

CAVOC 7th Grade Spring Math Curriculum
(Cedric A. Vig Outdoor Classroom)

Suggested Schedule- Spring

<i>Time/Period</i>	ROPES	MATH	SCIENCE	HEALTH	HISTORY	ENGLISH	TECH. ED.
<i>8:30 - 9:05</i>	1	2	3	4	5	5	6
<i>9:10 - 9:45</i>	6	1	2	3	4	4	5
<i>9:50 - 10:00</i>	Snack Break	Snack Break	Snack Break	Snack Break	Snack Break	Snack Break	Snack Break
<i>10:05 - 10:40</i>	5	6	1	2	3	3	4
<i>10:45 - 11:20</i>	4	5	6	1	2	2	3
<i>11:25 - 12:00</i>	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
<i>12:05 - 12:40</i>	3	4	5	6	1	1	2
<i>12:45 - 1:20</i>	2	3	4	5	6	6	1
<i>1:25 - 2:00</i>			Fear	Factor	Incentive		
<i>2:00 - 2:15</i>	Clean / Up	Clean / Up	Clean / Up	Clean / Up	Clean / Up	Clean / Up	Clean / Up

I'm Thirsty
(~ 35 minutes)

Objective for Unit

Students will make inferences about the importance of adaptations in order for wildlife and other animals to survive.

DPI Standards for Environmental Education

- A.8.1, A.8.3, B.8.3, B.8.5, C.8.1, C.8.2, C.8.3, C.8.4, C.8.5, C.8.6, C.8.7, C.8.10. C.8.11- Science Standards
- A.8.4, A.8.5, B.8.8- Environmental Standards
- A.8.1, A.8.2, B.8.1, B.8.2, B.8.7, D.8.1, D.8.2, D.8.3, D.8.4, E.8.1, E.8.4, E.8.5, E.8.7- Mathematics Standards



Materials

Pencil
Worksheet
Clipboards
Calculators

Desired Location

Shelter

Resource

Project Wild

Background Information

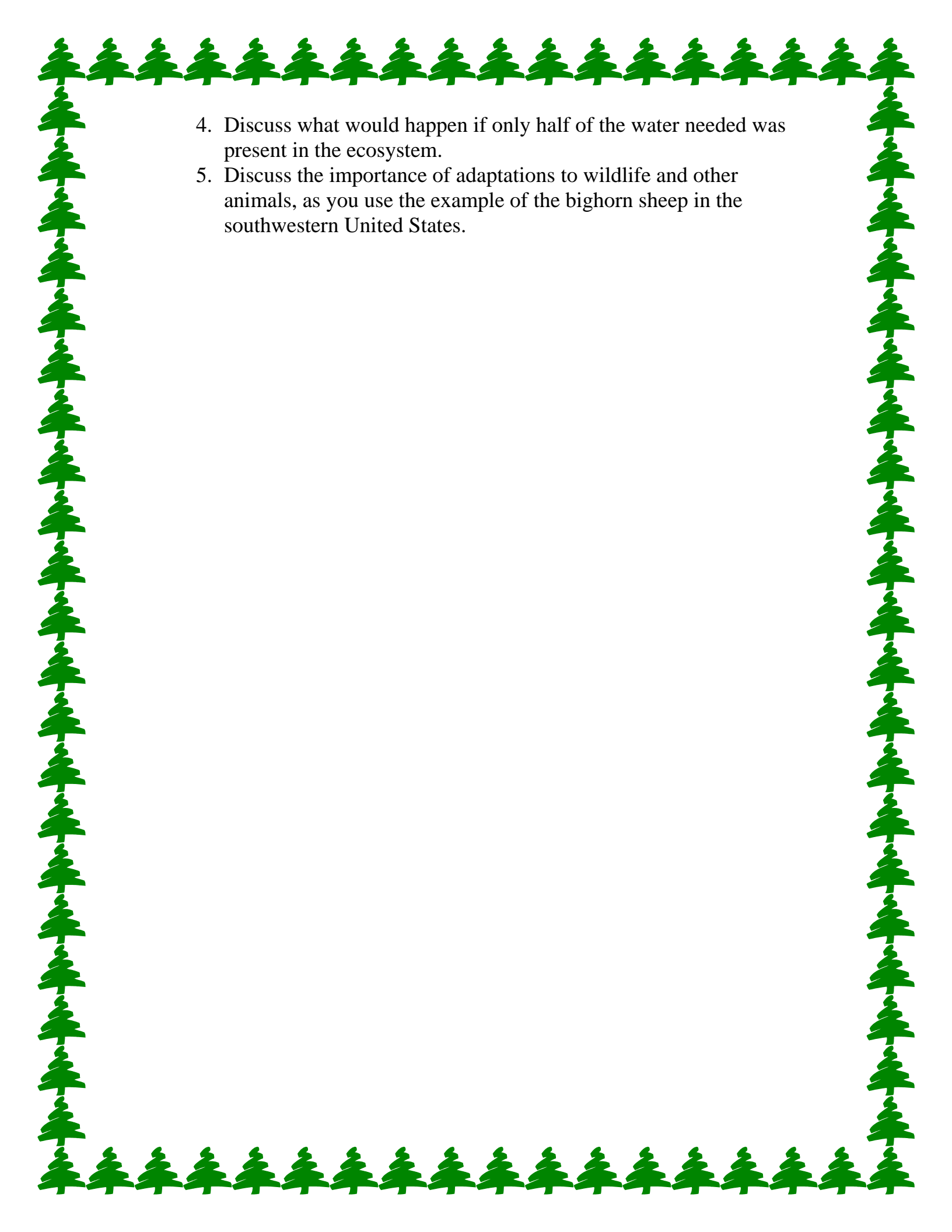
Desert bighorn sheep (*Ovis anadensis nelsoni*) are found from Nevada and California to western Texas and south into Mexico. Most populations move seasonally from upland areas in the summer to sheltered valleys during the winter. The availability of escape territory in the form of rocky cliffs is important to the survival of bighorn sheep. If a sheep can reach a rocky outcrop or cliff, it is usually safe from predators. Because they cannot paw through deep snow to feed, bighorn sheep also require drier slopes where there is less annual snowfall.

