Biomes

1. Large geographic areas that have \_\_\_\_\_\_\_\_ climates and ecosystems
2. Biomes – a region with a distinct \_\_\_\_\_\_\_\_ and set of organisms.
3. Biotic Factor – all \_\_\_\_\_\_\_\_\_\_ organism. Anything that has to have food and water to live.
4. Abiotic Factor – all \_\_\_\_\_\_\_\_\_\_\_\_ parts of a biome (precipitation, temperature, sunlight, air, water, and soil)

**Tundra**

1. A cold, dry, treeless region sometimes called a \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_
2. Precipitation – 25cm (\_\_\_\_\_\_) per year
3. Temperature - ~12⁰C (\_\_\_\_\_⁰F)average daily temp.
4. \_\_\_\_\_\_\_\_\_\_ – frozen layer of soil just beneath the top layer of soil.
5. Plants – \_\_\_\_\_\_\_\_\_\_\_\_\_, grasses, and small shrubs.
   1. Examples: Arctic Willow, Pasque Flower, Arctic Moss, \_\_\_\_\_\_\_\_\_\_
6. Tundra animals – insects, birds, mice, lemmings, \_\_\_\_\_\_\_\_\_, reindeer, and musk oxen

**Taiga**

1. Cold forest of mostly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ trees.
2. Short \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Precipitation = 35-\_\_\_\_\_\_\_ cm per year
4. \_\_\_\_\_\_\_\_\_\_\_\_ of the 7 Biomes
   1. Plants: Balsam \_\_\_\_\_\_\_\_\_\_\_, Douglas Fir, White Fir
   2. Animals: Black \_\_\_\_\_\_\_\_\_\_\_, Gray wolves, River Otter, Snowshoe Rabbit, Red Fox

**Temperate Deciduous Forest**

1. The biome that we \_\_\_\_\_\_\_\_\_\_\_\_ in
2. Has 4 distinct \_\_\_\_\_\_\_\_\_\_\_\_\_\_: Winter, Spring, Summer, Fall
3. Trees lose their \_\_\_\_\_\_\_\_\_\_\_\_\_\_ each winter.
4. Precipitation = 75–\_\_\_\_\_\_ cm per year.
5. Temp – below \_\_\_\_\_\_\_\_\_\_\_\_\_ = 30⁰C (86⁰F)
6. Large \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of plant and animal life.
   1. Plants: Pecan Tree, Carpet moss, white Birch, \_\_\_\_\_\_\_\_, Maple
   2. Animals: Bald Eagle, Chipmunk, Coyote, Red Tail \_\_\_\_\_\_\_\_\_\_\_\_\_\_, Duckbill Platypus

**Temperate Rain Forest**

1. Forest of tall trees with \_\_\_\_\_\_\_\_\_\_\_\_\_ leaves.
2. Temp = 9⁰- 12⁰ C (48⁰-\_\_\_\_\_⁰F)
3. Precipitation= 200 – \_\_\_\_\_\_\_\_\_\_ cm
4. Locations are New Zealand, southern Chile, and \_\_\_\_\_\_\_\_\_ Northwest US
5. Many of the same types of plants and animals as in the \_\_\_\_\_\_\_\_\_\_\_\_ Forest.
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the 7 Biomes.

**Tropical Rain Forest**

1. The most biologically \_\_\_\_\_\_\_\_\_\_\_\_ of all biomes
2. Temp= ~25⁰ C (\_\_\_\_⁰F)
3. Precipitation= 200 – \_\_\_\_\_\_cm in the form of rain.
4. \_\_\_\_\_\_\_\_\_\_\_ soil.
5. Made up of \_\_\_\_\_\_zones: floor, understory, canopy and emergents.

