



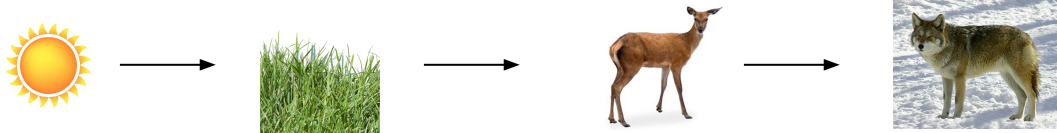
Math Connections

Happy Winter Break! Keep your skills sharp by practicing math and science during your time off.

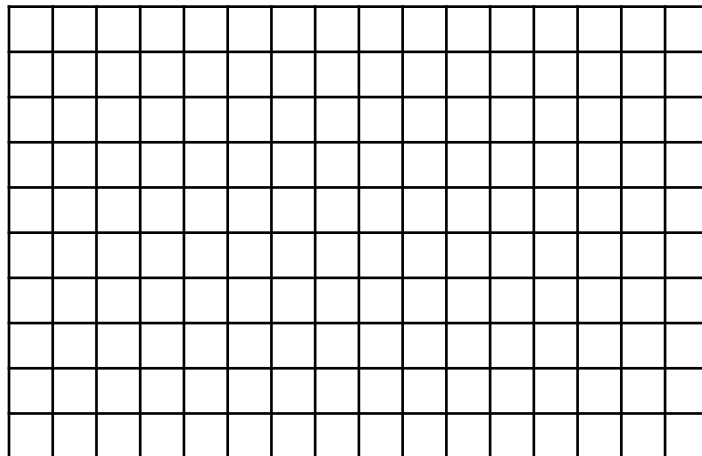
Name: _____ Date: _____

Changes to an ecosystem, such as a forest fire, can cause some animals to leave and other animals and plants to perish. This can affect the flow of energy in a food web.

The food web below shows the flow of energy between the Sun, prairie grass, deer, and coyotes. This food web is present in many of the national forests in Texas.



- The diagram below shows an area of forest that supports deer. Each square represents 1 acre of land. What is the land's area? Determine the length and width of the land in acres; then multiply them to find the area. _____ acres

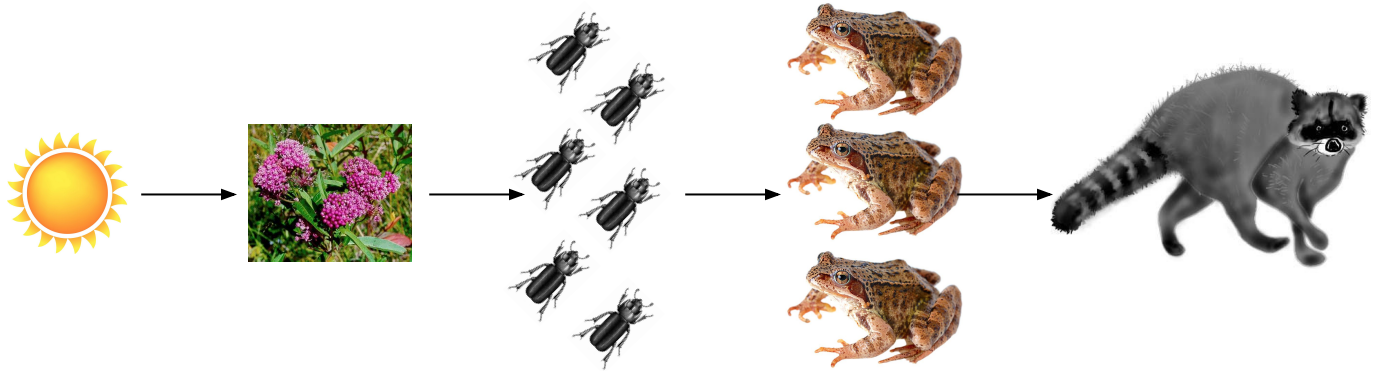


- If it takes 8 acres of land to support one deer, how many deer does this habitat support? _____ (Write an equation and solve it to find the answer.)
- Suppose a forest fire affects $\frac{1}{4}$ of the area, and all of its vegetation is burned. Shade in $\frac{1}{4}$ of the squares. How many squares did you shade? _____
- How many deer would no longer be supported as a result of the fire? _____
- If three coyotes can feed on one deer, how many coyotes would be affected by the fire? _____



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The food chain below shows a raccoon that can eat about three frogs per day. The frogs each eat about six beetles per day. The beetles eat the seeds from the milkweed plant, which receives its energy from the Sun.



6. How many frogs would 24 beetles feed, if each frog eats six beetles? _____

7. How many raccoons would 18 frogs feed, if each raccoon eats three frogs?

8. Assuming that six beetles can feed on one milkweed plant, how many frogs would die if three milkweed plants were removed from the food chain?

9. What would happen to the raccoons if 27 frogs were taken out of the food chain? _____

10. What types of animals will be affected if the milkweed plant dies out?
