

8th Grade Science

Lesson: April 7th, 2020

Learning Target:

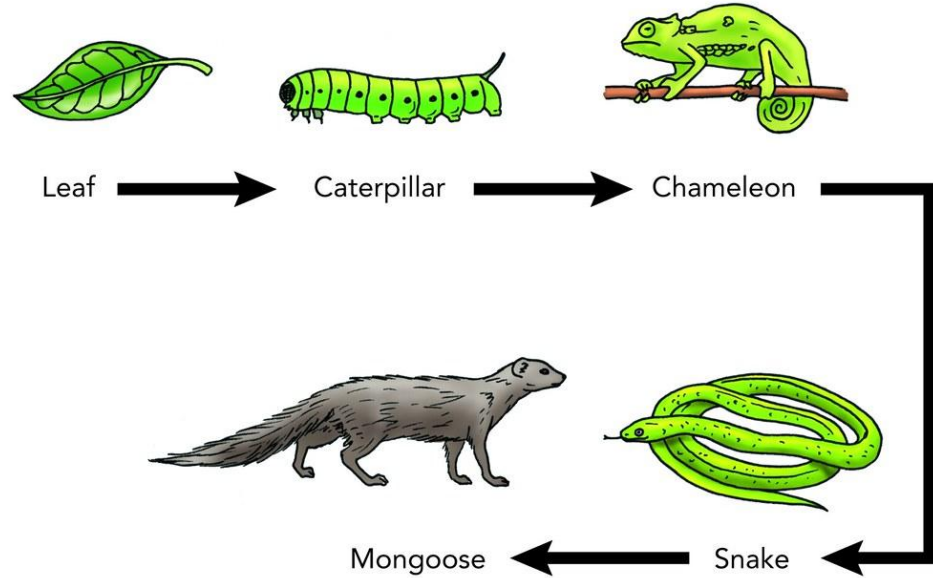
I can show how energy is transferred in ecosystems (food chains/webs)

Warm-Up:

1. Use [this Quizziz Set](#) to practice Ecology Vocabulary (Click on link to go to site)
2. On a piece of paper, draw a simple food chain with 4 steps (pictures or words ok)

Lesson Content:

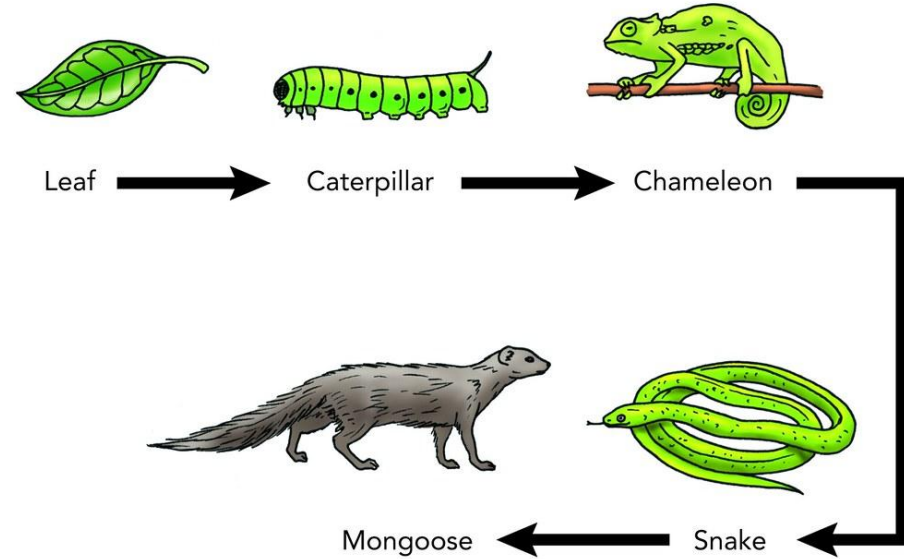
1. Watch [this video](#) to learn about food chains and food webs.
2. Watch [this video](#) to review types of producer/consumers.



Lesson Content:

Write down this video takeaway on a piece of paper:

- a. **A food chain** shows how each living thing gets food, and how nutrients and energy are passed from creature to creature.

