

## THE STANDARD

# Cycling of Matter

Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

 ANCHORING PHENOMENON

## The Pumpkin That Turned Back Into Dirt

Set a whole pumpkin outside in early fall and watch it for a few weeks. It softens, caves in, grows fuzzy mold, and collapses into a dark mushy spot. By the end the pumpkin is mostly gone, and the soil under it looks richer. Where did all that matter go?

## DRIVING QUESTION

*“Where did the matter from the pumpkin go when the pumpkin disappeared into the ground?”*

 INVESTIGATIVE 1

### The Plant That Grew From Almost Nothing

Plant a bean seed in a clear cup of soil and give it only water and sunlight. Over two weeks it grows tall leaves and a stem, far bigger than the seed. You never added solid food. The plant is building its own food matter out of air, water, and soil.

## DRIVING QUESTION

*“The seed was tiny and we only added water. Where did all the new plant matter come from?”*

 INVESTIGATIVE 2

### The Worm Bin Eats the Scraps

Put apple cores, leaves, and veggie scraps into a bin with worms. Over a week or two, the scraps shrink and turn into dark, crumbly material that looks like rich soil. The worms and tiny decomposers did the work. This zooms in on the decomposer step of the anchor loop, showing matter going from dead food back toward the soil.

## DRIVING QUESTION

*“How do the worms turn old food scraps into something that looks like fresh soil?”*