

Animals on the Move

Estimated Time: 30 minutes

SUMMARY

How did geologists develop the theory of plate tectonics—the theory that describes the movement and interaction of Earth’s seven major plates and several smaller plates? One key line of evidence is the distribution of fossilized plants and animals, as well as organisms’ present-day distributions. In this activity, students will explore how different plants and animals may have evolved with the movement and interaction of the plates.

WHAT YOU’LL LEARN

- Distribution and characteristics of many animals can be attributed to the movement of the Earth’s plates

Materials Used

- Pangaea map (see 3 page)
- Sticky notes
- Writing utensil
- An imagination!

Helpful Links

- https://www.si.edu/object/plate-tectonics:yt_VVpqvk521B0?edan_q=plate%20tectonics&destination=/search/videos&searchResults=1&id=yt_VVpqvk521B0

WHAT TO DO

1. Pangaea was once a supercontinent that existed around 335 million years ago. Animals and plants lived on this supercontinent. Over the last 335 million years, the species of animals and plants that once lived on Pangaea have evolved as the plates have shifted their location on Earth.
2. Presently, many animal types have closely related species that can be found on different continents. For example, there are monkeys that are native to South and Central America and other species of monkey that are native to Africa and Asia. All monkey species throughout the world share similar characteristics but are separated by thousands of miles of the Atlantic Ocean. Marsupials like kangaroos, wombats, and opossums are all very similar, but kangaroos and wombats are native to Australia and opossums are native to the Americas—closely related species that are separated by thousands of miles.
3. Use the Pangaea map on page 3 and have the student assign their favorite habitats and animals to different locations on Pangaea. The student can draw in animals, place stickers, or use sticky notes. Have the student describe the habitats and traits of the animals as detailed as possible.
4. Now, cut Pangaea along its various plates (lines on the map). Move the plates around. Are there species and habitats that were cut or split when the student separated the plates?

5. With the plates, habitats, and species separated, have the student imagine and describe how these once connected habitats and species would change. Have the student describe new traits that might evolve based on how the habitats would change.
6. Repeat the movement of the plates to new places on the Earth. The student can move plates further apart or have plates come together. What changes in the habitats and the animals might occur with the new placement of the plates? Encourage the students to be creative, while drawing on their prior knowledge of present-day habitats and the location of landmasses.

TIPS

- If the student is searching for interesting examples of traits to change in their animals, they might want to look at some of the characteristics that diverge between Old World and New World monkeys. A small group of monkey species was separated from Africa around 30 million years ago, making their way to South America. New World monkeys evolved prehensile tails (they can use their tails to wrap around branches and hold onto objects), while Old World monkeys do not have prehensile tails.

