

Food-Chain Builder

Classroom-ready printable pack · Grades 3–8

Pack contents

Two identical organism sets, energy-flow arrows, ecosystem mats, and challenge cards. Two student sets are included.

Teacher directions

1. Choose one ecosystem mat and give each partner its matching organisms and arrows.
2. The Describer builds a food chain or web. Every arrow points from the food/energy source toward the organism receiving that energy.
3. The Describer explains producer, consumer, and decomposer roles while the Builder recreates the arrangement.
4. Compare models with the reference chains. Discuss how one population change could affect connected organisms.

Before class

- Print at 100% on US Letter paper. Use cardstock or laminate for reuse.
- Cut on the thick solid borders. Keep Set A and Set B separate.
- Give challenge/model cards only to the Describer.
- Use a folder, book, or tabletop barrier so partners cannot see each other's work.

Accessibility and accommodations

Begin with a three-card chain. Read labels aloud and use the trophic-role patterns. Organisms have distinct names, silhouettes/symbols, and patterns.

Storage-envelope labels

Food-Chain Builder

Set A — Describer

Count pieces before storing.

Food-Chain Builder

Set B — Builder

Count pieces before storing.

Food-Chain Builder

Challenge / model cards

Count pieces before storing.

Food-Chain Builder

Teacher reference

Count pieces before storing.

