

# **Scorpions & Stag Beetles: Classifying Arthropods**

## **Big World of Insects, Spiders & Bugs Series**

**Subject Areas:** Science, Life Science, Biology

**Synopsis:** Scorpions and stag beetles have each developed unique physical characteristics for aggression and defense. Scorpions have powerful claws and a dangerous tail and the stag beetle has large mandibles or jaws. Each is explored in some depth so we can learn why scorpions are arthropods but not insects.

### **Learning Objectives:**

- Objective 1)** Students will be able to describe and classify insects and arachnids.
- Objective 2)** Students will be able to describe the unique characteristics of these two arthropods.
- Objective 3)** Students will be able to list at least three examples of prey for a scorpion.

**Vocabulary:** Define and discuss the following key terms:

Ultraviolet, scorpion, fluorescent, arthropod, bulbous, nocturnal, inhabited, lair, centipede, ravenous, pincers, paralyzed, antlers, inconspicuous, larval state, ungainly, mandibles, larva, grub, ferocious, armor-plated

### **Pre-Viewing Questions and Discussion:**

- 1) How are insects, spiders and scorpions similar? How are they different? How do scientists classify these creatures?
- 2) Can you think of any unique adaptations that different arthropods have developed for defense or capturing prey? Brainstorm a list with your class.

### **Post-Viewing Questions and Discussion:**

- 1) Describe the scorpion. What does it look like? Why is it glowing?
- 2) How does the scorpion clear out its hole?
- 3) How are scorpions different from insects? How are scorpions classified?
- 4) How long have scorpions been on Earth? Describe the present-day scorpion's ancestors.
- 5) Why does the scorpion need a place to stay during the day? When does the scorpion come out to hunt?
- 6) What special sensory adaptations has the scorpion developed? How do these adaptations help the scorpion?
- 7) What happens to the scorpion when it is exploring its territory?

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- 8) What creatures might a scorpion catch as food? Describe how the scorpion eats.
- 9) Describe the stag beetle. Does the creature look nasty or nice? Explain your answer.
- 10) Where does the stag beetle spend its larval stage?
- 11) What are the stag beetle's 'antlers'?
- 12) How can the stag beetle move?
- 13) What determines the size of the stag beetles' antlers or mandibles?
- 14) How long do stag beetles live?
- 15) How do the male and female stag beetles differ in appearance?
- 16) Why do the male stag beetles fight?

### **Additional Activities:**

- 1) Draw a detailed picture of both a scorpion and a stag beetle. Label the appropriate parts: head, thorax, abdomen, legs, antenna, claws, mandibles and wings.
- 2) Some scorpions live in groups. Research some different species of scorpions to find out more about these creatures. Where do they live? How big can they get? Investigate 2-5 different species and present your findings to the class.
- 3) Research the life cycle of the stag beetle. Where are the eggs laid? How long do the eggs take to hatch? Where does the larva or grub live? What do they eat? What does the larva look like? How many species of stag beetle are there?
- 4) Scorpions have developed a deadly poison stinger on their tail. Find out more about this poison. What animals can be hurt by the stinger? Can the poison kill a person? Does the poison have any medicinal benefits? Present your findings in a research paper.
- 5) Research other arthropods with unusual shapes or adaptations. Choose 3-5 different creatures and find out more about them. Present your findings to the class.
- 6) Scientists usually study scorpions at night and can easily find them because they glow in ultraviolet light. Why do scorpions glow? Why might these creatures have developed this characteristic?

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