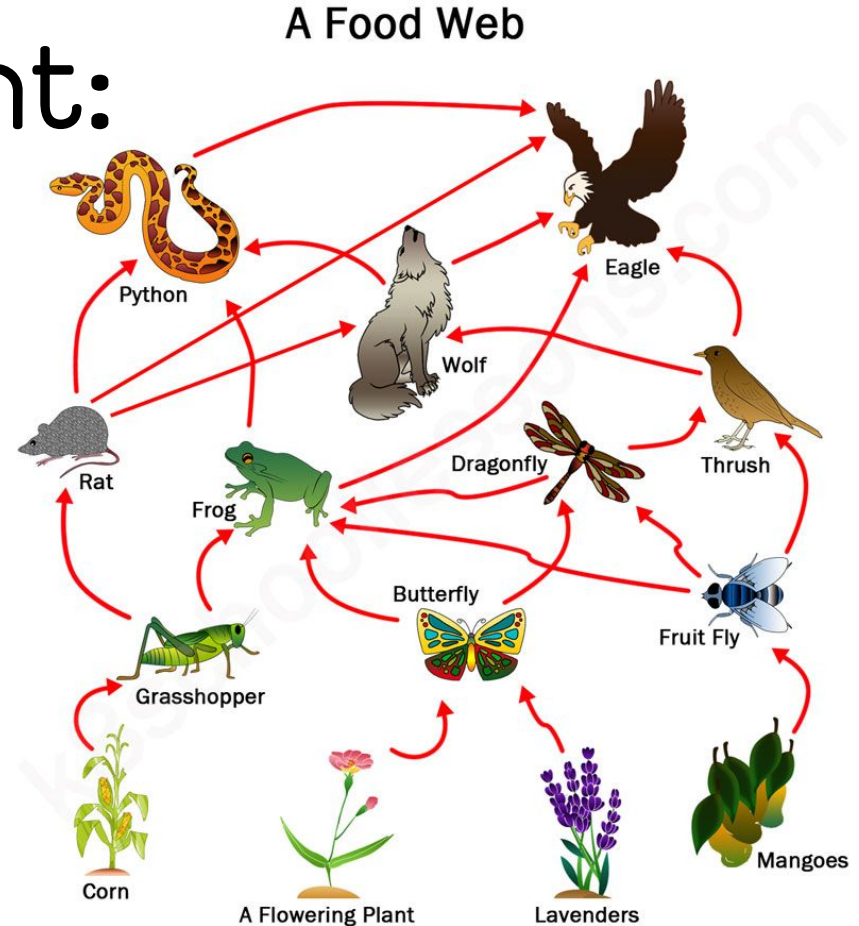


Write this down too:
The arrows in a food chain represent the flow of energy in an ecosystem.

Lesson Content:

Write down this video takeaway on a piece of paper:

- a. A food web shows all the possible feeding relationships in an ecosystem. They show multiple interacting food chains.



Lesson Content:

Write down these video takeaways on a piece of paper:

1. Autotroph A.k.a. Producer

a. Create their own energy

2. Heterotroph A.k.a. Consumer

a. Eats other organisms for energy

Different Heterotroph Types:

- Herbivore
- Omnivore
- Decomposer
- Carnivore

1. Click on [this link](#) and practice your food chain & food web knowledge on a piece of paper.

Write down
your
answers
on a piece
of paper.

This is a snapshot of
what you will see when
you click on the link.

Food Webs and Food Chains Worksheet

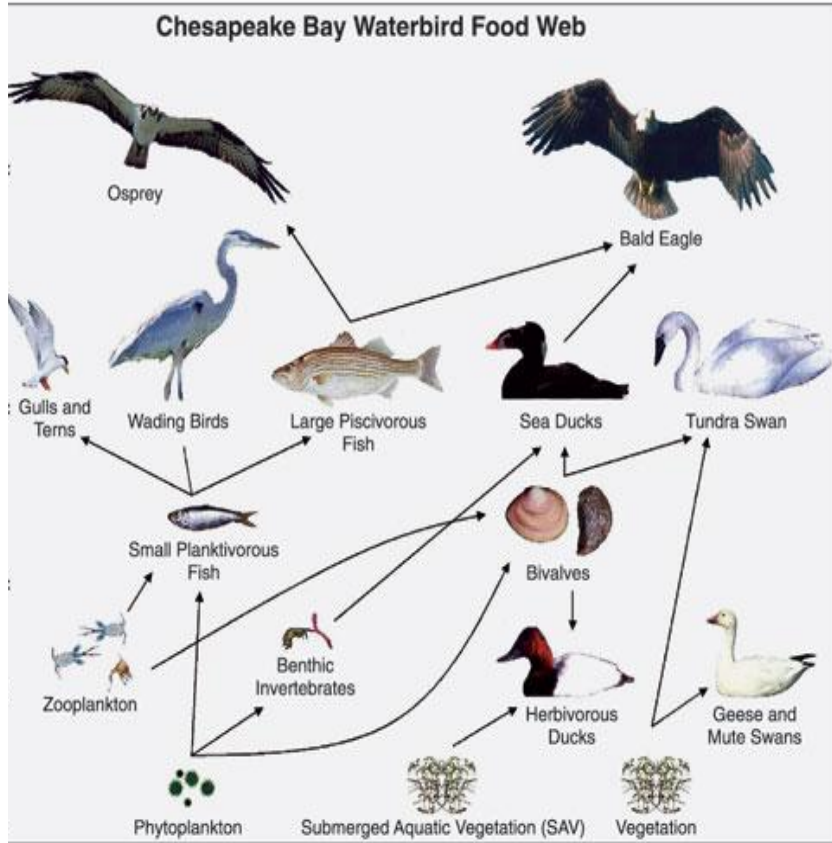
1 Look at this food chain.



a What does the arrow mean in a food chain? _____

b Name the producer in the food chain _____

Practice Step 1: In the picture below, name 3 Consumers and 2 Producers.



