

Grade 8				
Ch. 3 Lesson 3				
Life Science				
Page #	Question	Answer(s)	Links/Sources	Student Resources
109	Why may plants be more resistant to mass extinctions than animals?	Sample answer: Seeds lie dormant for long periods of time before germinating; plants may reproduce more rapidly than animals do; plants may be more likely to find small pockets of habitat where they can survive.		
109	Why should we be concerned about the extinction of some plant species?	*Sample answer: Plants provide food and shelter, and create habitat for many other organisms. They may also have medicinal properties, or other undiscovered benefits.		
109	What are some places in your community where plants have not survived?	Sample answer: In areas where the topsoil has been cleared off and in areas where herbicides have been used, in areas that have been paved or where concrete has been poured for playgrounds, buildings and parking lots.		
109	What native plants in your area or region have gone extinct or are endangered or threatened?	Answers will vary. Have student form small groups and research the this topic and report their findings to the group. Note: You might want to consider getting your class involved in a native plant restoration project. Most communities have organizations (native plant societies) that are seeking to increase native plant growth that appreciate any help they can get from the community.	https://ahsgardening.org/gardening-resources/societies-clubs-organizations/native-plant-societies/	
109	What about plants that don't adapt to a changing environment?	They eventually die out in the area that is unsuitable and may move their range to more hospitable areas.		
109	What human activities might cause a decline in the number of plant species?	Urban expansion, certain kinds of agriculture, road building.		
109	What kinds of activities could help the survival of a plant species?	Better knowledge of the plants and where they grow. Better building and construction laws to protect native plants, habitat restoration and replanting efforts.		
109	How do people depend on plants?	For food, for oxygen, for homes and other buildings, for paper, for livestock food, for shade and for beauty.		
109	What would happen if many of the plants on Earth disappeared?	Food supplies would be interrupted, oxygen production would be reduced, lumber resources would not be available, the health of most ecosystems on Earth would suffer.		

109	Why are many scientists concerned that some plant species may disappear completely./	The disappearance of plant species negatively affect the health of ecosystems. Many plant species are critical to the survival of other species. Many of the species that may disappear may hold clues to important medicines and other useful products that will be gone forever, should the plant species disappear.		
110	How does habitat destruction cause extinctions?	*Organisms lose the environments to which they are adapted for survival.		
110	How does habitat fragmentation cause extinction in plants?	Because the habitat has both interior and exterior changes it make them vulnerable to disease or parasites. Plants may lose access to pollinators.		
110	How do Genesis 1:26 and Revelation 11:18 relate to how well we care for Earth?	*Genesis 1:26 describes how God created man to have dominion over the Earth and care for it. Revelation 11:18 describes the destruction of the wicked including those who destroy the Earth.		
110	Seeds are collected and grown in botanical gardens. How might this help the conservation of the species?	*Sample answer: Growing seeds in a controlled garden, like a botanical garden, will help the survival of the species because people can regulate the temperature, pollinate the plant by hand, and protect the plant from pests and diseases in the controlled garden better than they might be able to do in the natural habitat.		
110	How might this affect plant species living in the fragmented areas?	Sample answer: It may reduce certain resources needed by the plant, it increases the risk of competition of invasive species, and it can increase the risk of disease because of increased exposure.		
110	How does global warming affect habitat?	It changes the temperature so it moves outside of the range favorable to some plants, it affects local climates, it introduces weather extremes all of which can negatively affect almost all habitats.		
110	How do plants spread their seeds?	By wind, water, animals, and gravity.		
110	What might happen to a species of plant if its current habitat was fragmented and separated by large areas of developed land?	The plant may not be able to disperse its seeds to areas of suitable habitat and the population of the species would decline.		
110	What are some pollutants that commonly affect air, water, and soil?	Air - hydrocarbons from motor vehicles and fossil fuel development; water - agricultural runoff, chemical release from manufacturing plants, street runoff, leaking of raw sewage into waterways; soil - fertilizers, pesticides, herbicides, industrial waste.		
110	What is the source of these pollutants?	See answer above.		

110	How might these pollutants be reduced or eliminated?	Better antipollution laws and better enforcement of the laws.		
110	If we continue or current level of impact on the extinction rate, what are some changes can we expect to see in our environment, even in the near future?	Sample answer: Serious ecosystem disruption and deterioration of environmental health, which affects humans; a rapid loss of species, many of which have not been discovered, less research on find new medicines and cures for disease.		
110	What are some ways we might change the way we get food, shelter, and medicines?	Sample answer: We can practice better agricultural techniques to improve the health of the environment. Practice wiser building practices and reducing land development, intensify research to locate new species of plants and animals and look for the knowledge we might gain about them.		
111	Why do invasive species cost humans so much?	*Food production revenues decrease, value of the rangeland decreases, and control efforts, such as chemical and biological control, most money.		
111	How do invasive species negatively affect an area?	*Sample answer: It forces out native species..		
111	Research the nodding thistle. How is it well adapted and an invasive species?	It has many characteristics that allow it to be more successful than native grasses, including producing more seeds, spreading them widely, and resisting periods of drought before germination.	https://www.cabi.org/isc/datasheet/11259	
111	In your opinion, which is the best method of invasive species control. Explain.	*Students' responses will vary, but reasons should provide logical support for their opinions. Students should be encouraged to refer to the chart in the text to support their answer.		
111	What benefits do native plants bring to other organisms in the local environment?	Native species provide food and shelter to local species that depend on the specific habitat components that the native plant provides.		
111	Why are invasive species often more successful than native species?	Because the native species have natural controls that control their populations, invasive species lack these controls because they have been removed from their native area where their natural controls existed.		
111	What are they competing for?	Water, sunlight, soil nutrients and pollinators.		
111	What are some ways invasive species may change the ecosystem?	Sample answer: They may choke out native species which other organisms depend on for their survival causing these other species to die out or to have to move to locations. They often change the chemistry of the soil so only they can survive the changed chemistry of the soil.		

111	What human industries might invasive species affect?	Farming, timber, transportation, and recreation.		
112	How can you model the effects of an invasive species?	By creating a model that demonstrates how an invasive species and mathematically increase over time.		
112	How much of an effect will changing one factor have on the results?	Answers will vary. Students should note that some changes have a greater effect than others.		
113	How might government agencies try to prevent invasive species?	They might pass laws that prevent people from planting non-native plants.		
113	How might invasive species change the environment and endanger the native species of Humboldt Bay?	Sample answer: They might change the fertility of the soil; rob native plants of water and soil nutrients; and/or crowd out plants.		
* Means the answer is found in the TE.				