

Name \_\_\_\_\_



**Day 1** **Weekly Question**  
**What causes a species to become extinct?**

**Extinction** is a natural and common process. In fact, 99.9% of all species that have ever existed on Earth are now extinct! Extinction plays an important role in creating diversity of life. Each species on the planet occupies a specific **niche**, so when a species becomes extinct, it leaves a vacant space in an **ecosystem** that is eventually filled by one or more new species.

There are two basic types of extinctions. *Background extinctions* are the most frequent kind. They happen constantly and affect only a few species at a time. *Mass extinctions* occur infrequently and affect a great many species at once. Mass extinctions account for only 5% of all extinctions.

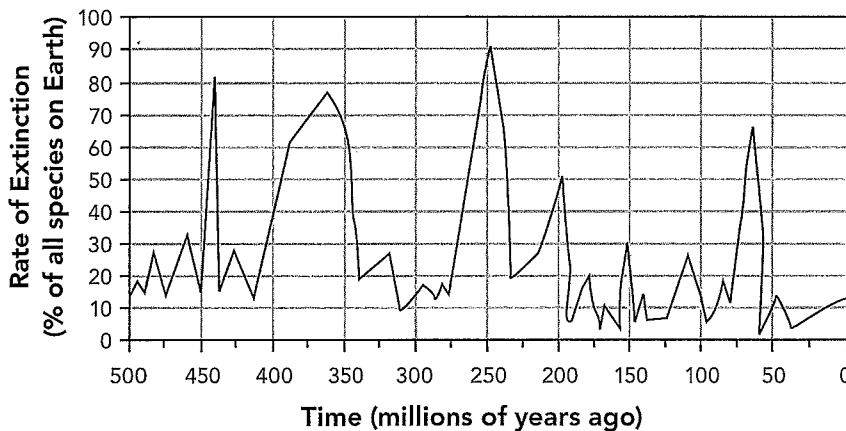
**Vocabulary**

**ecosystem**  
EE-koh-SIS-tum  
a community of interacting organisms and their physical environment

**extinction**  
ek-STINK-shun  
the act of ceasing to exist

**niche**  
nich  
the position or role of an organism in its environment

**Mass Extinctions**



**A. Use the graph above to answer the questions.**

1. When did the biggest mass extinction in Earth's history occur? \_\_\_\_\_
2. How long ago was the most recent mass extinction event? \_\_\_\_\_
3. How many mass extinction events have happened in Earth's history? \_\_\_\_\_

**B. What happens to a species' niche when the species becomes extinct?**

\_\_\_\_\_

Name \_\_\_\_\_

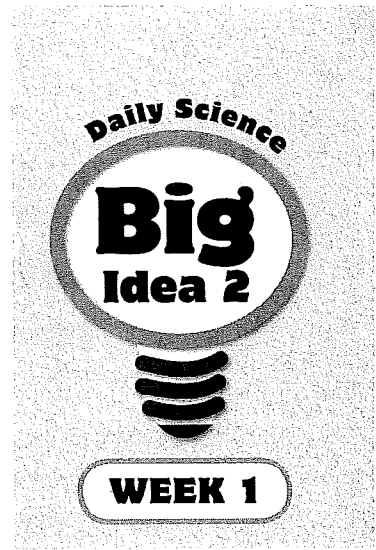
**Day  
2**

**Weekly Question**

**What causes a species to become extinct?**

Background extinction affects only a few species at a given time. The most common cause is a change in the species' habitat. Even small changes in temperature can disrupt the balance of nature and cause the death of one or more species in that habitat.

There are also many other causes of background extinction. For example, competition between two species for the same niche often leads to the extinction of the weaker species. **Predation**, or the hunting and eating of one species by another, can cause background extinction. Species can also become extinct due to disease. Finally, small population size can cause extinction if there aren't enough members of the species to produce healthy offspring.



**Vocabulary**

**predation**  
preh-DAY-shun  
the act of hunting prey

**A. Next to each example of something that can lead to a background extinction, write the letter of the reason for it.**

- \_\_\_ 1. A virus infects all the members of a bat species.
- \_\_\_ 2. A species of shark feeds on a rare species of octopus.
- \_\_\_ 3. Members of a rare salamander species are born with a genetic defect and are unable to reproduce.
- \_\_\_ 4. Two species of hawks live in the same place and eat the same food.
- \_\_\_ 5. A forest that is the home of a species of bear is destroyed by fire and replaced with grassland.

**Reasons for Background Extinction**

- a. competition
- b. habitat loss
- c. disease
- d. population size
- e. predation

**B. Pandas feed almost entirely on bamboo. If the bamboo plant became extinct, what do you think would happen to the pandas?**

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

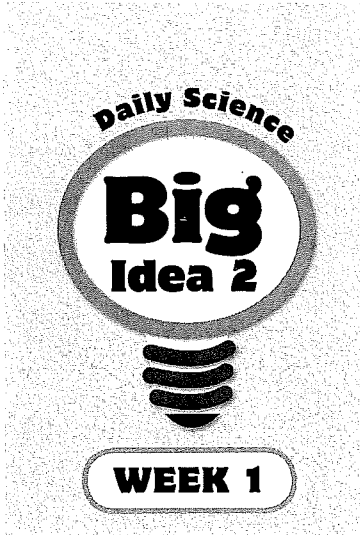
**Day  
3**

**Weekly Question**

**What causes a species to become extinct?**

As with background extinctions, the leading cause of mass extinction is change in habitat. However, the change happens on a global scale and affects many organisms over a short period of time. Mass extinctions may be caused by one-time natural disasters, such as volcanic eruptions and asteroid impacts, both of which throw dust and debris into the air and block out the sun. Most scientists believe that an asteroid hitting Earth is what led to the extinction of the dinosaurs.

