Science and Social Studies is *Reading Mastery Plus IV*

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Reading Mastery Plus IV

Light

Facts About Light
1. The sky around Earth looks blue because there is a layer of air around Earth – 58
2. Light is the fastest thing there is and travels millions of miles in an hour – 102
3. If you could travel at the speed of light, you would go around Earth almost eight times in one second – 102
4. The sun is 93 million miles from Earth – 102
5. Light travels at the speed of 186 thousand miles per second – 102
6. Light that hits a magnifying glass bends – 125

Sound
1. The speed of light is faster than the speed of sound—102
2. The speed of sound – 103

Pressure

Water Pressure
1. Pressure becomes greater, the deeper underwater you go – 86
2. The bends occur when a person comes up from deep water very fast, and the pressure on the body goes down very fast – 87, 114
3. Pressure inside a bottle of soda pop – 87
4. The pressure is greater because the water above you weighs more – 114

Human Body

Circulatory System
1. Your heart is about as big as your fist – 121
2. Ribs protect the heart and the lungs – 121
3. Lungs take in the air when you breathe – 121
4. Blood moves through tubes called blood vessels – 122
5. The heart pumps blood through the body night and day – 122
6. When the heart pumps, the blood in the blood vessels moves – 122
7. The body is burning all the time – 122
8. Oxygen is part of the air you breathe – 122
9. Blood is black when it is in a blood vessel because it has no oxygen in it – 122
10. The heart has two chambers for blood to move through – 122

Ears
1. There are tiny hairs in the ear that vibrate and transmit sound to nerves – 127
2. High sounds are picked up at the small end of the chamber in the inner ear – 127
Eyes
1. The eye works like a magnifying glass by bending light – 125, 126
2. The pupil is a hole in the eye where light enters - 126
3. The back of the eyeball is called the retina – 126
4. The retina can feel light – 127
5. The lens of the eye bends the light that comes into the eye –127
6. The camera works a lot like an eye – 133
7. Both the eye and the camera have a lens and an iris – 133

Nerves
1. Every part of the body must have two kinds of nerves – 124, 125
   a. One kind of nerve sends messages to the brain—124, 125
   b. One kind of nerve sends messages from the brain to the rest of the body—124, 125
2. The cerebrum is the part of the brain that does the thinking – 125
3. Nerves carry messages from the brain to other parts of the body – 124
4. The bundle of nerves that go through the middle of the backbone is called the spinal cord – 125

Muscles
1. The muscle on the front of the upper arm is the biceps – 119
2. The muscle on the back of the upper arm is the triceps –119
3. When a muscle works, it pulls and gets shorter – 119
4. Muscles pull – 119
5. Muscles work in pairs – 119
6. Muscles are made of tiny cells – 123

The Human Skeleton
1. Bones and muscles work together – 121
2. Bones help make the body strong –121
3. There are 206 bones in the body – 121
4. The brain is inside the skull – 121

Space

The Solar System
1. The solar system is made up of the sun and nine planets – 53
2. Most of those planets have moons – 53
3. Earth is one of the nine planets in the solar system – 53

The Sun
1. The sun lights the earth – 6
2. Only half of the earth is in sunlight – 6
3. It is daytime on the side of the earth where you can see the sun – 6
4. The earth makes a complete circle around the sun one time every year - 9
5. The sun heats the earth – 8
6. Places on the earth that have more lines of heat are hotter than places that have fewer lines of heat – 8
7. The sun is in the middle of the solar system – 53
8. The sun is the only part of the solar system that is burning – 53
9. The sun gives heat and light to all the planets of the solar system – 53
10. The sun is one hundred times the size of the earth – 53, 117
11. The sun is a star – 117
12. The surface of the sun is made of flaming gases – 117

**Planets**

1. Mercury is the closest planet to the sun – 53
2. Pluto is the farthest planet away from the sun – 53
3. Saturn has 18 moons – 54, 62
4. Earth has one moon – 62
5. Earth is eight thousand miles through the middle – 117
6. Jupiter
   a. Jupiter has 16 moons – 54, 62
   b. Jupiter is the biggest planet in the solar system – 54
   c. The surface of Jupiter is dark – 61
   d. Jupiter is surrounded by a thick layer of grass – 61
   e. Io is the moon that is closest to Jupiter – 62
   f. It takes about 2 days for Io to go all the way around Jupiter – 62
   g. There is no oxygen around Io and no oxygen around our moon – 62
7. Mars is smaller than Earth – 59
8. Mars is colder than Earth because it is much farther from the sun – 59

**Galaxies**

1. There are one hundred billion stars in our galaxy – 118
2. It takes light 100 thousand years to travel from one side of the galaxy to the other side – 118
3. There are millions of galaxies in the universe – 118
4. We live in the galaxy called the Milky Way – 118

