

Table of Contents

Introduction 4

How to Use This Book 5

Life Science

Unit 1: Living Things

Traits of Living Things 6

What Is a Plant? 7

What Is an Animal? 8

Plant or Animal? 9

Living or Nonliving? 10

Unit 2: All About Plants

Parts of Plants 11

Parts of Plants We Eat 12

Plants Need Sunlight 13

Plants Need Water 14

Plants in Different Places 15

Unit 3: Plant Reproduction

Plant Life Cycles 16

Pollination 17

Seed Dispersal: Wind and Water 18

Seed Dispersal: Animals 19

Seed Dispersal: People 20

Unit 4: Fun with Plants

Plant Defenses 21

Plants That Eat Meat 22

Record-Breaking Plants 23

The School Garden 24

Design a Plant 25

Unit 5: Animal Needs

What Animals Need 26

Animals Need Oxygen 27

Animals Need Water 28

Animals Need Food 29

Animals Need Shelter 30

Unit 6: Animal Habitats

What Is a Habitat? 31

Living and Nonliving Parts of Habitats 32

Omnivores Have Options 33

Wet or Dry? 34

Migration 35

Unit 7: Vertebrate Animals

Mammals 36

Birds 37

Reptiles 38

Amphibians 39

Fish 40

Unit 8: Invertebrate Animals

Insects 41

Insect Body Parts 42

Arachnids 43

Crustaceans 44

Gastropods 45

Earth and Space Science

Unit 9: Seasons

What Are Seasons? 46

Summer 47

Fall 48

Winter 49

Spring 50

Unit 10: Weather

What Is Weather? 51

Weather Reports 52

Reading a Weather Report 53

Dangerous Weather 54

Rainbows 55

Table of Contents *(cont.)*

Unit 11: Earth Changes

Slow Changes to Earth: Part 1	56
Slow Changes to Earth: Part 2	57
Volcanoes	58
Earthquakes	59
Water Changes the Land	60
Quick or Slow Change?	61

Unit 12: Water on Earth

The Water Cycle	62
Where Is the Water on Earth?	63
Salt Water	64
Ice on Earth	65
Keep Water Clean	66

Unit 13: Landforms

Landforms	67
Mountains and Hills	68
Valleys and Canyons	69
Plains	70
People Change the Land	71

Unit 14: Bodies of Water

Water on Earth	72
Oceans	73
Rivers and Streams	74
Lakes	75
People Change Water on Earth	76

Unit 15: Maps

What Is a Map?	77
Map Keys and Symbols	78
Compass Rose	79
What Is a Globe?	80
Comparing Maps and Globes	81

Physical Science

Unit 16: Properties of Materials

What Are Properties of Materials?	82
Describing Properties of Materials	83
Observing with the Senses	84
Uses of Materials	85
Changing Properties of Materials	86

Unit 17: States of Matter

Matter	87
Solids	88
Liquids	89
Gases	90
Changing States of Matter	91

Unit 18: Reversible and Irreversible Changes

Two Kinds of Changes	92
Freezing and Melting	93
Changes That Can't Be Reversed	94
Can It Change Back?	95

Unit 19: Heat, Light, and Sound Energy

Heat, Light, and Sound Energy	96
Heat	97
Light	98
Sound	99
What Kind of Energy?	100

Science and Engineering Practices

Unit 20: About Science

What Do Scientists Do?	101
Data Measurement	102
Interpreting Data	103
Scientists Look for Patterns	104
Cause and Effect	105

Tracking Sheet	106
--------------------------	-----

Answer Key	107
----------------------	-----

Name: _____

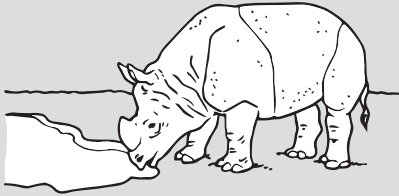
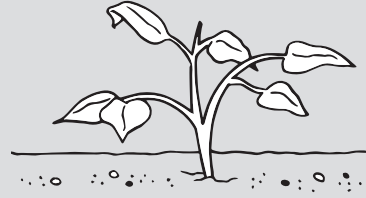
Traits of Living Things

Plants and animals are living things. How do we know something is living?

- Living things use energy to move and grow.

Plants get their energy from the Sun.

Animals get their energy from the food they eat.



- Living things need water.

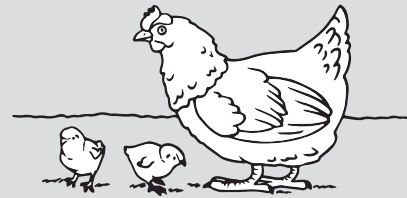
Plants get water through their roots.

Most animals drink water.

- Living things need air.

Plants take in air through their leaves.

Animals breathe air into their lungs or gills.



- Living things grow and change.

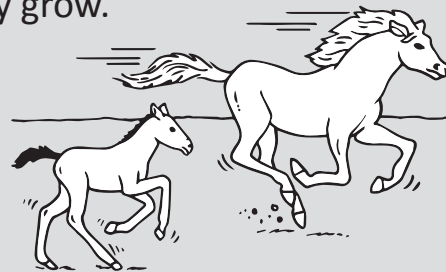
Both plants and animals get bigger.