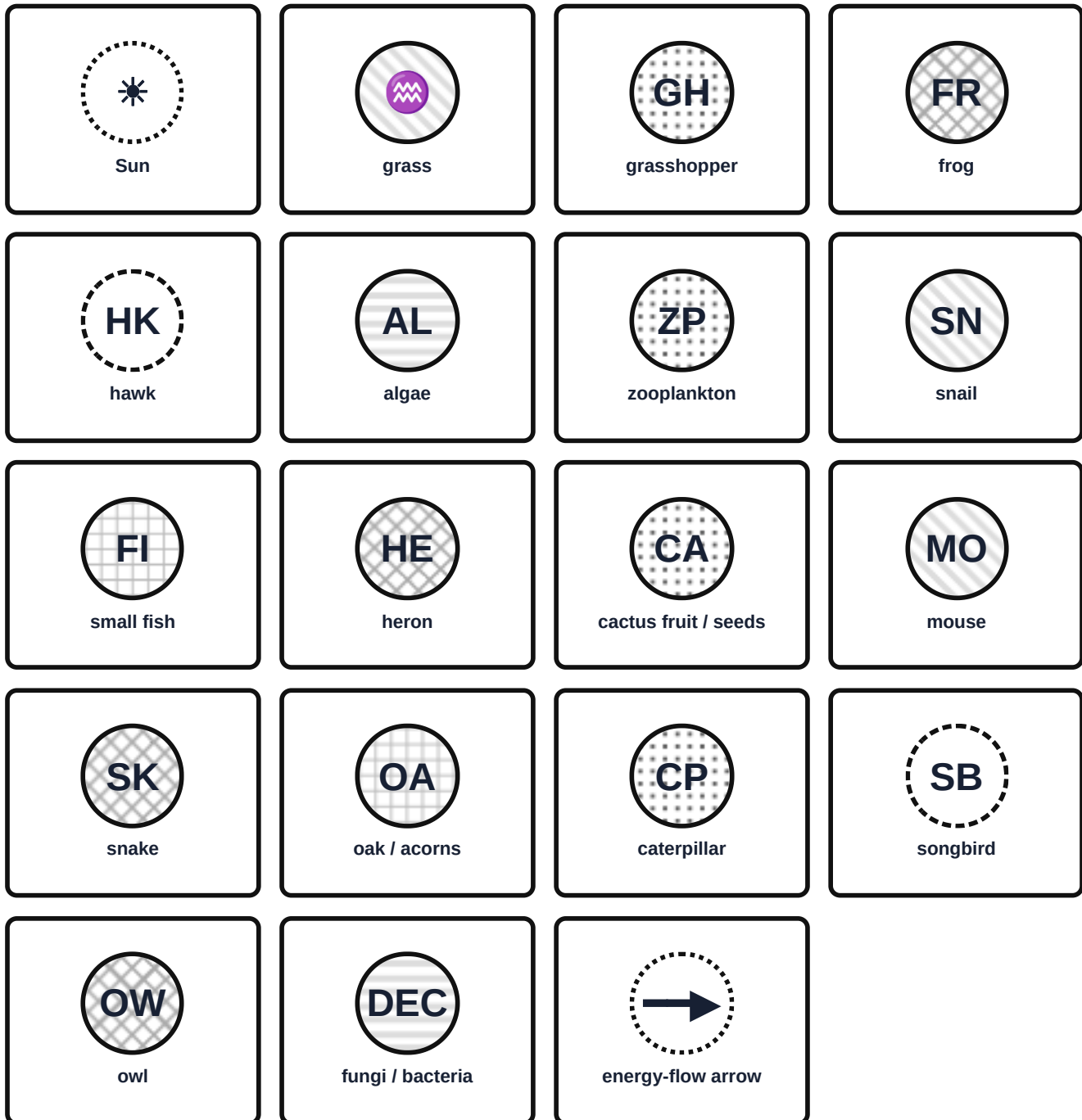
Student language supports

Position: above · below · beside · between · near · far · left · right · clockwise**Clarify:** “Please repeat...” · “Is ___ beside ___?” · “What should I place next?”**Compare:** same · different · rotate · move · replace · sequence

Movable pieces

Set A

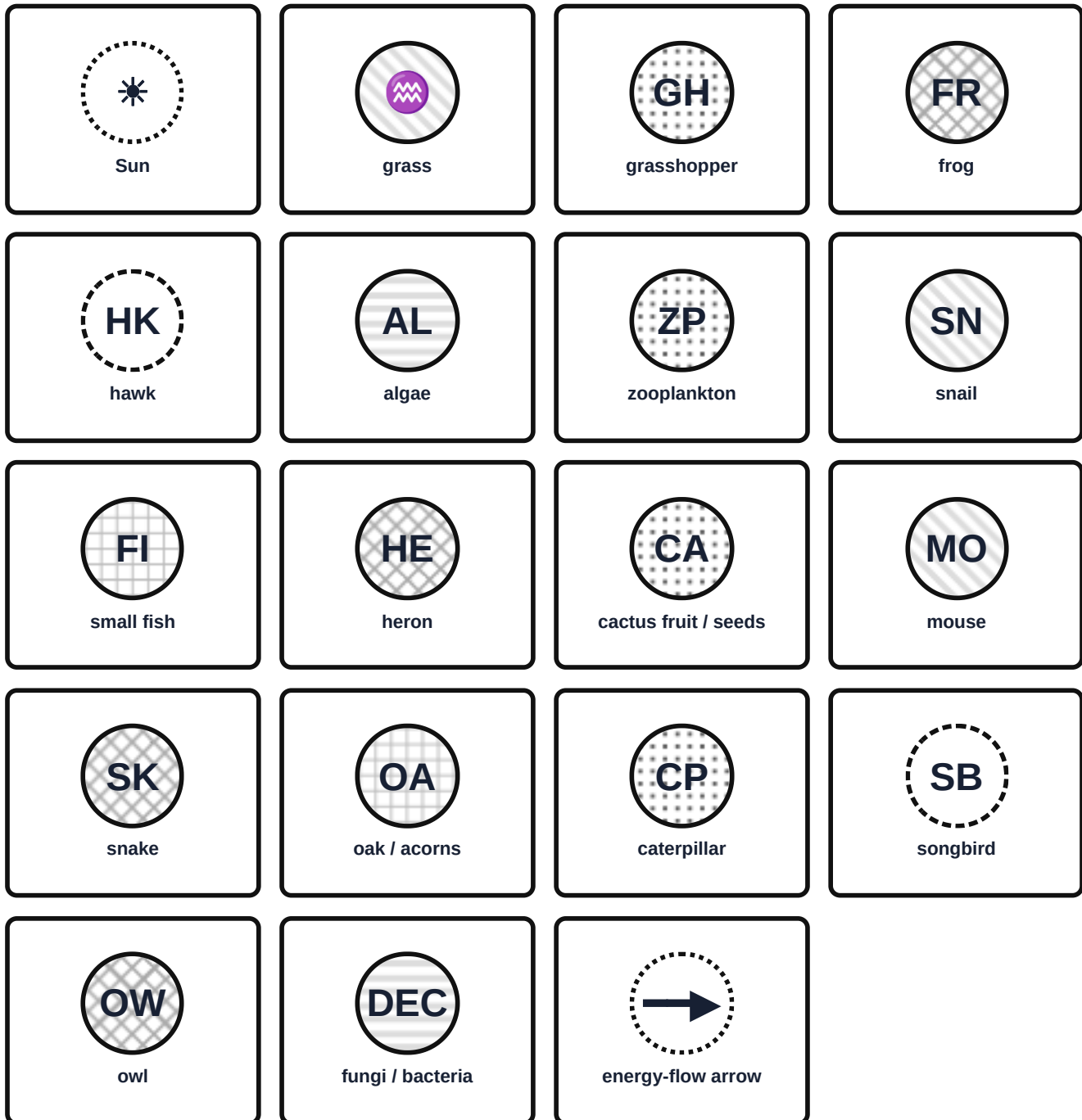
Cut on the solid borders. This set is identical to the partner set.



