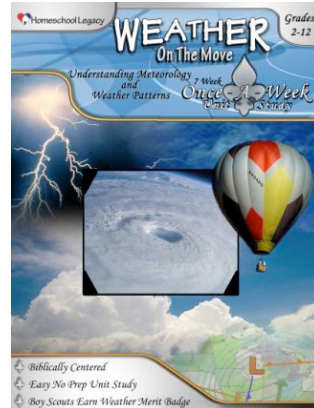


Do you realize the water that falls on Earth today is the very same water that rained on Noah, was parted by Moses, filled the Jordan, and was used by John the Baptist to baptize Jesus? That's amazing to think about, isn't it?

Not only is it fun, but Weather on the Move is a fascinating unit study that will make you stand in awe of our Creator and the incredible intricacies of His amazing weather machine.

Weather on the Move is broken up into seven weeks:

- Week 1 - Meteorology
- Week 2 - The Sun: Our Solar-Powered Weather Engine
- Week 3 - The Atmosphere: An Ocean of Air
- Week 4 - The Water Cycle
- Week 5 - Frozen Precipitation
- Week 6 - Clouds
- Week 7 - Extreme Weather



The following is a sample of what you will be doing in Week 2 as you work through Weather on the Move. Red lettering is added here for further explanation.

Week 1 & 2: Library Reading /Video Choices

An * denotes that it or an equivalent of the same subject matter is necessary in order to complete an assignment.

Focus: Meteorology

J DEF Robinson Crusoe/ Daniel Defoe*

(CD option - CD/SPK DEF)

J WYS The Swiss Family Robinson/ Johann David Wyss*

(CD option - CD/SPK WYS)

(Look for the above classics in their unabridged original forms)

J 523.8 M Seeing Stars/ Dandi Daley Mackall*

J 523.8 S Constellations; A Glow in the Dark Guide to the Night Sky/ Chris Sasaki*

J 523.89 R The Stars/ H.A. Rey*

J 523.8903 H The Glow-in-the-Dark Night Sky Book/ Clint Hatchett*

J 536.5 M Temperature and You/ Betsy Maestro

J 551.5 B How's the Weather/ Melvin Berger

J 551.5 C Meteorologists/ Sandra Christian

J 551.5 K National Audubon Society First Field Guide/ Jonathan Kahl

J 551.6 A DK Guide to Weather/ Michael Allaby

J 551.6 G Weather Forecasting/ Gail Gibbons

J 551.6 G Weather Words and What They Mean/ Gail Gibbons

J 551.6 K Weatherwise: Learning About the Weather/ Jonathan Kahl

J 551.6 S A Pirate Adventure/ Andrew Solway
J 551.6 W A Day in the Life of a Meteorologist/ Margot Witty
J 629.46 S Satellites/ Darlene Stille*

551.5 L Weather, a Golden Guide/ Paul E. Lehr
551.6 D The Weather Identification Handbook/ Storm Dunlop
551.6973 L National Audubon Society Field Guide of North American Weather

Each Once-a-Week Unit Study provides a weekly library list that includes a variety of books for that week's focus. Above is the library list you will use for the first two weeks of Weather on the Move.

As you can see, I have alphabetically and numerically arranged each call letter in order for you to quickly and easily gather your library books.

I include books of different reading levels, have chosen books of superior quality, and have carefully screened books for objectionable material.

Your children are not meant to read all of the books listed. They pick and choose books to read throughout the week which most interest them. Reading is the only activity they will continue daily throughout the week.

Only books noted with an asterisk (or an equivalent of same subject matter) are necessary in order to complete a specific assignment.

What if you cannot find the exact book? No problem. Just pick another from that same library section and focus.

In addition to books, your list will also include documentaries/movies for you to pick up at the library or get from Netflix.

