14) What does the ammophila do with the caterpillar?
- 15) Why does the ammophila's larva eat the caterpillar in a special way?

Additional Activities:

- 1) Draw a detailed picture of all three wasps shown in this program: the burrowing wasp, the ammophila or digger wasp and the fire wasp. Label the head, thorax, abdomen, six legs, antenna, and wings.
- 2) Pretend you are either a female burrowing or digger wasp. Describe your typical day as you build a nest and find food for your egg.
- 3) Research the life cycle of these insects. Why are the caterpillars kept alive for the larva to eat? Why is it important that this food is kept fresh? How did scientists determine this? Present your findings in a written report.
- 4) Find out if these wasps are used as a pest control method for organic farmers. Do you think ground wasps would be appreciated by gardeners? Do these wasps eat only certain species of caterpillars?
- 5) Create a picture story for each of these wasps that shows them building a nest and capturing food for the larva.
- 6) The fire wasp is a parasitic wasp. Find out more about this parasite and other insect parasites. Does the parasite harm its host? Present your findings in a report.

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