



Scientific
Connections
through
Inquiry

LEVEL 3

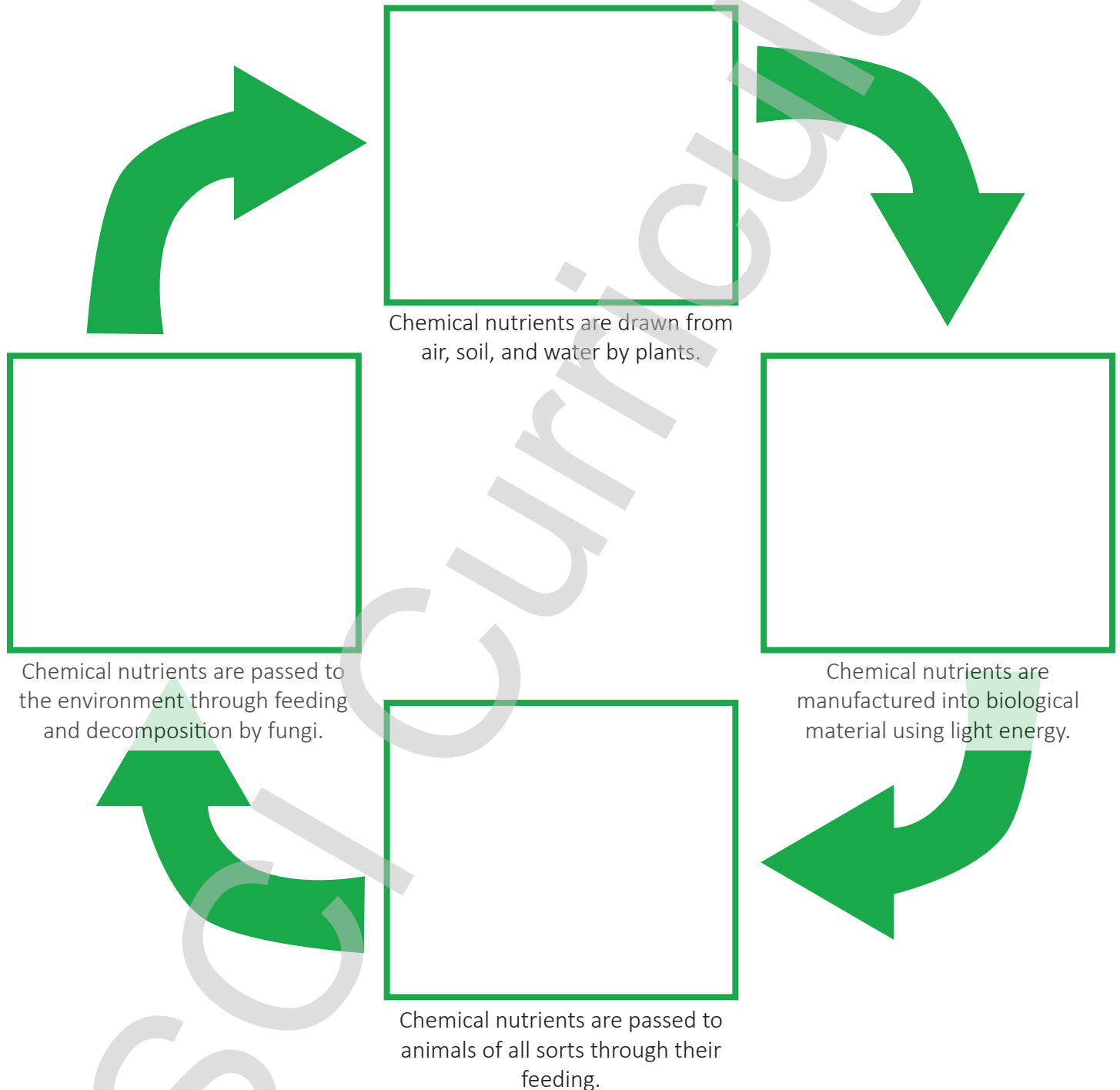
Student Book
Edition 1



SOI Curriculum

Nature's Great Cycle

Illustrate the ongoing cycle of chemical nutrients constantly occurring throughout our world.



Bacteria Reproduction

Here is one bacterium (a “cultured” bacterium, get it?):



If the conditions are right, they can undergo a growth and division cycle in as little as 20 minutes. How many bacteria would there be then?

Every 20 minutes each of these bacteria divide. How many bacteria will there be one hour after the bacterium was alone?

Wow! That increased quickly! What about after 2 more hours have passed?

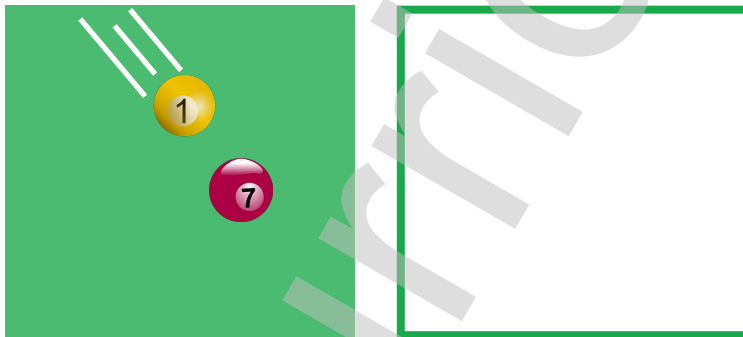
Uh oh. I'm a bit worried, but...if they keep dividing at this rate, how many will there be one day after the lonely bacterium started out alone? (You might want to get a calculator for this one!)

The Energy in Motion

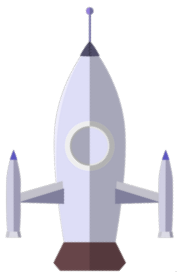
This golf ball is about to start moving. Illustrate and/or describe where its movement energy will come from.



Billiard ball 1 is about to stop moving. Illustrate and/or describe where its movement energy will go.



This rocket is about to blast off. Where will its movement energy come from?



The movement energy will come from stored energy in its

_____.

This kid is sliding across the snow, on a sled. They will not slide forever. What will happen to their movement energy?



Buoyancy

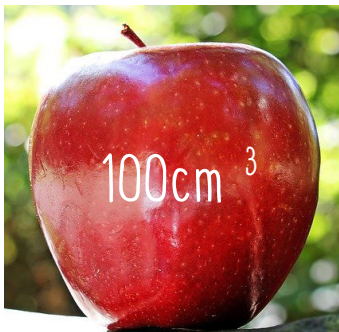
Cut out each of the objects below. By looking at their mass and the mass of water they would displace if fully submerged you can order them by their respective buoyancies. Then paste them into the tub of water on the following page at the approximate level they would sit in the water.



Balloon

Mass of balloon: 3 g

Mass of water displaced if fully submerged: 200 g



Apple:

Mass of apple: 96 g

Mass of water displaced if fully submerged: 100 g



Pyrite

Mass of pyrite: 250 g

Mass of water displaced if fully submerged: 50 g

Buoyancy cont...