They change as they grow.

- Living things make more of themselves.

Plants make seeds. Seeds grow new plants.

Animals have babies. The babies grow into adults.



1. Living things use _____ to move and grow.

- a. seeds
- b. energy
- c. lungs

2. Living things make more of _____.

3. Name two ways you know something is living.

Something is living if _____

Name: _____

Earthquakes

The land we live on feels solid. We think that it doesn't move. But it does! Earth has hot, melted rock inside. It is not hard. It is gooey like pudding. The land we live on is called the **crust**. It floats on top of the melted rock inside Earth.

Earth's crust floats in big pieces called **plates**. The plates of Earth's crust fit together like puzzle pieces. Because they are floating, they move a little all the time. They bump and rub against each other.

Usually, we can't feel the plates moving. They only move about six inches in a year. Once in a while, two plates bump against each other very hard. Then, we feel an earthquake. During an earthquake, the movement travels through the ground like a wave. We feel the ground shake and roll.

Small earthquakes don't do much damage. But, a big earthquake can change things in a hurry! Cracks can appear in the ground. Moving land and falling rocks might make a stream change its course. Roads break and crack. Buildings can break or fall down.



1. Earth's *crust* floats in big pieces called _____.
 - a. plates
 - b. pudding
 - c. earthquakes
2. We live on Earth's _____. It floats on top of hot, melted _____.
3. How can earthquakes change the land? _____

Name: _____

Ice on Earth

When water gets cold enough, it turns into ice. Most of the fresh water on Earth is frozen. Some of the ice forms in oceans, but when salt water freezes, the salt does not freeze with it. So, all the ice on Earth is made of fresh water.

- ➔ **Glaciers** are large rivers of ice. A glacier is formed when snow falls and does not melt. More snow falls on top of it. Layers of snow build up until they are very heavy. The weight of the snow pushes down and turns into ice. Glaciers move very, very slowly.
- ➔ **Polar ice caps** are huge sheets of ice. They form where the weather is cold all year long. If you look at a picture of Earth, you will see the ice caps. They are the white areas at the North and South Pole. The ice cap at the South Pole is so big it covers a whole continent—Antarctica!
- ➔ **Sea ice** is ice that floats on the ocean. At the North Pole, sea ice covers the entire ocean in winter. In summer, it gets smaller as some of it melts. Sometimes, huge chunks of ice break off and float away. These are called **icebergs**.

Directions: Write the correct word under each photo.

Word Bank

glacier

iceberg

sea ice



1. _____



2. _____



3. _____

Name: _____

What Are Properties of Materials?

The things around you are made of **materials**. Pencils are made of wood. Scissors are made of metal. Cups can be made of glass or plastic.

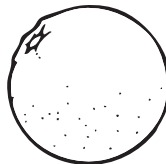
- We can **observe** things and the materials they are made from. We look at them and feel them. Some things we can smell and taste.
- We can **describe** materials and objects. *Describe* means to talk about what something is like. To describe a pencil, you might say it is long, thin, and hard. You might say it has a point at one end. You can use your senses to observe and describe the materials. You can see that your pencil is long and thin. You can feel that it is hard.

We can use the **properties** of materials to put things into groups. Your desk, your chair, and the floor are hard. Your clothes, your hair, and a cotton ball are soft.

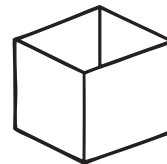
1. How would you make two groups with these items? Circle your groups.



marble



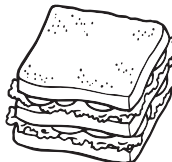
orange



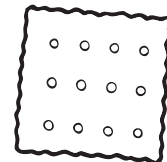
box



ball



sandwich



cracker

2. Think about their properties. Write a label for each box on the top line.

3. Write the names of the items under the correct label.

Name: _____

Gases

Take a breath. What do you feel? Air is going into your lungs. Air is a **gas**. It is always all around us. You usually cannot see gases. You can feel them. When you feel the wind blowing, that is air moving.

Gases do not have a shape. They fill up their containers. If you put a gas into a balloon, the balloon gets bigger. The air does not sit at the bottom of the balloon. It expands to fill the whole space. No matter how big the balloon is or what shape it is, the gas will spread out and fill it up.



The particles in a gas are not connected to each other. They spread out and move around a lot. A gas will spread out evenly in any container, no matter how big. If a gas is let out of a container, it will spread out and become part of the air. If you open a can or bottle of soda, you will hear a sssss sound. That is a gas coming out of the container.



There are gases in your body. You breathe air in and out of your lungs all the time. Sometimes, you get extra air in your lungs or stomach. That gas is what comes out when you burp!

1. Which is not true of a *gas*?
 - a. It does not have a shape.
 - b. Its particles are not connected to each other.
 - c. It is easy to see it.
2. Circle the three gases.

air

water

steam

oxygen

sound

3. Why do you burp?
