

OXBOW “I See, I Wonder” Teacher Notes

Turtle Adaptations

Grade	Standard/Element
3	S3L1b – Construct an explanation of how external features and adaptations (camouflage, hibernation, migration, mimicry) of animals allow them to survive in their habitat.
3	S3L1c –Use evidence to construct an explanation of why some organisms can thrive in one habitat and not in another.
Biology	SB6b - Analyze and interpret data to explain patterns in biodiversity that result from speciation.
Biology	SB5 - Obtain, evaluate, and communicate information to assess the interdependence of all organisms on one another and their environment.

Main Ideas:

Adaptations

Physical Adaptations

Behavioral Adaptations

Misconceptions:

- Adaptations happen quickly. Reality: Physical adaptations happen over many generations of plants and animals.
- Only organisms that look alike share a common ancestor. Reality: All living things have DNA as genetic material, use the same code for building proteins, and share 200-300 fundamental genes.
- Populations adapt when all of the individual members gradually change their traits. Reality: Populations adapt when individuals that have certain traits are more likely to reproduce than individuals with different traits. Over multiple generations, the advantageous traits become more common in the offspring.
- Genetic variations arise in response to selective pressure. Reality: Genetic variations arise at random, all the time. Selection can act only on existing variations

What You Need to Know:

- An adaptation is a characteristic of a living thing that helps it survive in its environment.
- When we state that “animals adapt to their environments” we actually mean that different types of animals have specialized over long periods of time.
- Animal characteristics do not change simply because an individual is moved to a different environment. Instead, as the animal’s environment changes, those individuals with favorable characteristics are better equipped to survive and reproduce, leading to more animals with those favorable adaptations. It is a process that occurs over many, many generations.