Mass extinction can also occur as a result of continuous processes that change Earth's climate over time. Global climate change can lead to dramatic shifts in sea levels, ocean currents, and temperatures. Together, these factors can significantly alter the environment to the point where it is **uninhabitable** for a great number of species. If these species can't adapt to the changes, they will become extinct. For example, the global warming that occurred at the end of the Ice Age contributed to the extinction of several species, including the saber-toothed tiger and the woolly mammoth.



**Vocabulary**

**uninhabitable**  
un-in-HAB-it-ih-bul  
not fit for living in

**A. Name two ways mass extinction is different from background extinction.**

1. \_\_\_\_\_

2. \_\_\_\_\_

**B. What are two things that can cause mass extinction to occur?**

1. \_\_\_\_\_

2. \_\_\_\_\_

**C. Do you think it is easier for a species to adapt to a sudden change in its environment or a gradual change? Explain.**

\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_

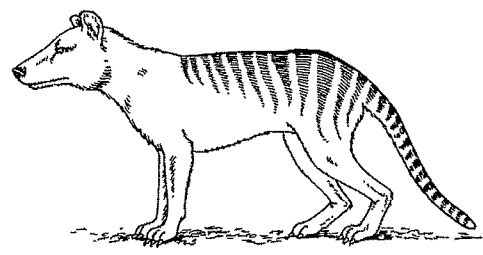


**Day 4** **Weekly Question**  
**What causes a species to become extinct?**

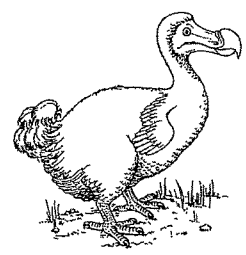
Because a large number of animals have gone extinct over the past few thousand years, many scientists believe that we are in the middle of the next mass extinction. The main cause of this extinction event is human activity. People are changing the environment much faster than most species can adapt. As the human population grows, people expand into natural areas, building cities where there were once forests, wetlands, or deserts. In the process, humans are using up natural resources and creating pollution to the point where the habitats can no longer support life.

Another way that humans cause extinctions is by introducing "nonnative" species into ecosystems where they do not belong. These species often outcompete, prey on, or pass along diseases to the native ones. For example, rats that have escaped from ships are threatening the survival of many native island birds. Some scientists estimate that as a result of human activities, half of all species that exist today may be extinct by the year 2100.

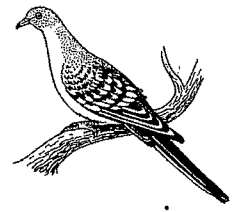
**Examples of Extinct Species**



Tasmanian wolf



dodo

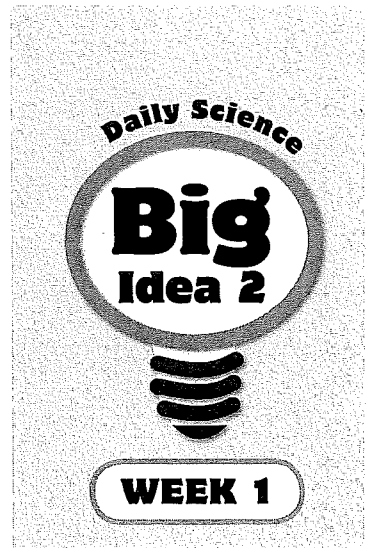


passenger pigeon

Write *true* or *false*.

1. The growing human population is contributing to the extinction of other species. \_\_\_\_\_
2. There are signs that by 2100, most species will be extinct. \_\_\_\_\_
3. Building a road through a forest has no impact on the environment. \_\_\_\_\_
4. A nonnative species can be brought into an ecosystem by humans. \_\_\_\_\_

Name \_\_\_\_\_



**Day 5**

**Weekly Question**

**What causes a species to become extinct?**

A. Use the words in the box to complete the paragraph.

predation    uninhabitable    niche  
extinction    ecosystem

Each species fills a particular \_\_\_\_\_ in an \_\_\_\_\_ . The \_\_\_\_\_ of a species produces a hole in the biological community. This may be caused by \_\_\_\_\_ of one species by another, if the prey species is hunted until it becomes extinct. But species are most likely to become extinct when their environment becomes \_\_\_\_\_ .

B. Use the words in the box to write the causes of background extinction and the causes of mass extinction in the outer parts of the diagram. In the middle, write any causes that are common to both.

humans    predation    competition    volcanic eruption  
asteroid    habitat loss    climate change    small population size