Supplies:

Rubber band
A tennis ball
Flashlight
Globe
An outdoor thermometer
Binoculars or a telescope
Large, clear wide-mouthed jar with a lid (an inexpensive cookie sized jar from a discount store would work well)
Pebbles
Activated charcoal (available anywhere aquarium supplies are sold)
Potting soil
Small plants (ferns, begonias, cacti, succulents, and moss work well)

Each Once-a-Week Unit Study provides you with a supply list for that week's assignments. Most will be items you already have in your home. Others will be inexpensive items you can pick up at a discount, craft, or hardware store.

Daily Activities



Independent Reading: Week 1 & 2 Library Choices

Family Read-Aloud:

Option 1: Robinson Crusoe

Option 2: The Swiss Family Robinson

You will begin one of these classics in Week 1 of Weather on the Move. While not storm stories per se, each begins with a great storm and, in its original form, exemplifies creative ingenuity and trust in God in the midst of challenging circumstances.

Each Once-a-Week Unit Study's family read-aloud introduces your family to great literature while staying focused on that week's topic. It will most often be a classic, Caldecott/Newbery Award winner, or other noteworthy literary piece.

Once-a-Week Activities



Family Devotional:

The fourth day: Genesis 1:14-19

Without the Sun there would be no life.

There would be no weather, no rain, and no food.
The Sun sustains life on Earth and is our light of life.

Jesus tells us in John 8:12, "I am the light of the world. Whoever follows me will never walk in darkness, but will have the light of life."

Without the Son there is no eternal life, and our life on Earth is empty and without hope.

The Son feeds and sustains us. He gives us all we need for our spiritual and eternal life.



Science:

Think of Earth's atmosphere as a giant weather producing machine. Now think about the machines you use around your house. Each of them needs some kind of energy source or engine to make them run. The Sun is the atmosphere's engine that helps it churn out weather on a daily basis.



The sun is actually a star, a huge ball of glowing gases, no different from any other star God created except for one very important thing, its proximity to the earth. At about 93 million miles away, it is our closest star, and without it life on Earth would cease to exist.

If it were much closer, all life on Earth would burn up, and if it were much farther away, all living things would freeze to death. How perfectly planned and ordered by God!

Without the Sun, there would be no weather. It is the Sun's uneven heating of the Earth that causes our different weather elements such as temperature, clouds, wind, and precipitation to occur.

- Conduct the following experiment to demonstrate the Sun's uneven heating of the Earth's surface.

You will be conducting two simple science experiments this week. One will demonstrate the uneven heating of the earth's surface and explain its effect on weather. The other will give an understanding of how a thermometer works.

Weather on the Move will provide you with simple, easy-to-follow instructions for each.

- Illustrate your experiment and write an explanation of what it demonstrates in your weather journal.

!!!Never look directly at the Sun. It can damage your eyes.



Geography:

Look at a globe.

Notice that 70% of the Earth's surface is covered by water, leaving only 30% as land. Most of that land is found in which hemisphere? Which hemisphere is North America in?



Research/Language/History:

- Research the history of the thermometer and the contribution each of the following men made in regards to it: Galileo, his student Evangelista Torricelli, Gabriel Fahrenheit, and Anders Celsius.

- Record your findings, their names, a picture of each man, the dates of each invention, as well as a picture of a thermometer, in your weather journal.

* Remember to do your nicest work. Your weather journal will be something special to show to friends and family.

Your children would have assembled a weather journal and begun recording weather data in week 1. They will continue to record data and other weather related information over the course of the unit study.



Math:

Your thermometer, like the one shown here, may allow you to read the temperature in both Fahrenheit and Celsius degrees.

