

Remote Learning Packet

NB: Please keep all work produced this week. Details regarding how to turn in this work will be forthcoming.

April 27 - May 1, 2020

Course: 9 Biology

Teacher(s): Mr. Malpiedi michael.malpiedi@greatheartsirving.org

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Weekly Plan:

Monday, April 27

- Read and take notes on pp. 418-422 related to tundra, tropical forests, and temperate forests
- Read descriptions on example plant and animal species
- Write how each species is well-suited to its environment

Tuesday, April 28

- Read and take notes on pp. 418-422 related to deciduous forests, taiga, and grasslands
- Read descriptions on example plant and animal species
- Write how each species is well-suited to its environment

Wednesday, April 29

- Read and take notes on pp. 418-422 related to savannas, chaparral, and deserts
- Read descriptions on example plant and animal species
- Write how each species is well-suited to its environment

Thursday, April 30

- In a diagram, summarize the characteristics of all nine biomes
 - make a google doc they can directly edit MO
 - Google slide w/ textboxes labeled “click here and type your response”
 - Instructions that when you exit the google doc, your progress is automatically saved.
 - Reminder to click “TURN IN” when you are done.

Friday, May 1

- Catch up, attend office hours (Zoom links in the Google Classroom Stream), cheer on your champions in the inter-school Acculturation Chess Tournament! www.greatheartsirving.org/acculturation

Monday, April 27

Read the following descriptions of the example animal and plant species for each biome. Read the corresponding section for each biome found on pp. 418-422. Record any vocabulary terms and their definitions in your notes. Choose three species and write 3-5 sentences each describing how each species is well-suited to their biome. You may write your sentences in the “Biome Responses” google doc, OR hand-write your responses and include them in your weekly packet PDF upload.

Tundra

The arctic hare (*Lepus arcticus*) is a small species of rabbit that lives in the tundra. The arctic hare has small body features such as shortened legs, ears, and a small nose. Its body weight is 20% fat and it has very thick fur. In the winter its fur is a bright white color while in the summer its fur coat is a mix of browns.



The alpine forget-me-not (*Myosotis alpestris*) belongs to the category of plants called cushion plants. The name cushion comes from the plant morphology of growing only a few inches off the ground in large mats. The alpine forget-me-not has deep roots that allows it to survive in conditions with minimal precipitation and moisture. Its leaves are small which reduces the amount of water lost from the plant via evaporation. It can be found throughout Alaska as well as the Himalyan mountain range.

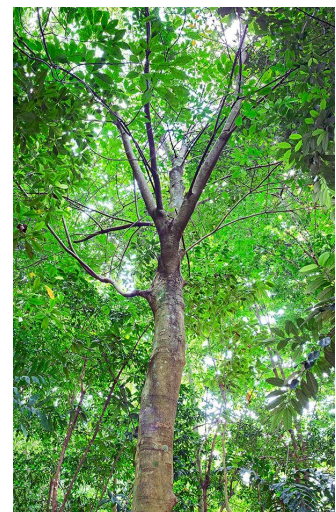


Tropical Forest

Ranitomeya sirensis is a species of poison dart frog found in the Amazonian rainforests of Brazil and Peru. Its skin secretes pumiliotoxins, a toxin that causes pain and muscle spasms if the frog is handled roughly. Symptoms increase in severity if the frog is consumed. It feeds on small insects and other invertebrates. It produces its skin toxin through the consumption of toxic invertebrates so frogs raised in captivity have little toxicity themselves.



The rubber tree (*Hevea brasiliensis*) is a species of tree only found in the Amazon rainforest. It can grow to be 141 ft. (43 m.) tall. Its leaves are arranged in a spiral pattern, gathered at the top of the trunk. Its bark produces latex which is released upon damage to the bark. Commercially, latex is harvested from these trees and used to produce rubber. In its natural environment, the latex serves to protect and seal any damage done to the tree by animals or other natural events.



Temperate Forest

The hemlock woolly adelgid (*Adelges tsugae*) is a small insect species that feeds on the sap of hemlock and spruce trees. It is considered a destructive pest towards several North American tree species. They are typically 0.8 mm in length and have an oval body shape. It has four stylets (thin tubes that function as probes) that are three times its body length and allow it to pierce through tree bark to consume the sap.