Write down your answers on a piece of paper.

Practice Step 2:
If something caused all of the **phytoplankton** to die off, what do you think would happen to this food web?

Check your answers for [this practice assignment](#)

1. A. passage, b. Lettuce, c. ladybird, d. Cat, e. Sunlight (which feeds lettuce)

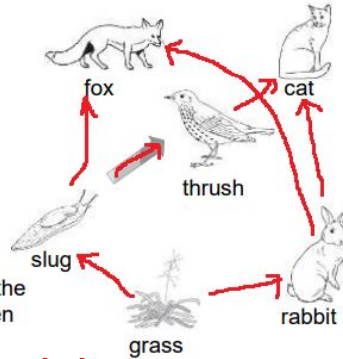
2. Look at these food chains.

grass → slug → thrush → cat

grass → slug → fox

grass → rabbit → fox

grass → rabbit → cat



a Use the food chains to help you fill in the arrows on this food web. One has been added for you.

2. A. See arrows to the left
 B. grass
 C. slug, rabbit, thrush, fox, cat
 D. foxes & cat
 E. slugs & rabbits

3. A. tiny water plants & land plants

B. Possible answers: insect, slug, fox, frog, diving beetle, heron, small fish, water flea, newt, perch

C. Water plants to water flea to diving beetle to small fish to perch to heron

D. water fleas & diving beetles

E. heron/perch

F. If frogs suddenly died, it would affect everything that the frog eats (like diving beetles, insects, and slugs populations would increase because they lost a predator) and everything that eats the frog (numbers could go down because they lose a food source - like herons & foxes)

Check your answers for [this practice assignment](#) (page 2)

4.

How are food webs different to food chains?

Food webs show all the possible feeding relationships (and passage of energy) between biotic factors in an ecosystem. Food chains show only one path. Food webs typically show more animals and plants, and food chains are usually smaller (5-6 steps max).

Explain why food webs are more useful.

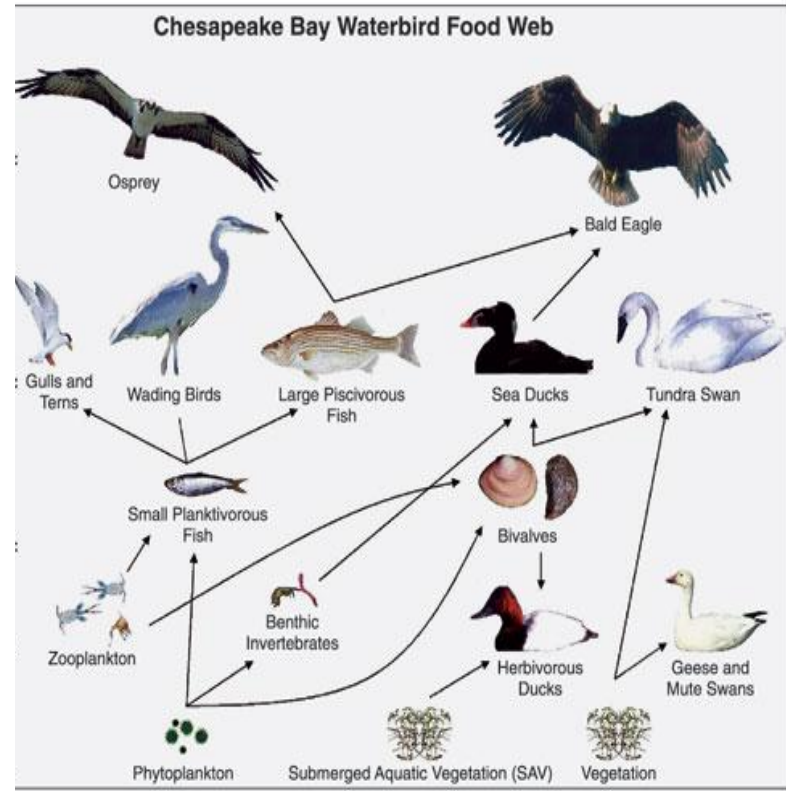
Food webs provide more information and are more realistic than food chains because in nature, there is usually more than one path that energy travels in an ecosystem.

1. Answers from the image:

- a. **Step 1: Possible Consumers:** osprey, bald eagle, gulls/terns, wading birds, large piscivorous fish, small planktivorous fish, benthic invertebrates, herbivorous ducks, bivalves, geese/mule swans, tundra swan, sea ducks.

Possible Producers: phytoplankton, submerged aquatic vegetation, vegetation, zooplankton

- b. **Step 2:** If all the phytoplankton died off, it would harm small planktivorous fish, benthic invertebrates, and bivalves. If those populations were harmed, it would affect other groups like wading birds, sea ducks, etc. further in the food web, possibly causing extinction of some species.



Practice Answers!

Additional Practice:

1. Use [this Quizlet Set](#) to test yourself
 - a. You can use flashcards or match mode to study.
2. On a separate piece of paper, use [this worksheet](#) to practice this information. (The **answer key** is attached to the link at the bottom page.)