🐜 Science in the Movies: A Bug's Life (1998)

Grade Level: 3–6 | Topics: Biology · Ecosystems · Adaptations · Engineering in Nature

🎬 Scene Focus

Clip: The ants work together to gather food and later design a plan to outsmart the grasshoppers.
Timestamp: 00:13:00–00:16:00 and 01:05:00–01:10:00
Focus: Teamwork, problem-solving, and survival in ecosystems.

🤔 Before You Watch

1. How do ants survive and work together in real life?
2. Why might teamwork be important for animals living in groups?
3. How can insects teach us about design, problem-solving, or engineering?

> 🔮 Prediction Time! What do you think the ants will do to solve their problem with the grasshoppers?

🔬 A. Science Connections

1. What type of ecosystem do the ants live in, and what role do they play in the food web?

2. How do the ants collect and store food for survival?

3. What adaptations help ants survive and work together efficiently?

4. How does teamwork among the ants reflect patterns we see in real ecosystems or communities?

📊 B. Data & Analysis

1. If an ant carries 50 times its own weight, how much can a colony of 1,000 ants carry if each ant weighs 0.01 ounces? Show your math.

2. Why is communication (using scent or movement) vital for the ants' success?

3. What might happen to the colony if one part of their system (foragers or guards) failed to do its job?

🌍 C. Real-World Connection

1. Compare how ants build their colonies to how humans design communities or cities.

2. Engineers often study nature to solve human problems — this is called biomimicry. Research one example (like termite mounds inspiring building ventilation).

3. How can teamwork in a colony inspire teamwork in a classroom or lab setting?

□ D. Reflection

• What does A Bug’s Life teach us about problem-solving and leadership?

• How can diversity of skills and ideas help a group solve challenges?

• Complete this sentence: □ “Science helps us work together by…”

□ Did You Know?

Ants communicate using pheromones — special chemicals they leave on the ground as scent trails. These act like a GPS system, helping the colony follow paths to food and stay organized.

□ Extension (Optional)

Design your own 'Insect Innovation' inspired by an ant colony! Draw or describe a tool, robot, or invention that mimics how ants solve problems, communicate, or build structures.