Bighorns have a complex digestive system that allows them to remove nutrients from poor quality food. Desert bighorns eat a variety of desert plants and get most of their moisture from the vegetation, although they visit water holes every several days. If green vegetation is available, desert bighorn do not require drinking water.

Bighorn sheep can gather in herds of more than 100 individuals, although small groups of 8 to 10 are more common. Bighorn sheep are known for head-to-head combat between males. Horn size is a symbol of rank. The horns are used by the sheep to battle an opponent. Combat can last a full day until one of the males concedes. Males do not defend territories but fight over mating access to a particular female.

Activity

1. Teacher will provide student with the background information about bighorn sheep.
2. Given the background information, ask the students to carry out these calculations.
3. Once students are finished with calculations, teacher will give correct answers.

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4. Discuss what would happen if only half of the water needed was present in the ecosystem.
 5. Discuss the importance of adaptations to wildlife and other animals, as you use the example of the bighorn sheep in the southwestern United States.



I'm Thirsty

Animals can have incredible adaptations in order to survive in their environments. US the following hypothetical example of the desert bighorn sheep: The desert bighorn live in dry, sparsely vegetated areas of the southwestern United States. Temperatures on summer days are frequently over 100 F (37.8 C). During the hottest months of the year, ewes (females) and lambs come to waterholes almost daily. The male sheep (rams) sometimes do not come to water for nearly a week at a time. Rams may roam 20 miles (32 kilometers) away from the available water supply. Add 20 miles (32 kilometers) to approximately 5 miles (8 kilometers) traveled per day, and rams may travel almost 75 miles (120 kilometers) before they drink again. Rams are believed to drink approximately 4 gallons (15.2 liters) of water when they do come to water, while an ewe drinks approximately 1 gallon (3.8 liters) and a lamb drinks 2 pints (940 milliliters).

Questions

1. How many miles to the gallon (or kilometers per liter) does a ram get?
2. How many gallons (or liters) of water would a ram drink in a month?
3. How many gallons (or liters) of water would an ewe drink in a month?
4. How many gallons (or liters) of water would a lamb drink in a month?
5. How much water must be available in a waterhole for 10 rams, 16 ewes, and 7 lambs in order for them to survive the months of June, July, and August?
6. What rate of inflow would a waterfall have to have to sustain the population given above if water evaporated at a rate of 10 gallons (38 liters) per day?