A Teacher's Guide For

SKEETER'S AWESOME ADVENTURE

Story By Debbie Hunter :: Illustrations by Alicia Michael

NOTE TO TEACHERS: *This guide is to assist you in teaching the science-based concepts in Skeeter's Awesome Adventure. Comments are provided for corresponding pages of the book to help you discuss the storyline and illustrations with your students.*

COVER → The title and the illustration of rain falling from clouds onto an obviously happy mouse suggest the mystery and adventure of nature. How does rain get inside clouds? What makes it fall to the ground? Where does it go after it falls to the ground? Why is the mouse sitting in the rain? These questions serve to spark the interest of students regarding the primary character – Skeeter the Mouse.

INSIDE TITLE PAGE → Students can acknowledge the people who created this book, and be introduced to the USDA's Natural Resources Conservation Service and it's volunteer arm – The Earth Team.

PAGES 1-2 → Rain is the most common type of precipitation in our atmosphere. Rain takes place when water from atmospheric vapor falls to the surface of the earth. Rain often takes the form of showers or drizzles. A shower lasts a brief period of time, and usually is made up of large, heavy drops. A drizzle generally lasts longer, and is made up of smaller drops. Clothing often absorbs water, so raincoats help keep clothing dry.

PAGE 3 → When rain comes in contact with sand it makes the sand wet. Wet sand sticks together because of surface tension. Surface tension is the clinging force on the surface of the water that makes each water drop seek contact with the grains of sand. The water drops connect to the grains of sand similar to a bridge, and surface tension holds the water drops together. It is easier to build things in wet sand than dry sand because of wet sand's holding properties.

PAGE 4 → The sky is above the earth. Things in the sky look small because they are far away. The closer things get to the earth, the bigger they look.

PAGE 5 → Students get a look at the secondary character, a water drop named H20. The H and the O in his name stand for the elements Hydrogen and Oxygen. Hydrogen and Oxygen combine to create water.

PAGE 6 → Students are introduced to the water cycle, the fascinating continuous movement of water as it takes various forms (solid, liquid, and gas) moving throughout the oceans, atmosphere, groundwater, and the streams of earth. A cycle is similar to a circle, and a continual cycle never ends.

PAGE 7 → Most of the earth's surface is covered with rock and a thin layer of soil. Some rocks are above the ground and some are below. Some rocks are very hard.

PAGE 8 → An aquifer is an area underground that holds groundwater in the gaps between rock, sand or gravel. Groundwater comes from rain, snow, sleet, and hail. The ground soaks up the water and gravity pulls it through the soil, sand, and rocks to a large body of water, much like an underground lake.

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PAGE 9 → A lake is a basin of standing fresh or salt water on the surface of the earth that is surrounded by land. It is usually quite large.

PAGE 10 → The sun is the natural heat source on earth that causes water to change from a liquid to a gas (vapor) or from a solid to a liquid.

PAGE 11 → Evaporation occurs when a liquid changes its state to form a gas, or vapor.

PAGE 12 → Condensation is the formation of liquid drops of water from water vapor. It is the process which creates clouds and fog. It is necessary for rain and snow formation too.

PAGES 13-14 → It is very cold up high in the sky.

PAGES 15-16 → Precipitation is any form of water falling from the sky. Precipitation occurs when water droplets are too heavy to be suspended in the air, and they fall to the earth due to gravity. Rain takes place when drops of liquid water fall all the way to the surface of the earth. Snow forms when the air in a cloud is below freezing and water vapor turns directly into ice without passing through a liquid state. Water condenses around an ice crystal which grows as it joins up with other crystals to form six-sided snowflakes. Sleet usually occurs in winter storms and begins as rain. As it falls from clouds that are warmer than the air below, it freezes and becomes small ice pellets. Hail often occurs in summer storms. Rain falls from the warmer bottom of storm clouds. Updrafts, or wind gusts, lift the rain to the colder regions of the storm clouds, causing the rain to freeze into a hail stone. When the newly formed hail falls, it gathers moisture, and when caught in another wind gust, lifts up to freeze again. This can happen more than one time and each time it happens the hail stone gets larger. Tornadoes have strong wind gusts which often result in larger hail stones. When precipitation falls to earth, it may fall in the ocean, lakes, or rivers or may end up falling on land. When it falls on the land, it may soak into the earth and become part of the groundwater that plants and animals use to drink, or it may run over the soil and collect in the oceans, lakes or rivers.

PAGE 17 → All living things require water. The water cycle never ends. The same water has been recycling since the earth was formed. Not all water on earth is clean or usable. Some is polluted; some is salty. One way water is cleaned in nature is through evaporation. Many contaminates are left behind, and clean water is put back into the atmosphere through the evaporation process. Stewardship of our natural resources is everyone's responsibility.

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

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