

## Succession study guide

1. List 3 signs of global warming:

\*atmospheric/global temperature rising

\*ice caps/glaciers melting

\*sea levels rising

2. Over the last 100 years, what's the average temperature rise over the globe?

\*1.53 degrees F (approx. 2 degrees)

3. In what regions of the earth do we see the biggest effect of global warming?

\*polar regions- Antarctic and Arctic zones

4. What gases contribute to the greenhouse effect?

\*Carbon dioxide, Methane, Nitrous oxide, CFC's

5. What are the major sources of Carbon in our atmosphere?

\*Fossil fuel combustion through electric power and transportation

6. What is the importance and differences between the Montreal protocol and the Kyoto treaty?

\*Montreal protocol is the international treaty banning production and consumption of CFC's to protect the ozone layer from burning

\*Kyoto treaty is the international treaty that commits state parties to reduce GHG's

7. What renewable energy resources are now being used in some countries and communities?

\*Solar wind panels, solar power, hydroelectric power, tidal power

8. What is the single largest contributor to increased levels of carbon dioxide (CO<sub>2</sub>)?

\*Gas emissions from fossil fuel combustion

9. What are the causes and effects of global warming?

\*Causes- trapping and heating of UV rays by GHG's absorbing rays preventing heat from leaving atm.

\*Effects- gradual increase in atmospheric temperatures

10. What is the greenhouse effect?

\*The greenhouse effect is the process by which radiation from the sun warms the planet's surface to a temperature above what it would be without its atmosphere

11. List possible solutions to global warming and explain how your plan will help the effects of climate change.

\*using renewable energy resources such as solar powered devices, recycling, planting more trees to absorb CO<sub>2</sub> emissions, drive less or driving electric power vehicles

12. What are the two types of succession?

Primary and secondary

13. What is primary succession?

Primary succession is the series of changes that occur in an area where no soil or organisms exist. It takes an average of 2000 years for the ecosystem to become a climax community.

14. What is secondary succession?

Secondary succession is the changes that occur after a disturbance in an existing ecosystem. It takes on average of 200 years for an ecosystem to become a climax community.

15. What is the difference between primary and secondary succession?

Primary succession occurs in an area where there is no soil or organisms. Secondary succession occurs in an area where an existing ecosystem has been disturbed.

16. Which type of succession takes longer to complete and why?

Primary succession takes longer because there is no existing soil. Soil takes a long time to develop.

17. What is the term for a stable ecosystem after succession has been completed?

A Climax Community is the name for a mature, stable ecosystem. Change is very slow, and nothing major will happen unless a natural disturbance occurs.

18. What is a disturbance?

A disturbance is when an ecosystem is changed drastically so the organisms that lived either die or emigrate.

19. Name 5 examples of disturbances.

Fire  
Flood  
Earthquake  
Hurricane  
Volcano  
Mudslide

20. What is a pioneer species?

Pioneer species are the first organisms to populate an area where primary succession occurs.

21. What are two examples of pioneer species?

Moss and lichen are two examples of pioneer species.

22. In succession, the first changes occur in what type of population?

The first changes in succession occur in the plant population

23. Name three ways seeds can be dispersed.

Seeds can be dispersed by  
Blowing in the wind  
Movement by water  
Animal assisted

24. Primary succession typically happens after what two events?

Primary succession occurs after a newly formed volcanic island is formed. It can also occur after ancient ice sheets or glaciers melt, leaving bare rock exposed.

25. If an area is left abandoned, what two producers are the first to grow?

Shrubs and small trees are the first to grow in an abandoned field, HOWEVER... after a fire grasses and weeds are the first to grow.

26. What happened during the Mt. St. Helens volcanic eruption?

Mt. St. Helen's erupted in 1980. It killed 57 people and destroyed the ecosystem in a 50 kilometer radius. Life came back to the area within 3 years of the disaster.