**Gravity**

1. Gravity is the force that pulls things back to a planet – 58
2. When you drop something, gravity pulls it down to Earth – 58
3. Not all planets have the same amount of gravity – 58
4. Things weigh more on planets with stronger gravity – 58
5. Bigger planets have stronger gravity. Smaller planets have weaker gravity – 62
6. The stronger the gravity on a planet, the more somebody would weigh on that planet – 62

**The Earth**

**Facts About the Earth**

1. The earth is shaped like a ball – 4
2. The earth turns around once every 24 hours – 6  
3. The earth is moving around the sun all the time – 9  
4. The earth makes a complete circle around the sun one time every year – 9  
5. It takes the earth 365 days to make a complete circle around the sun – 9  
6. The earth is in different places at different seasons of the year – 9

The Equator  
1. The hottest part of the earth is called the equator – 4  
2. The equator is a pretend line that goes around the fattest part of the earth – 4  
3. The farther you go from the equator, the colder it gets – 4  
4. The equator is the hottest part of the earth because it receives more heat from the sun than any other place on the earth – 5

The Poles  
1. The coldest parts of the earth are called the poles – 4  
2. The poles are the parts of the earth that are farthest away from the equator – 4  
3. The poles are the coldest places on the earth because they receive less heat from the sun than any other place on the earth – 5  
4. The earth is tilted. The poles are not straight up and down – 11  
5. The North Pole tilts away from the sun during winter – 11  
6. During winter, there is no daylight at the North Pole – 11  
7. If the pole tilts away from the sun, it’s wintertime at the pole and there is no daylight – 11

The Tilt of the Earth  
1. The pole on the top is called the North Pole and the pole on the bottom is called the South Pole – 4  
2. The earth is tilted – 11  
3. If the pole tilts away from the sun, it’s wintertime at the pole and there is no daylight – 11  
4. If the pole tilts toward the sun, it is summertime and there is no night – 11

Time  

Names that Tell Time  
1. Names that tell about time tell how long it takes for something to happen—13  
2. A week is seven days long—13  
3. An hour is another name that tells about time—13  
4. When you count slowly, each number takes about one second—13  
5. A minute is much smaller than an hour—13

Past, Present, and Future  
1. Things that are happening now are in the present time – 54  
2. Things that will happen are in the future time – 54

Eras  
1. Dinosaur skeletons are found in the Mesozoic layer of earth – 23
2. Dinosaurs lived during the Mesozoic era – 138
3. The Mesozoic era started about 235 million years ago – 138

**Ships**

**Identifying Parts of a ship**
1. Stern – 25 *(picture)*
2. Galley – 25 *(picture)*
3. Engine room – 25 *(picture)*
4. Mast – 25 *(picture)*

**Animals**

**Animals from Africa**
1. Baboons live in large groups called troops – 135
2. A leopard has spots – 135
3. A porpoise is in the same family as whales – 135

**Facts About Geese**
1. Geese are birds – 1
2. Snow geese are white – 1
3. Canadian geese are gray, black, and white – 1
4. Baby geese hatch from eggs in June – 1
5. Most geese live about 30 years – 1
6. Geese live in flocks that may have more than 50 geese in them – 2
7. Geese migrate south in the fall because the lakes and rivers freeze in Canada – 2
8. Most wild geese are born in Canada and spend every summer in Canada – 2
9. Flying to the north and south yearly is called migration – 2
10. Geese can fly over 5 miles high – 3
11. Geese can fly one mile a minute – 3

**Facts About Dinosaurs**
1. Some dinosaurs were much bigger than elephants – 23
2. No dinosaurs are alive today – 23

**Kinds of Dinosaurs**
1. Tyrannosaurus was about 20 feet tall – 24
2. Triceratops had horns and armor – 24
3. The Plateosaurus was over 20 feet long – 138

**Maps and Geography**

**Identifying Directions**
1. Maps always show four directions – 3
2. North is always at the top of the map – 3
3. South is always at the bottom of the map – 3
4. Using a key to tell distance – (project after Lesson 10)

**Identifying Places on a Map**
1. Locating Canada and the United States – 3
2. Locating Michigan and Kentucky – 7
3. Locating Alaska – 12

**Facts About Africa**
1. Africa has a wet season and a dry season – 137
2. The veldt is a great field of grass that extends for many miles – 137

**Facts About the North Pole**
1. It is dark at the North Pole throughout the whole winter – 131
2. The sun shines all the time during summer at the North Pole – 131
3. There is no land at the North Pole—only snow and ice – 132

**Facts About the South Pole**
1. There is a great mass of land under the South Pole – 133
2. The South Pole is five million square miles – 133

