

Food Web Builder

Mission: The nature preserve needs a food web poster for visitors. Draw the energy arrows between the meadow organisms, label their roles, and trace where the hawk's energy really comes from.

Big question: How does energy flow through a food web?

★ Warm-up: Which one doesn't belong?

Circle the odd one out and explain.

Grass • oak tree • rabbit • algae ✓ **Rabbit: it is a consumer; the rest are producers.**

Mushroom • worm • bacteria • hawk ✓ **Hawk: the others are decomposers.**

Key vocabulary

Producer	Makes its own food using sunlight (plants, algae).
Consumer	Gets energy by eating other organisms.
Decomposer	Breaks down dead plants and animals (fungi, bacteria, worms).
Food chain	One path of energy from the Sun through organisms.
Food web	Many food chains connected together.

1 Box 1

Build a food chain

In the simulator: Draw a chain from the **Sun** to the **Hawk** that is at least 5 arrows long.

Put your food chain in order, from where the energy starts.

Put in order: Frog • Grass • Grasshopper • Hawk • Snake • Sun

1. **Sun**
2. **Grass**
3. **Grasshopper**
4. **Frog**
5. **Snake**
6. **Hawk**

2 Box 2

Grow the web

In the simulator: Draw at least **12 correct arrows** in total.

The mouse has arrows going to the snake, the fox, AND the hawk. What does that tell you?

- ☐ Three different predators get energy from mice ☐ The mouse eats all three ☐ The mouse is a producer

✓ **Three different predators get energy from mice**

3 Box 3

Label the roles

In the simulator: Switch to **Label roles** and label every organism correctly.

Why is the mushroom a decomposer and not a consumer like the fox?

- ☐ It gets energy by breaking down dead organisms ☐ It is not alive ☐ It makes food from sunlight
☐ It is eaten by animals

✓ **It gets energy by breaking down dead organisms**

4 Box 4

Energy detective

The hawk never eats grass. Where did the hawk's energy **ORIGINALLY** come from?

- ☐ The Sun, through producers and other animals ☐ The snake only ☐ The soil
☐ The hawk makes its own energy

✓ **The Sun, through producers and other animals**

5 Box 5

What if...?

PREDICTION A disease wipes out all the grasshoppers. What will happen to the frogs?

- ☐ Frogs will decrease: they lose a food source ☐ Frogs will increase ☐ Nothing will change

Ripple effects

Use your web. If grasshoppers disappeared, which could happen? Choose all that make sense.

Choose all that apply.

- ☐ Frogs decrease because they lose food ☐ Snakes may eat more mice instead
☐ Grass may grow more because fewer grasshoppers eat it ☐ The Sun gets dimmer

✓ **Frogs decrease because they lose food; Snakes may eat more mice instead; Grass may grow more because fewer grasshoppers eat it**

6 Box 6

Legend: missing decomposers Legend only

What would happen to the meadow if all decomposers disappeared? Explain the effect on the plants.

Look for: Dead things would pile up; Nutrients would not return to the soil; Explains the effect on plants; at least 12 words

7 Box 7

Poster caption (CER)

How does energy flow through the meadow food web?

Claim

Look for: Starts with the Sun; at least 6 words

Evidence

Look for: Names a producer; Names consumers from your web; at least 12 words

Reasoning

Look for: Explains arrows show who eats whom; Includes decomposers; at least 10 words

Exit ticket: answer the big question in your own words

How does energy flow through a food web?

Look for: Energy starts with the Sun. Producers (plants) capture it to make food, consumers get energy by eating other organisms, and decomposers get energy by breaking down dead things. Arrows in a food web point from the food to the eater: the direction energy moves.

Completion codes

Students see a code like **ABC-I3** when they finish. The first part must match below. The letter is the level (E = Explorer, I = Investigator, L = Legend), and the number at the end is how many stars they earned.

Level	Code starts with
 Explorer	X81-E
 Investigator	GTS-I
 Legend	ZP6-L

Watch for these misconceptions

- "Arrows point to what an animal eats." Arrows show energy flow, pointing toward the eater.
- "Decomposers are not important." Without them, nutrients would stay locked in dead matter.
- "Plants get their food from the soil." Plants make food from sunlight, air (carbon dioxide), and water; soil gives nutrients.