1. Explain the location, climate (temp in Celsius and precip in cm), and typical organisms in each biome.

**Rain Forest Biomes**

**Location:** Tropical rainforests are found in a wide band near the equator from about 0-15 degrees north and south latitude. Some of the largest rainforests are in South America and Africa.

Temperate rainforests can be found further north in the northwestern United States. It receives more than 300 cm of rain a year but has more moderate temperatures compared to the tropical rainforest.

**Climate:** Yearly Temperature range is 20-25 degrees Celsius. Average yearly precipitation is 200-1,000 cm.

**Plants:** Tropical—Ferns, orchids, tall trees, and vines
Temperate—cedars, redwoods, and Douglas firs

**Animals:** Tropical—Parrots, snakes, frogs, monkeys, and lizards.
Temperate—Mule deer, pileated woodpecker

**Desert Biomes**

**Location:** The desert biome is located from about 15-25 degrees north and south latitude. There are deserts in the southwestern United States and northern Mexico; Argentina; north Africa; south Africa; central part of Australia.

**Climate:** Yearly temperature range is -4 degrees to 38 degrees Celsius. Average yearly precipitation is less than 25 cm.

**Plants:** Must be able to survive with little water. Examples include creosote bush which has a waxy coating on their leaves to prevent water loss and the saguaro cactus which is able to store large amounts of water.

**Animals:** Desert animals must also be able to conserve water. Many animals are active only at night in order to prevent water loss through evaporation. Examples include owls, hawks, roadrunners, rattlesnakes, and lizards.

**Grassland Biomes**

**Location:** The temperate grasslands are located between 30 and 50 degrees north and south latitude, the same as temperate deciduous forests. In North America it is known as the prairie, the pampas in South America, steppes in Asia, and veldt in southern Africa.
Grasslands closer to the equator between 15 and 25 degrees north and south latitude are called Savannas.

**Climate:** Grassland: Yearly Temperature range is -20 to 30 degrees Celsius. Average yearly precipitation is 50-90 cm. Savanna: Yearly Temp range is -16 to 34 degrees Celsius and average precipitation is 50-130 cm.

**Plants:** temperate grassland—grasses, flowers, and herbs. It is also used for farming
Savanna—grasses with small trees and shrubs scattered throughout

**Animals:** temperate grassland—bison and prairie dogs
Savanna— Herbivores: Antelope, zebra, rhinoceroses, and giraffes   Carnivores: Lions and leopards
Temperate Deciduous Biomes  THIS IS WHERE WE LIVE!!!

**Location:** The Temperate Deciduous Forest biome is located from about 35 to 55 degrees north and south latitude. This biome can be found in eastern parts of the United States and southern Canada; northern China; Korea; Japan; central and eastern Europe.

**Climate:** Yearly temperature range is -30 degrees to 30 degrees Celsius. Average yearly precipitation is 75-150 cm. There are four distinct seasons in this biome and rainfall is spread throughout the year.

**Plants:** This biome is characterized by deciduous trees which are ones that lose their leaves in the fall such as maple, oak, elm, birch, and beech trees.

**Animals:** White-tailed deer, raccoons, foxes, and squirrels.

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**Boreal/Taiga Biomes**

**Location:** This biome is north of the temperate deciduous biome at about 50 to 70 degrees north and south latitude. This biome can be found in central and western Alaska; Canada, from the Yukon Territory to Labrador; Eurasia, from northern Europe across all of Siberia to the Pacific Ocean.

**Climate:** Yearly temperature range is -40 to 20 degrees Celsius. Average yearly precipitation is 30-90 cm.

**Plants:** Evergreen trees such as pines, firs, and spruce. These trees are known as coniferous trees and produce their seeds in cones and have leaves shaped like needles. These thick, waxy needles prevent water loss through transpiration and help them survive the winter when the water is frozen.

**Animals:** Many animals eat seeds produced by the coniferous trees like red squirrels, insects, and birds. Herbivores like snowshoe hares, moose, and beavers eat tree bark. Carnivores like wolves, bears, great horned owls, and lynxes feed on these herbivores.

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**Tundra Biomes**

**Location:** The Tundra is the largest and most northern biome. It covers about one-fifth of Earth’s land. It is located between 60 and 75 degrees north latitude. The Tundra biome can be found in the arctic zone of North America; Hudson Bay region; Greenland coast; northern Siberia bordering the Arctic Ocean.

**Climate:** Yearly temperature range is -40 degrees to 18 degrees Celsius. Average yearly precipitation is less than 25 cm.

**Plants:** This biome does not support trees. There are mosses, lichens, and grasses.

**Animals:** Insects, migrating birds, Musk oxen, Arctic foxes, caribou, and snowshoe hares.

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2. Name and describe the 3 aquatic biomes.

Aquatic biomes are located all over the world. Marine biomes are found in the major oceans. Freshwater ecosystems include streams, rivers, ponds, wetlands and lakes. These can be found on almost every continent. Estuaries can be found where salt and fresh water mix. Some examples include the everglades in Florida and the Chesapeake Bay.

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3. What has the greatest influence on determining the biome of a particular area and why?

Climate determines what and how many plants grow there which determines what and how many animals can live there.
4. Explain dispersal, how it happens, and what factors limit it.
Dispersal is the movement of organisms from one place to another; caused by wind, water, or other living things.
Dispersal can be limited by physical barriers such as oceans, deserts, and mountains, climate and competition.

5. The ocean water is completely dark throughout which zone? Deep zone

6. What area(s) are not part of any major biome? Mountain

7. Define climate and its role in determining where organisms are located.

   Climate is the average temperature and precipitation in an area. The more precipitation and warmer temperatures there are, the more plants there are. When there are more plants, more animal species can be supported.

8. Describe the 6 characteristics of all living things, and the 4 needs of all living things. THEN describe the difference between a characteristic and a need.

   6 characteristics: use energy, made of cells, respond to surroundings, made of similar chemicals, grow and develop, reproduce
4 needs: food, water, living space, homeostasis

A characteristic is a trait of the organism and a need is something required to stay alive.

9. Describe both abiotic and biotic factors, and explain their roles in an ecosystem.

Abiotic = non living   Biotic = Living

Abiotic factors provide resources for living things.

10. Using the ladder method, convert the following.

$1000 \text{ mg} = \underline{1} \underline{\text{ g}}$ \hspace{2cm} $1 \text{ L} = 1000 \text{ mL}$

$160 \text{ cm} = 1600 \text{ mm}$ \hspace{2cm} $14 \text{ km} = 14000 \text{ m}$

$109 \text{ g} = \underline{0.109} \text{ kg}$ \hspace{2cm} $250 \text{ m} = \underline{0.25} \underline{\text{ km}}$