Wild Kids

Biomes of Arizona

STUDENT GUIDE

Habitat is the area where a plant or animal naturally lives and makes its living. A biome is a distinct region that can be identified by plants that are not found elsewhere. The difference between habitat and biome is size. A biome can include many different habitats. Plants are used to identify different biomes because plants cannot move. Plants will only grow where the right type of soil, wind, sunlight, water and pollinators are found. An animal would move if the biome did not provide the food, water and shelter it needed to live.

There are 29 biomes found in the southwestern United States and Northern Mexico. The six major ones are tundra, forest, woodland, scrub or chaparral, grassland and desert. Three are highlighted below. When you are done reading about these biomes, complete the crossword puzzle on the next page.

TUNDRA

Tundra plants of Arizona are small, ground-hugging types. They rarely grow more than a few inches above the ground. These include mosses, lichens, grasses and sedges (a type of low-growing shrub). In Arizona, tundra is found above 11,500 feet. There is only one place that gets this high in Arizona, Humphrey's Peak (12,670 feet) in the San Francisco Mountains north of Flagstaff. Mount Baldy (11,460 feet), in the White Mountains southwest of Greer, and Mount Graham (10,713 feet), in the Pinaleno Mountains, are two places where trees are stunted. Stunted trees indicate that conditions are approaching those for tundra.

Average yearly temperatures are around 32° F. Moisture for plant growth is available only for a short time in the summer (June - September). In the Alaskan tundra, the soil is permanently frozen below one foot, but not here in Arizona. There are only two animals that live and breed in the tundra of Arizona, the water pipit (a bird) and the deer mouse (a mammal).

FOREST

A forest is described as a region where the branches of trees tend to touch and can form a nearly unbroken canopy. In Arizona, the trees are conifers or evergreen trees. These trees include ponderosa pine, Douglas fir, white fir, blue spruce and limber pine. Occasionally aspen, maple, oak, and elder are also found. Trees of the forest biome are generally taller than the trees found in the woodland biome.

Forests of Arizona are generally found between 6,500 and 11,500 feet. This biome has mild summers and very cold winters with lots of snow. It is a favorite place for people to vacation in the summer (to get out of the hot desert) and winter (to go skiing). Arizona's forest receives between 25 and 35 inches of rainfall each year.

WOODLAND

Arizona woodlands are similar to forests except the branches of trees generally do not touch. There is open space between trees. In Arizona, these trees include pinyon pine, junipers, oaks and sometimes ponderosa pine and Arizona cypress. Even though both the forest and woodland have ponderosa pine, in the woodland their branches do not touch. In some of the more sheltered places and riparian areas of the woodland you can find maple, aspen, sycamore, birch, cottonwood and willow trees.

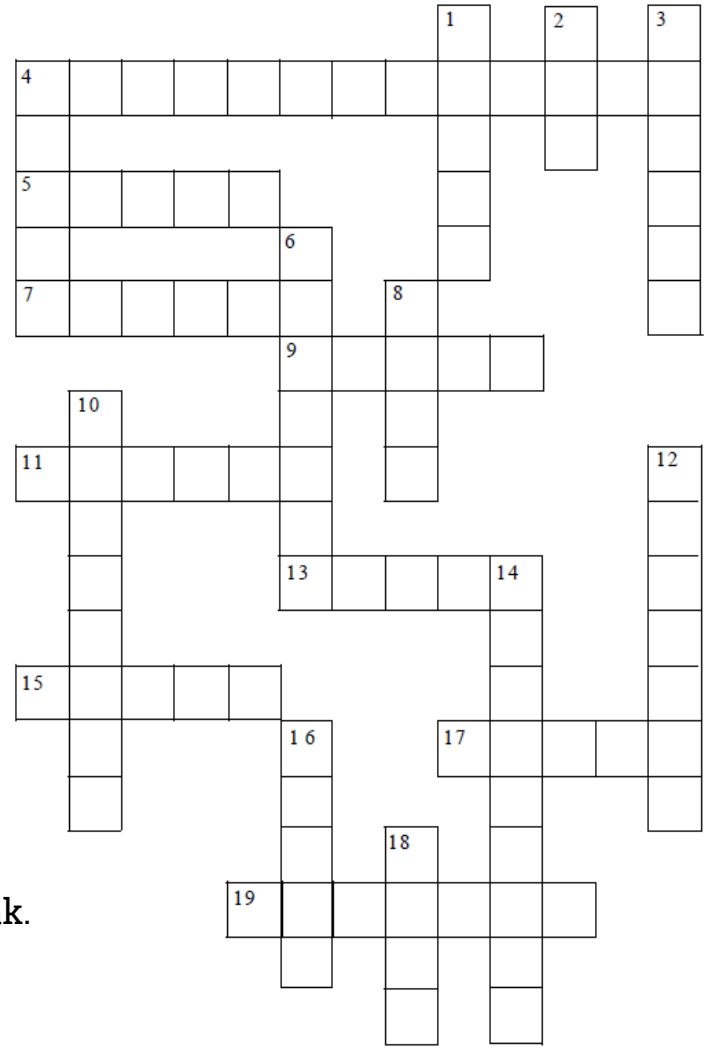
In Arizona, the woodland biome is found between 3,500 and 7,200 feet. (Woodlands found in riparian areas can be found as low as 1,000 feet.) This biome receives between 12 and 22 inches of rain each year. Like the forest biome, it has a mild summer, but the winter is not as cold or snowy.

ACROSS

4. A tree found in both the forest and woodland biome.
5. A tree found in the woodland biome.
7. A biome with mostly ground-hugging plants.
9. A distinct region that can be identified by the type of plants found there.
11. A biome with a nearly unbroken canopy.
13. Branches in the forest tend to do this.
15. A biome provides this for both plants and animals.
17. Found between branches in the woodland.
19. An evergreen tree found in woodlands of Arizona.

DOWN

1. Mount with stunted tree growth that approaches tundra conditions.
2. The number of major biomes found in Arizona and other parts of the Southwest.
3. One of the major biomes of the Southwest.
4. Used to identify different biomes.
6. An area where a plant or animal lives.
8. An animal would move out of a biome if this is not provided.
10. A biome where branches of trees generally do not touch.
12. An animal also needs this in its habitat to survive.
14. The tundra biome can be found on this peak.
16. Another name for chaparral.
18. Summers in the woodland biome.



Wild Kids
Biomes of Arizona

TEACHING GUIDE

Overview

In this activity, students will read an article about three different biomes found in Arizona. Then, they will complete a crossword puzzle to assess their understanding of the reading. Finally, with the teacher as a guide, they will discuss what could happen to wildlife if their habitat changes suddenly.

Grade
5th

AZ Science Standards
- 5.L3U1.10

Science and Engineering Practices
- Construct explanations and design solutions

Crosscutting Concepts
- Patterns

Suggested Procedures

1. Print the worksheet above. If possible, print it double sided.
2. Ask students to read the entire article (both pages).
3. Have students complete the crossword puzzle. Discuss as a class.
4. Ask students to think about and answer the following questions. They could do it individually or in small groups and then share as a class, depending on your preference.
    - What adaptations would be necessary for an animal to survive in the tundra?
    - What do you think might happen to the water pipit or deer mouse if climate change warmed the tundra biome?
    - How might humans help the water pipit or deer mouse? Or should we? Why or why not?
    - Do you think it would be easier for an animal to move from tundra to forest or from woodland to forest? Explain your answer.