

Building a milkweed food web

Grades 3 to 5, ages 8 to 11. One 60-minute session.

Milkweed supports a whole community, not just monarchs. Students build the web with string, then start removing pieces and watch it come apart.



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What students will be able to do

- Build a food web with more than one path through it.
- Identify producers, herbivores, predators and decomposers.
- Predict the knock-on effects of removing one organism.

Materials

- Role cards: milkweed, monarch caterpillar, oleander aphid, milkweed bug, tussock moth caterpillar, ladybird beetle, lacewing larva, paper wasp, spider, chickadee, oriole, mouse, fungi and bacteria, sunlight, rain
- A ball of string
- Space to stand in a circle

How it runs

1. Each student takes a card and stands in a circle. Sunlight starts holding the string.
2. Sunlight passes the ball to milkweed, keeping hold of the end. Milkweed passes to everything that eats it, and so on, until the web is built.
3. Ask everyone to pull gently. The web should be visibly tense and interconnected.
4. Now say a herbicide has removed the milkweed. Milkweed sits down and drops the string. Anyone who feels their string go slack sits down too.
5. Repeat, standing everyone up, and instead remove the paper wasp. Compare how much of the web collapses.
6. Draw the web on paper afterwards, with arrows showing which way the energy travels.

Discussion questions

- Removing the plant took down far more than removing a predator. Why?
- Oriole and chickadee both eat monarchs, despite the toxins. How might a bird manage that?
- Where do the decomposers belong on your diagram? Most people leave them out.

Taking it further

Do the same exercise for a lawn. The comparison is more powerful than any lecture about biodiversity.

Safety

None, beyond a sensible amount of space and not wrapping string around anybody.

NGSS alignment

Code	Performance expectation
5-LS2-1	Develop a model to describe the movement of matter among plants, animals, decomposers and the environment.
3-LS4-3	Construct an argument that in a particular habitat some organisms can survive well, some less well, and some cannot survive at all.

<https://milkweedusa.com/learn/milkweed-food-web/>