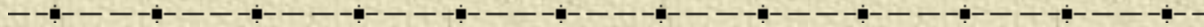


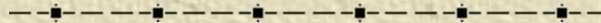


Unit 3 Part 3 b

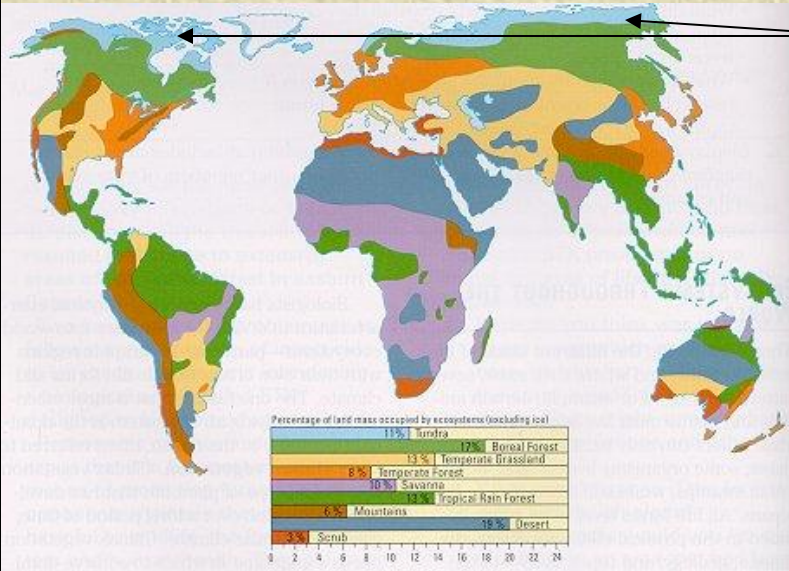


Adaptations

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Adaptations in the tundra



✦ Adaptations to cold

1. Insulating qualities of white fur
ex. Polar bear; any other? ?
2. Limited blood circulation to extremities! Why? __
3. Fat stored to burn when heat needed & __?__.

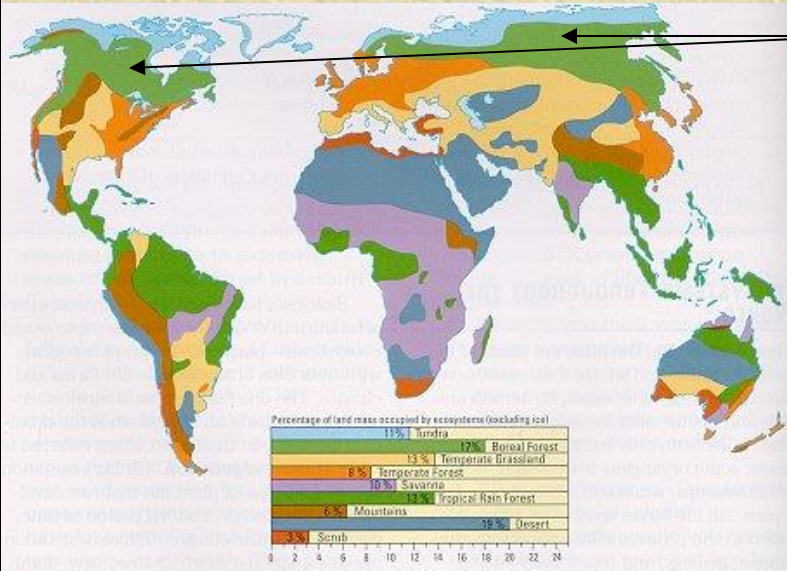
✦ Adaptations to walking on snow & ice

1. Ptarmigan feet enlarge in the fall for walking on snow.
2. Snow shoe hare develop a covering of hair.

✦ Plants adapt to very short growing season! How?

1. __?__
2. __?__

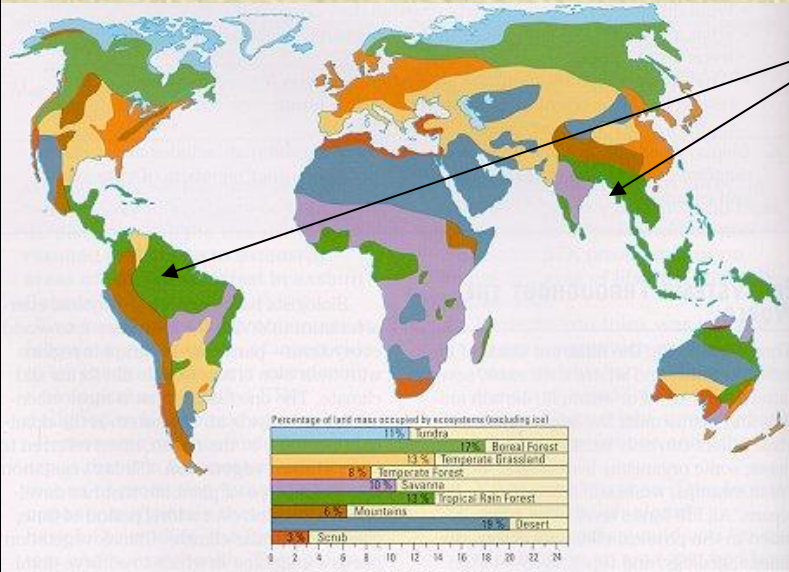
Adaptations in the Boreal Forest



Coniferous trees are well adapted to lack of water in winter (it is all frozen)

