■ Science in the Movies: Finding Nemo (2003) — Teacher Answer Key

Grade Level: 4–7 | Topics: Marine Biology · Ecosystems · Adaptations
Includes teaching notes and discussion prompts.

■ A. Understanding the Habitat — Suggested Answers

1. Reef Animals: Students might list clownfish, sea turtles, seahorses, rays, or sharks.
   • Adaptations: Clownfish use sea anemones for protection; rays glide along the ocean floor to find food; turtles migrate long distances.
2. Why Coral Reefs Support Life: Reefs provide shelter, food, and breeding areas — forming one of the most biodiverse ecosystems on Earth.
3. Reef vs. Drop-Off: Reefs are bright, warm, and shallow; the drop-off is darker, colder, and home to fewer but larger predators.

 Teaching Notes: Emphasize biodiversity and how coral reefs are often called the 'rainforests of the sea.' Encourage students to connect animal adaptations to environmental challenges like light, depth, and predation.

■ B. Cause and Effect — Suggested Answers

1. Dangers Beyond the Reef: Predators, human fishing activity, and open-ocean exposure make the area risky for small fish like Nemo.
2. Coral Reef Protection: Coral provides hiding spaces and food, acting as a natural barrier.
3. Food Web Example: Algae → Small Fish → Larger Fish → Shark.

 Teaching Notes: Reinforce predator–prey relationships. Have students compare this scene with real reef ecosystems using visuals or short nature clips. Ask: What role do small fish play in the food chain?

■ C. Data & Analysis — Suggested Answers

1. Species Calculation: 25% of 2 million = 0.25 × 2,000,000 = 500,000 species.
2. Coral Bleaching Effects: When coral dies, it loses color because the symbiotic algae (zooxanthellae) leave. This causes habitat loss, less biodiversity, and weakened ecosystems. Fish and invertebrates lose protection and food sources.

 Teaching Notes: Use this section to connect math and science skills. Discuss real causes of coral bleaching (temperature rise, acidification). Optional extension: show before-and-after reef photos for visual impact.

■ D. Real-World Connection — Suggested Answers

1. Human Impacts: Pollution, overfishing, and rising sea temperatures are major threats.
2. Solutions: Use reef-safe sunscreen, reduce plastic waste, support sustainable seafood, and join reef restoration projects.
3. Poster Example: “Keep Nemo’s Home Safe! Coral reefs protect millions of sea creatures—help protect them by keeping our oceans clean.”

 Teaching Notes: Encourage creative expression with posters or digital infographics. Discuss how small personal actions can collectively protect marine ecosystems.

■ Reflection — Example Responses

- Finding Nemo shows curiosity, courage, and how ecosystems depend on balance.
- Sample student response: “Nemo’s adventure teaches that curiosity can lead to discovery but also danger — just like in real science.”

 Teaching Notes: Use reflection to tie science learning to emotional intelligence. Discuss curiosity, risk-taking, and scientific discovery. Great opportunity for SEL integration.