**The Zones/Strata of a Tropical Rain Forest**

1. \_\_\_\_\_\_\_\_ – this is the floor of the forest and home to many insects and the largest mammals.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – Dark, cool environment under the canopy and above the forest floor.
3. \_\_\_\_\_\_\_\_\_\_\_\_ – Upper parts of the trees and is FULL of \_\_\_\_\_\_\_ – insects, birds, reptiles, and mammals
4. Emergents – The trees that are much \_\_\_\_\_\_\_\_\_\_ than the average trees in the canopy. Home to \_\_\_\_\_\_\_\_ and insects.
   1. Plant Life: Watery Rose, \_\_\_\_\_\_\_\_\_\_\_\_\_ tree, Bengai, Bamboo, Banyan Tree, Honey Bee Tree
   2. Animals: Toco Tuncan, Jambu Fruit Dove, King \_\_\_\_\_\_\_\_\_, Red Shanked Docu, Bengal Tiger, African Forest Elephant

**Desert**

1. The \_\_\_\_\_\_\_\_\_\_ of all biomes
2. Precipitation: \_\_\_\_\_\_\_\_ than \_\_\_\_\_\_\_\_ cm per year
3. Temp: Extreme \_\_\_\_\_\_ and cold
4. Soil is \_\_\_\_\_\_\_\_\_\_\_\_\_\_, sandy or gravelly
5. Both plants and animals have to \_\_\_\_\_\_\_\_\_\_\_\_\_ to little water and extreme temps
   1. Plants: Barrel \_\_\_\_\_\_\_\_\_\_\_, Joshua Tree, Saguaro Cactus, Pancake Prickly Pear, Soaptree Yucca, Crimson Hedgehog
   2. Animals: Gila Monster, Bobcat, Kangaroo \_\_\_\_\_\_\_\_\_, Desert Tortoise, Thorney Devil, Desert Bighorn Sheep

**Grasslands**

1. Dominated by climax communities of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_ and Tropical regions
3. Precipitation: 25 – \_\_\_\_\_\_\_\_cm per year
4. Found \_\_\_\_\_ around the world with different names:
5. North America called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Asia called \_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Africa called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. South America called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Grasslands perfect for growing \_\_\_\_\_\_\_\_\_\_, rye, oats, barley, and corn.
10. Grasslands also used to raise \_\_\_\_\_\_\_\_\_\_\_ and cattle.
    1. Steppe Plants & Animals: Fringed Sagebush, Tumbleweed, Rhubard, Corsac \_\_\_\_\_\_\_\_\_\_\_, Saiga Antelope, Northern \_\_\_\_\_\_\_\_\_\_\_\_\_
    2. Prairie Plants & Animals: Indian Grass, Buffalo Grass, \_\_\_\_\_\_\_\_\_\_\_ Purple Cone Flower, Badger, Bumblebee, \_\_\_\_\_\_\_\_\_\_ Dog
    3. Pampas Plants & Animals: Pampas Grass, Geoffory’s \_\_\_\_, Great Rhea
    4. Savanna Plants & Animals: \_\_\_\_\_\_\_\_\_\_ Tree, elephant grass, Kangaroo Paw, Mankettia Tree, African Elephant, Koala Bear, \_\_\_\_\_\_\_\_\_, Baboon

**Aquatic Biomes**

Freshwater Ecosystems

1. Include \_\_\_\_\_\_\_\_\_\_\_\_\_ water such as rivers and streams.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_ water such as lakes, \_\_\_\_\_\_\_\_\_\_\_, and wetlands.
3. 4 factors that determine which species can survive are: Water Temp, \_\_\_\_\_\_\_\_\_\_\_\_, Dissolved Oxygen, and Amount of Salt.

**Rivers and Streams**

1. Flowing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ environments.
2. Small brooks to large \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. The faster the river flows the more \_\_\_\_\_\_\_\_\_\_\_\_ content there is in the water.
4. Most nutrients are washed into the water from the \_\_\_\_\_\_\_\_ it flows through.
5. Humans use for recreations: \_\_\_\_\_\_\_\_, swimming, skiing, etc.
6. Once considered a free place to dump \_\_\_\_\_\_\_\_\_\_\_.

