Focus Question 1: What do animals need to survive?

Lesson 1: Animal Survivor
Animals need food, water, and shelter to survive.

Students identify the problem of changes to habitat causing animal populations to decline and take part in a video investigation to find out what animals need to survive.

Lesson 2: Roly Poly Hotel Part 1
A habitat needs to provide a source of food, water, and shelter.

Students design two classroom habitats where roly polys can survive and plan a fair test to determine the effect of changing one material and to decide which habitat is the best solution to the problem.

Lesson 3: Roly Poly Hotel Part 2
Different solutions need to be tested to see which one best solves the problem.

Students collect data from testing two habitats to make a claim about the effect of the material that was changed and the habitat that best meets the needs of the roly polys.

Lesson 4: Teamwork
Living in groups helps some animals to survive.

Students collect evidence from a test to construct a claim that being in a group can have many effects that may help an animal survive.

Focus Question 2: Why do animals live in different habitats?

Lesson 5: Camera Trap
Different numbers and types of animals are found in different habitats.

Students look for patterns in camera trap data to identify mammals living in a woodland habitat.

Lesson 6: Town and Country
Some habitats meet the needs of particular animals better than other habitats.

Students use graphs to analyze camera trap data from three different habitats and use evidence from a field guide text to explain the patterns in the kind and number of animals seen in each habitat.

Lesson 7: Under the Sea
In a given habitat, some animals can survive well, some survive less well, and others can not survive at all.

Students communicate information obtained from a text by creating a comic strip showing how a marine animal would be affected by visiting a new type of habitat.

Focus Question 3: What can fossils tell us about animals and habitats?

Lesson 8: She Sorts Seashells
There are similarities and differences between fossil organisms and modern organisms.

Students analyze patterns in seashells and compare and contrast them with a fossil.

Lesson 9: Fossil CSI
Evidence from fossils shows that some habitats have changed dramatically over long periods of time.

Students analyze and interpret data on fossils and make a claim about whether the habitat where the fossil organisms lived has changed over a long period of time.

Lesson 10: Dinosaur Dig Site
Some types of organisms that once lived are now extinct.

Students collect information from a text on patterns of similarities and differences between an extinct animal and a modern animal. They use information in the text to make a claim about the kind of habitat the extinct animal lived in.

Focus Question 4: What happens to animals when their habitat changes?

Lesson 11: Move, Survive, or Die!
When their environment changes, some organisms thrive, some must move, and others die.

Students use a board game as a model to collect evidence to make a claim that a change in habitat can cause animal populations to go up or down.

Lesson 12: Tiger, Tiger
Land development can make it harder for animals to access resources and their population can decrease.

Students use a movement game as a model to construct an explanation for why land development causes tiger populations to decline.

Lesson 13: Wildlife Corridors
Wildlife corridors are one solution that can help protect animals from the negative effects of land development.

Students argue using information from texts the wildlife corridors can be effective in helping protect animals when their habitat changes.

Design Challenge
Focus Question 5: How can we reduce salamander deaths on roads?

Lesson 14: Salamander Tunnel Part 1
Problems are defined in terms of their criteria and constraints.

Students define the problem of salamanders being killed on roads and work together to design a prototype that, as a complete system, meets the constraints and criteria of the problem.

Lesson 15: Salamander Tunnel Part 2
Different solutions need to be tested to see which one best solves the problem.

Students build their prototype and test it using roly polys as a model for salamanders. They use data from their test to argue for how well their prototype solved the problem, and which parts of their design may have caused success and failures.