- ◆ Needle leaves reduce surface area for transpiration
- ◆ Drooping branches allow heavy snow to fall off relieving the pressure

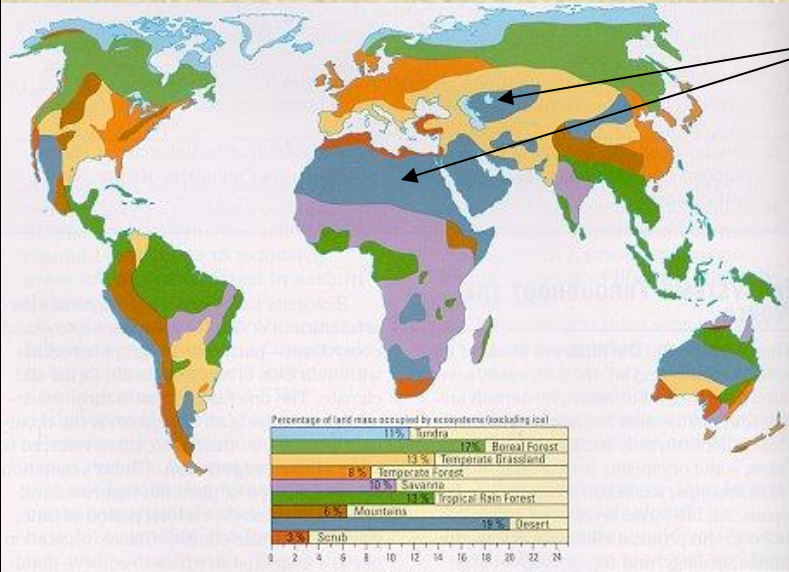
Adaptations in the Tropical Rain forest



Plants here have to reach high into the canopy to get sunlight while at the same time reaching water from the ground.

1. Some develop long vines so leaves can be at top of canopy while roots can be on forest floor
2. Epiphytes have specialized roots that allow them to absorb water from the air so they do not have to reach ground
3. Tall trees develop buttress roots to support their height.

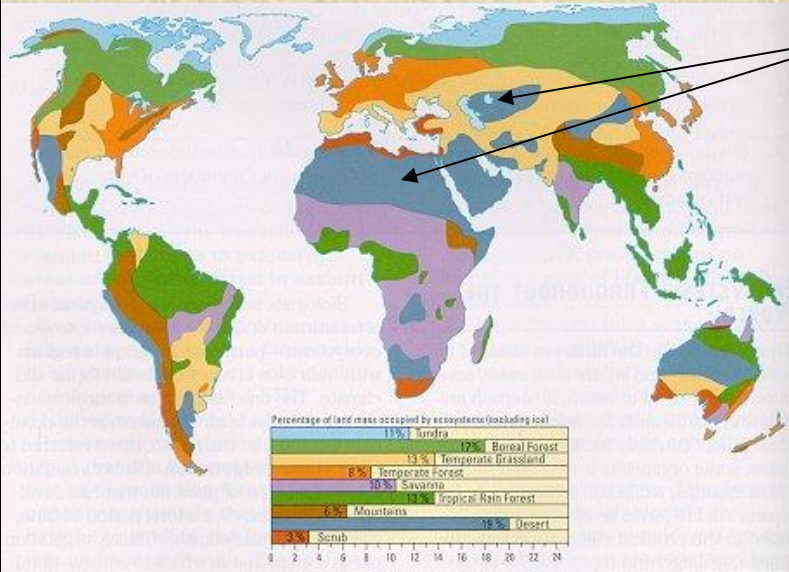
Adaptations in the Desert



Plants (xerophytes) have to adapt to lack of water

1. Some plants (succulents) **store water** in roots and leaves
2. Some plants **prevent water loss** with needle leaves and thick skins
3. Some plants have **deep root systems** to get water.

Adaptations in the Desert



Animals have to adapt to lack of water & extreme heat

1. Some animals **are only active at night** when it is cooler
2. Some animals **conserve water** so well they do not need to drink. Water is obtained from food they eat.
3. Some animals have large extremities with high blood circulation to help with heat loss.