**Facts About Japan**
1. Japan is a country that is west of the United States – 52
2. The US is on one side of the Pacific Ocean and Japan is on the other – 52
3. Japan is much smaller than the state of Alaska – 52
4. About 127 million people live in Japan – 52
5. Tokyo is the largest city in Japan – 56

**Alaska**

**Facts about Alaska**
1. Alaska is a state of the United States, but it is far north of the main part of the United States – 12
2. Types of animals in Alaska – 13
3. If you live in Alaska, the days get very short in the winter and very long in the summer – 13
4. The animals in Alaska are most dangerous in the spring – 14
5. Polar bears, wolves, and walruses are dangerous – 14
6. Ice floes melt in the spring – 17

**Facts About the Iditarod**
1. The Iditarod is a sled-dog race that starts in Anchorage, Alaska, and ends in Nome, Alaska – 91
2. The Iditarod covers a distance of more than 11 hundred miles – 91
3. A musher is a person who drives a team of sled dogs – 91
4. In the Iditarod a musher can’t have more than sixteen dogs – 91
5. The first pair of dogs in the team are the lead dogs – 91
6. The pair of dogs just behind the lead dogs are called swing dogs – 91
7. The pair of dogs closes to the sled are called wheel dogs – 91
8. Gang lines and tug lines – 91
9. The rules of the Iditarod require every dog to wear booties on its feet to protect them – 92
10. Mushers steer dogs by yelling commands to them – 92
11. Susan Butcher was a woman who entered the Iditarod 17 times and won four times - 95
12. Checkpoints are places along the Iditarod trail where mushers can rest their teams, make repairs and feed their dogs – 96
13. Every musher must take a 24-hour rest and two eight-hour rests at checkpoints along the Iditarod – 98

Eskimos
1. Eskimos live near the North Pole in Canada and Alaska – 12
2. The dogs that pull Eskimos on sleds are called sled dogs – 12
3. The boat that Eskimos use in the summer is called a kayak – 12

The World Around Us

Clouds
1. Clouds are made up of tiny drops of water – 21
2. In clouds that are very high, the water drops are frozen – 21
3. Storm clouds are flat on the bottom, but they go up very high – 21
4. Hailstones are formed when water drops freeze and move to the top of the cloud – 21

Volcanoes
1. A volcano is a mountain that is made of hot melted rock from inside the earth – 33
2. The melted rock moves up to the surface of the earth, then cools and becomes hard - 33
3. Sometimes a volcano explodes – 33

Whirlpools
1. Whirlpools are made up of moving water – 27
2. A whirlpool is shaped like a funnel: wide on top and narrow on the bottom – 27
3. The water in a whirlpool spins around – 27
4. Something caught in a whirlpool goes around as it moves down – 27

The Bermuda Triangle
1. The Bermuda Triangle is in the Atlantic Ocean – 24
2. Hundreds of ships have been sunk or lost in the Bermuda Triangle – 24
3. There are whirlpools in the Bermuda Triangle – 24

Drifting
1. Winds make things drift – 18
2. Ocean currents also make things drift – 18
Snowflakes
1. No two snowflakes are the same – 132
2. All snowflakes have six spokes – 132

The Ocean

Fact About Coral Reefs
1. Coral is made up of the skeletons of tiny animals that live and die in one place – 84
2. The coral is easy to destroy but takes years and years to grow back – 84
3. There are more than 20 different kinds of coral – 84
4. Coral is made of millions and millions of small sea animals – 114
5. The deepest part of the ocean is over 6 miles deep – 116, 117

Animals that Live in the Ocean
1. Killer Whales
   a. Killer whales are about 12 meters long. Most other whales are much longer than killer whales – 16
   b. Killer whales are not fish. Whales are warm-blooded – 16
   c. Killer whales are very smart – 16
   d. Killer whales hunt in packs. They kill larger whales, polar bears, seals or any other animal that is in the water – 16
2. Facts About Fish
   a. Fish are cold-blooded animals – 115
3. Facts About Barracudas
   a. Barracudas swim in large school sand they grow to a length of almost 2 meters – 88
   b. A barracuda’s mouth is filled with sharp teeth, and barracudas have been known to attack swimmers and kill them – 88
4. Facts About Squid
   a. A squid will grow to the size of a big tree – 115
   b. The squid moves by squirting out water – 115
   c. The arms of a squid are called tentacles – 115
   d. Tentacles have little cups that stick to various surfaces – 115
5. Facts About Blue Whales
   a. Whales are warm-blooded animals – 115
   b. They are the largest animals in the world—weighing more than ten elephants – 115
   c. The blue whale weighs more than ten elephants and it is much longer than a killer whale – 117
   d. Blue whales are bigger than killer whales – 22