**Lakes and Ponds**

1. A low place that fills with \_\_\_\_\_\_\_\_\_ over time or water from an overflowing stream.
2. Water hardly \_\_\_\_\_\_\_\_\_\_\_\_.
3. Contains more plant life than \_\_\_\_\_\_\_\_\_\_\_\_\_\_ water.
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are larger and deeper than ponds.
5. Pond water is warmed by the \_\_\_\_\_\_\_\_\_\_\_\_ and support plant (algae and plankton) and animal life.
6. Deeper lakes support life \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Wetlands**

1. Regions that are wet for all or \_\_\_\_\_\_\_\_ of the year
2. Found in regions that lie \_\_\_\_\_\_\_\_\_\_\_ landmasses and water.
3. Other names: \_\_\_\_\_\_\_\_\_\_\_\_, bogs, and fens
4. Very \_\_\_\_\_\_\_\_\_\_\_\_\_
5. Animals: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, muskrats, alligators, bog turtles.
6. Once thought of as useless, but are now being restored for their valuable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Salt Water Ecosystems --- 2 Zones of the Ocean**

1. Lighted Zone – upper 200 m, \_\_\_\_\_\_\_\_\_\_\_\_\_ penetrates the water. Home of plankton.
2. Dark Zone – Below 200 m, sunlight does not penetrate this water. Animals feed or organisms that float \_\_\_\_\_\_\_\_\_\_\_ or on each other.

**Coral Reefs**

1. One of the most \_\_\_\_\_\_\_\_\_\_\_\_ ecosystem in the world.
2. Formed over \_\_\_\_\_\_\_\_\_\_\_\_\_ periods of time.
3. Formed by calcium carbonate \_\_\_\_\_\_\_\_\_\_\_\_ secreted by animals called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. When coral \_\_\_\_\_\_\_\_\_\_\_\_ their skeletons remain.

**The Ocean**

1. Intertidal Zone – is the portion of the shoreline that is covered with water at high tide and exposed to the air during low tide- Called the \_\_\_\_\_\_\_\_\_\_\_\_ – Contains- sea grasses, periwinkle snails, herons, sea stars, anemones, \_\_\_\_\_\_\_\_\_\_\_, crabs, snails, and conchs
2. Neritic Zone – Moves away from the shore, water is \_\_\_\_\_\_\_\_\_ and receives a lot of sunlight. Contains seaweed, corals, sea \_\_\_\_\_\_\_\_\_, fishes, sponges, and \_\_\_\_\_\_\_\_\_\_\_\_\_
3. Oceanic Zone – Sea floor \_\_\_\_\_\_\_\_\_ sharply, \_\_\_\_\_\_\_\_ is found near the surface, contains fishes, whales, \_\_\_\_\_\_\_, squids, glow fish
4. Benthic Zone – Is the ocean floor, deepest parts do not get any sunlight, very \_\_\_\_\_\_\_, animals: fishes, worms, crabs, \_\_\_\_\_\_\_\_\_\_, sea urchins – some animals get energy from thermal vents

**Estuaries**

1. The area where a \_\_\_\_\_\_\_\_ meets an \_\_\_\_\_\_\_\_ and contains a mixture of freshwater and \_\_\_\_\_\_\_\_\_ water.
2. Also called bays, \_\_\_\_\_\_\_\_\_\_\_\_\_, harbors, inlets, and sounds.
3. Extremely \_\_\_\_\_\_\_\_\_\_\_\_ because the freshwater brings tons of nutrients.

Estuary Life

1. Many species of algae, salt-tolerant grasses, \_\_\_\_\_\_\_\_\_\_\_\_, crabs, clams, oysters, snails, worms, and fish.
2. Estuaries provide much of the \_\_\_\_\_\_\_\_\_\_\_ consumed by humans.