The black cherry tree (*Prunus serotina*) is a deciduous tree that grows to be 50-80 ft. tall. Its leaves are oval-shaped with fine toothed margins. In the fall its leaves can be colored in a range from yellow to red. It produces small white flowers that yield red-brown berries. Its leaves can also be identified by distinct, small brown hairs found on the underside of the leaf along the centerline.



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Temperate Deciduous Forest

The white-tailed deer (*Odocoileus virginianus*) is a large, woodland mammal that is native to the Americas, mostly North America. Its diet consists of a wide range of plant life including legumes, grasses, leaves, and even poison ivy. Males possess antlers for competing with other males for mates during the fall season. The fur coat of the deer takes on a reddish-brown hue in the summer months and transitions to a gray-brown for the fall and winter.



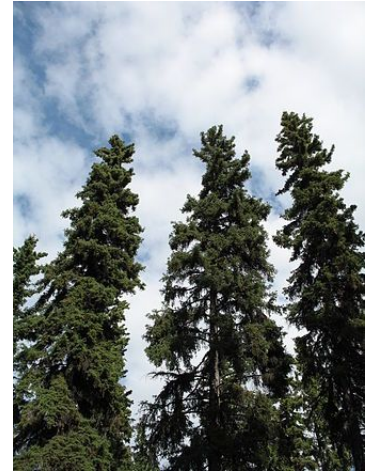
The sugar maple (*Acer saccharum*) is a deciduous species of tree. It is native to parts of Canada and the midwest region of the United States. In the fall, its leaves change color from green to yellow and red hues. It is considered one of the most important trees in Canada as it is the main species from which maple syrup is gathered.

It produces winged seeds called samaras that are designed to fall and scatter greater distances than if they were not winged.



Taiga

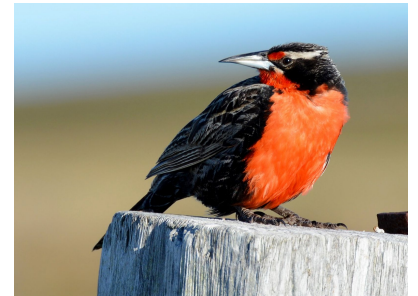
Stoats (*Mustela erminea*), also known as short tailed weasels, are a small species of mammal that are typically up to 30 cm (1 ft) long. They have a brown fur coat that changes to white in the winter. They typically eat other small animals and bird eggs and have also been observed storing food. When preying upon animals larger than itself, stoats exhibit strange behavior. They jump, twist, and run about, distracting their prey until they have gotten close enough to injure their prey.



The white spruce (*Picea glauca*) is a coniferous tree species that produces pine cones that are 3-7 cm in length. The seeds within the pine cones can be as small as 2.5 mm up to 5 mm. The root system of the white spruce grows to best suit its soil environment. In soil where there is some sort of limit on root depth, the roots grow shallower and outward to produce a plate-like pattern,

Grasslands

The long-tailed meadowlark (*Leistes loyca*) is a species of bird found in southern South America. It builds its nests amidst tall grasses and will even cover up the nest with dead grass when it leaves the area to prevent it from being found by predators. Females have a faint red color on their chests and the males have vibrant red chests. Some birds of this species will migrate north in the winter.



Nassella pulchra, commonly known as purple needlegrass, gets its name from the purple tinge its fruit takes. The fruit in this case is not like the produce found in grocery stores but is referring to the grain seed produced by the grass. It is the state grass of California, having originated in that state. It can stand up to 1 m tall and produce 227 pounds of seeds per acre of grass.

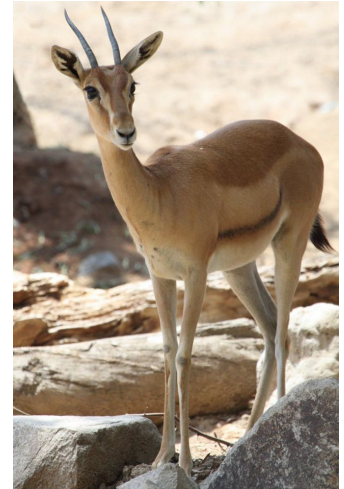


Wednesday, April 29

Read the following descriptions of the example animal and plant species for each biome. Read the corresponding section for each biome found on pp. 418-422. Record any vocabulary terms and their definitions in your notes. Choose three species and write 3-5 sentences each describing how each species is well-suited to their biome. You may write your sentences in the "Biome Responses" google doc, OR hand-write your responses and include them in your weekly packet PDF upload.

