Biogeography and Dispersal

Biogeography

The study of where organisms live is called *biogeography*.

Note: In addition to studying *where* species live, biogeographers also try to understand *what* led to the worldwide distribution of species that exist today.

Continental Drift

One factor that has affected how species are distributed is the motion of Earth's continents.

Continental Drift is…

The very slow movement of the continents on a layer of solid rock called plates.

True or False?

All of today's continents were part of one large land mass about 225 million years ago.

True!

What do you think?

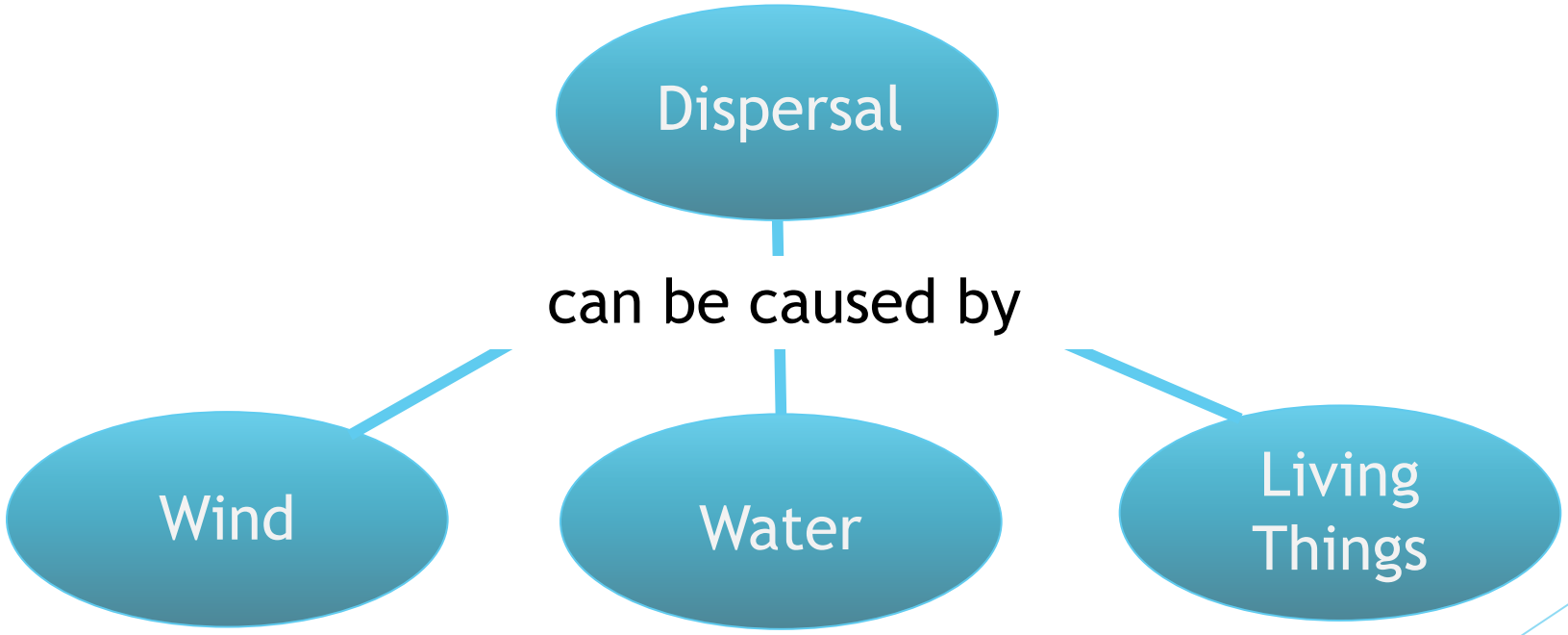
The movement of the continents has had little impact on the distribution of species.

No!

Consider Australia for example, Australia drifted away from the other landmasses. Organisms from other parts of the world could not reach the isolated island. Kangaroos, koalas, and other unique species flourished in this isolation.

Dispersal

The movement of organisms from one place to another is called *dispersal*.



Wind and Water

Wind can disperse *seeds, the spores of fungi, tiny spiders, and other small, lightweight organisms.*

Water can disperse things that float such as coconuts and leaves.

Other living things

Some organisms may be dispersed by other living things.

For example:
A bird may eat seeds and deposit them in its waste in another location.

A duck may carry algae or fish eggs on its feet from pond to pond.

A dog may carry sticky plant seeds on its fur.

True or False?

Humans are not important to the dispersal of other species.

False!

As people move around the world, they take organisms with them. Sometimes it is intentional and other times unintentional.

Exotic Species

Species that have been carried into a new location by people are called *exotic species*.

Example: Kudzu is not a native species to Georgia, but was brought here from China to help control erosion; however, it covers other living things blocking them from the sunlight and water, eventually killing the organism.

Limits to Dispersal

Three factors that limit dispersal of a species are *physical barriers*, *competition*, *and climate*.

Physical Barriers

Physical barriers limit the movement of organisms.

Examples of these barriers are *water, mountains, and deserts*.

Competition

When an organism enters a new area, it must compete for resources with the species already there.

So, how can competition act as a barrier to dispersal?

If species already in the area are thriving, they may outcompete a new species and act as a barrier to its dispersal.

Climate

The typical weather pattern in an area over a long period of time is the area's *climate*.

Climate *can* limit dispersal.

For example: Conditions at the top of the mountain are different than those at the bottom. Shrubs and cactus can not grow at the top in the freezing cold weather.

Climate

Places with similar climates tend to have species that occupy similar niches.

For example: Most continents have a large area of flat, grassy plains. So these continents have organisms that occupy the niche of “large, grazing animals”.