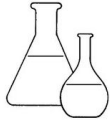
- But, if you would like to learn how to convert °F to °C just follow this simple formula:

$$^{\circ}\text{F} - 32 \times 5 \div 9$$

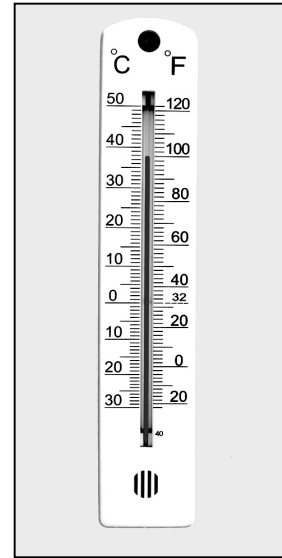
If you want to convert °C to °F just switch it around:

$$^{\circ}\text{C} \times 9 \div 5 + 32$$

- Do some conversions, and add them to your weather journal.



Science:



Summer Temperatures and the Heat Index:

The following chart can help you figure what the summer temperature actually feels like when combined with the *relative humidity*, which you will learn more about in a couple of weeks:

Temperature

	70	75	80	85	90	95	100	105	110
0	64	69	73	78	83	87	91	95	99
5	64	69	74	79	84	88	93	97	102
10	65	70	75	80	85	90	95	100	105
15	65	71	76	81	86	91	97	102	108
20	66	72	77	82	87	93	99	105	112
25	66	72	77	83	88	94	101	109	117
30	67	73	78	84	90	96	104	113	123
35	67	73	79	85	91	98	107	118	130
40	68	74	79	86	93	101	110	123	137
45	68	74	80	87	95	104	115	129	143
50	69	75	81	88	96	107	120	135	150
55	69	75	81	89	98	110	126	142	
60	70	76	82	90	100	114	132	149	
65	70	76	83	91	102	119	138		
70	70	77	85	93	106	124	144		
75	70	77	86	95	109	130			
80	71	78	86	97	113	136			
85	71	78	87	99	117				
90	71	79	88	102	122				
95	71	79	89	105					
100	72	80	91	108					

Warm air can hold more moisture than cool air.



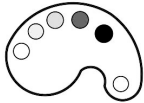
Field Trip:

Earth's atmosphere acts like a giant greenhouse. It allows sunlight to penetrate and trap the heat while simultaneously preventing much of the heat from escaping and maintaining life sustaining temperatures (*the greenhouse effect*).

Visit a greenhouse. Discuss the benefits of a greenhouse with the resident horticulturist.

What comparisons can you draw between a greenhouse and Earth's atmosphere?

How does it feel inside the greenhouse compared to outside the greenhouse?



Arts and Crafts:

Make a maintenance-free terrarium!

A terrarium acts like a miniature greenhouse. The closed container creates a growth sustaining atmosphere, as well as a natural water cycle. Water in the soil eventually forms water droplets on the inside of your container causing it to rain on your plants.



Follow the below instructions to make a simple terrarium (this would make a nice gift!).

The closed container will create a growth sustaining *atmosphere*, as well as a natural water cycle. Water in the soil will eventually form water droplets on the inside of your container causing it to rain on your plants.

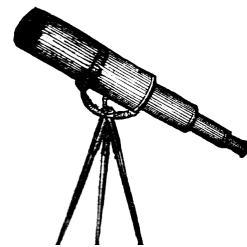
Weather on the Move provides simple instructions for constructing your own terrarium.



Family Night:

Now that you have learned that the sun is actually a star, take your binoculars (or telescope) outside tonight and do some star gazing.

To aid you in identifying constellations, use some of the books from your library list or go online to Tonight's Sky by typing in: http://amazingspace.stsci.edu/tonights_sky/



Once-a-Week Unit Studies are written for ALL homeschool families to enjoy, but Boy Scouts and American Heritage Girls receive the added benefit of earning merit badge requirements while completing the same unit study assignments as the rest of their non-scout siblings.

Boys Scouts and American Heritage Girls will be able to easily identify those assignments by these fleur-de-lis and AHG icons.



The requirements fulfilled will be noted in parentheses at the end of the assignment.

While neither Boy Scouts nor American Heritage Girls fulfill any requirements in Week 2, you can rest assured that Boy Scouts will fulfill the majority of their Weather merit badge and American Heritage Girls their Young Meteorologist badge while completing Weather on the Move.