Elicit Question Cards—Variation in Traits (Leader Master)

Why are there so many different kinds of living things on Earth?	Are the living things alive on Earth today the same as a million years ago? Why?
I've heard that today's birds are descendants of now-extinct dinosaurs. How could that be?	Antibiotics commonly used to cure bacterial diseases are becoming less effective. What can you say about the traits of bacteria if antibiotics that used to kill them no longer work?

Changes in weather patterns on Earth because of climate change are gradually changing environments for living organisms. How might persistent drought conditions in an area impact the traits of organisms living there?

When Charles Darwin visited the Galapagos Islands, he found different types of finches with very different beaks living on each island. If these finches had a common set of ancestors originally from the South American mainland, what happened that could explain why the finches on each island have unique traits?

Dogs have long been bred to create breeds with desirable characteristics, like an ability to herd sheep or guard property. Does a similar process happen in nature? Explain your thinking.

Name some traits of plants that vary from individual to individual. How might trait variations help certain plants survive in a particular environment while others die out?

Giraffes haven't always had long necks. Fossil evidence indicates that at one time, giraffes were no taller than a deer. (The closest living relative to a giraffe is an okapi, which resembles a deer.) How do you explain the change in giraffes over a long period of time?

What does the phrase "survival of the fittest" mean to you? Can you think of an example of survival of the fittest in real life?

Plants in tropical rain forests tend to have broad, soft leaves, whereas plants in deserts have very small, waxy leaves or no leaves at all. Why do you think that is?