Movable pieces

Set B

Cut on the solid borders. This set is identical to the partner set.



Meadow food web

Cut the page in half. Both partner mats are identical.

Set A — Meadow food web

producer area • consumer area • decomposer return

The diagram shows a circular mat divided into three concentric regions. The outermost region is defined by a dashed line and is labeled 'top / far' at the top and 'bottom / near' at the bottom. The middle region is a light gray ring, labeled 'center' in the middle. The innermost region is a white circle, also labeled 'center' in the middle. Two horizontal dotted lines cross the mat, one in the top/far region and one in the bottom/near region.

Set B — Meadow food web

producer area • consumer area • decomposer return

The diagram shows a circular mat divided into three concentric regions. The outermost region is defined by a dashed line and is labeled 'top / far' at the top and 'bottom / near' at the bottom. The middle region is a light gray ring, labeled 'center' in the middle. The innermost region is a white circle, also labeled 'center' in the middle. Two horizontal dotted lines cross the mat, one in the top/far region and one in the bottom/near region.

Pond food web

Cut the page in half. Both partner mats are identical.

Set A — Pond food web

producer area • consumer area • decomposer return

The diagram shows a circular mat divided into three concentric regions. The outermost region is defined by a dashed line and is labeled 'top / far' at the top and 'bottom / near' at the bottom. The middle region is a light gray ring, labeled 'center' in the middle. The innermost region is a white circle, also labeled 'center' in the middle. Two horizontal dotted lines cross the mat, one in the top/far region and one in the bottom/near region.

Set B — Pond food web

producer area • consumer area • decomposer return

The diagram shows a circular mat divided into three concentric regions. The outermost region is defined by a dashed line and is labeled 'top / far' at the top and 'bottom / near' at the bottom. The middle region is a light gray ring, labeled 'center' in the middle. The innermost region is a white circle, also labeled 'center' in the middle. Two horizontal dotted lines cross the mat, one in the top/far region and one in the bottom/near region.

Desert food web

Cut the page in half. Both partner mats are identical.

Set A — Desert food web

producer area • consumer area • decomposer return

top / far

center

bottom / near

Set B — Desert food web

producer area • consumer area • decomposer return

top / far

center

bottom / near

Forest food web

Cut the page in half. Both partner mats are identical.

Set A — Forest food web

producer area • consumer area • decomposer return

The diagram consists of three concentric circles. The innermost circle is white and labeled 'center'. The middle ring is light gray and labeled 'top / far' at the top and 'bottom / near' at the bottom. The outermost ring is white and labeled 'top / far' at the top and 'bottom / near' at the bottom. The entire diagram is enclosed in a dashed circular border. There are horizontal dotted lines separating the top and bottom sections of the mat.

Set B — Forest food web

producer area • consumer area • decomposer return

The diagram consists of three concentric circles. The innermost circle is white and labeled 'center'. The middle ring is light gray and labeled 'top / far' at the top and 'bottom / near' at the bottom. The outermost ring is white and labeled 'top / far' at the top and 'bottom / near' at the bottom. The entire diagram is enclosed in a dashed circular border. There are horizontal dotted lines separating the top and bottom sections of the mat.

Describer-only challenge cards

Keep these cards hidden from the Builder.

Challenge 1: Meadow chain

Build a five-part chain beginning with sunlight.

Challenge 2: Pond web

Build two connected paths that share algae or fish.

Challenge 3: Desert chain

Connect cactus food to mouse, snake, and hawk.

Challenge 4: Forest web

Build two paths that share oak or hawk.

Challenge 5: Change scenario

**Remove one producer.
Describe two likely effects without claiming certainty.**

Food-Chain Builder reference

Answer key and model limits

Meadow: Sun → grass → grasshopper → frog → hawk; dead matter → fungi/bacteria.

Pond: Sun → algae → zooplankton → small fish → heron; algae → snail → fish.

Desert: Sun → cactus seeds/fruit → mouse → snake → hawk.

Forest: Sun → oak/acorns → mouse → owl; leaves → caterpillar → songbird → hawk.

Arrows show the direction of energy transfer—from the organism being eaten to the consumer—not which organism attacks another. Real food webs are more complex than these classroom models.

Content checked against National Geographic Education food-chain/web explanations.

Quality check after a round

- Can each student identify pieces by shape or label without relying on color?
- Do both models match in pieces, order, orientation, and relative position?
- Which direction was most precise? Which should be revised?