Savanna

The red-fronted gazelle (*Eudorcas rufifrons*) is a solitary ungulate meaning it interacts with others in pairs or small groups. Herds usually have no more than 6 individuals, although occasional sightings of up to 15 gazelles have been made. Even where relatively common, population densities are generally low. When alarmed, this species produces a series of short "wheezy snorts" while pinching the nostrils forward. They subsist primarily grasses, but also leaves from trees and shrubs.



Adansonia digitata, known as African Baobab, usually grow as solitary individuals, and are large and distinctive elements of savannah or scrubland vegetation. Some large individuals live to well over a thousand years of age. All baobab trees are deciduous, losing their leaves in the dry season, and remain leafless for six months of the year. They can grow to between 5–25 m (16–82 ft) in height. The trunk tends to be bottle-shaped and can reach a diameter of 10–14 m (33–46 ft). The span of the roots actually exceeds the tree's height. The branches are thick and wide and very stout compared to the trunk. During the early summer (October to December in southern hemisphere) the tree bears very large, heavy, white flowers. They have a sweet scent but later emit a carrion smell, especially when they turn brown and fall after 24 hours.



Chaparral

The adult acorn woodpecker (*Melanerpes formicivorus*) has a brownish-black head, back, wings and tail, white forehead, throat, belly and rump. The eyes are white. There is a small part on the small of their backs where there are some green feathers. Acorn woodpeckers, as their name implies, depend heavily on acorns for food. Acorns are such an important resource to the California populations that acorn woodpeckers may nest in the fall to take advantage of the fall acorn crop, a rare behavior in birds. In some parts of their range, the woodpeckers create granaries or "acorn trees" by drilling holes in dead trees, dead branches, telephone poles, and wooden buildings. The woodpeckers then collect acorns and store them in the granary holes.



Adenostoma fasciculatum is an evergreen shrub growing to 4m tall, with dry-looking branches. The leaves are small, 4–10 mm long and 1mm broad with a pointed apex, and sprout in clusters from the branches. These clusters are known as fascicles, and give the species its Latin name.

The leaves are shiny with flammable oils, especially in warmer weather. The branches terminate in bunches of white tubular flowers 5 mm in diameter, with five petals and long stamens. The oily leaves give rise to the common name greasewood.

Desert

Oryx gazella are light brownish-grey to tan in colour, with lighter patches toward the bottom rear of the rump. Their tails are long and black in colour. A blackish stripe extends from the chin down the lower edge of the neck, through the juncture of the shoulder and leg along the lower flank of each side to the blackish section of the rear leg. They have muscular necks and shoulders, and their legs have white 'socks' with a black patch on the front of both the front legs, and both genders have long, straight horns. The gemsbok is generally a grazer but changes to browsing depending on seasonal changes. It may dig up to a meter deep to find roots and tubers,



supplementing its water intake by eating wild tsama melons and cucumbers, which can provide all the water required (3 liters per 100 kg bodyweight and day).

Carnegiea gigantea, common name Saguaro cactus, is a columnar cactus that grows notable branches, usually referred to as arms. As many as 49 arms may grow on one plant. They grow from 3–16 m (9.8–52.5 ft) tall, and up to 75 cm (30 in) in diameter. They are slow growing but routinely live to 150 or 200 years old. They are the largest cactus in the United States. Saguaros have a very large root network that can extend up to 30 m. During a single rainfall, these roots and the trunk of the cactus may soak up as many as 200 gallons (757 liters) of water. The growth rate of saguaros is strongly dependent on precipitation; saguaros in drier western Arizona grow only half as fast as those in and around Tucson. Inside the saguaro, there are many "ribs" of wood that form something like a skeleton, with the individual ribs being as long as the cactus itself and up to a few inches in diameter. The white, waxy flowers appear in April through June, opening well after sunset and closing in mid-afternoon. They continue to produce nectar after sunrise.



Thursday, April 30

Using your notes and knowledge gained in the past three days, create a chart that summarizes the nine biome types. You may choose the format of your chart but it must include the following information for each biome: description of climate, where this biome can be found on Earth, one example plant and animal species, and any unique features of the biome (e.g. permafrost in the tundra).

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