SCIENCE STARTERS:

ELEMENTARY GENERAL SCIENCE & ASTRONOMY

Parent Lesson Planner

(PLP)

- Weekly Lesson Schedule
- Quizzes & Test
- Answer Key
- Master Supply List

3rd – 8th grade

1 Year
Science

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Where Creation Inspires Education

Since 1975, Master Books has been providing educational resources based on a biblical worldview to students of all ages. At the heart of these resources is our firm belief in a literal six-day creation, a young earth, the global Flood as revealed in Genesis 1–11, and other vital evidence to help build a critical foundation of scriptural authority for everyone. By equipping students with biblical truths and their key connection to the world of science and history, it is our hope they will be able to defend their faith in a skeptical, fallen world.

If the foundations are destroyed, what can the righteous do?
Psalm 11:3

As the largest publisher of creation science materials in the world, Master Books is honored to partner with our authors and educators, including:

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Whether a pre-school learner or a scholar seeking an advanced degree, we offer a wonderful selection of award-winning resources for all ages and educational levels.

But sanctify the Lord God in your hearts, and always be ready
to give a defense to everyone who asks you a reason for the hope
that is in you, with meekness and fear.
1 Peter 3:15

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Contents

Lessons for a 36-week course!

Overview: This *Science Starters PLP* contains materials for use with *Investigate the Possibilities: Water & Weather – From Floods to Forecasts* and *Investigate the Possibilities: The Universe – From Comets to Constellations.* Materials are organized by each book in the following sections:

Q	Quizzes
T	Semester Test
	Answer Keys

Multi-level Quiz & Test Options: The Science Starters curriculum allows multi-age students between grades 3 and 8 to be taught at the same time. For your convenience, we have included two different levels of quizzes and semester tests so that you can choose the ones most appropriate for your student's age and educational abilities. Suggested levels include:

Level 1 – Grades 3 to 6
Level 2 – Grades 7 and 8

Workflow: Students will read two pages in their book and then complete one page of the Student Journal. Extra Projects are also assigned. Quizzes are given at regular intervals.

Lesson Scheduling: Space is given for assignment dates. There is flexibility in scheduling. While each quarter has 45 days of assignments, they do not have to be given M-F. Some students may prefer to do more assignments each day, allowing for breaks on other days. Each week listed has five days, but due to vacations the school work week may not be M-F. Please adapt the days to your school schedule. As the student completes each assignment, he/she should put an "X" in the box.

	Approximately 30 to 45 minutes per lesson, two to three days a week.
	Includes answer keys for quizzes and semester test.
	Multi-level quizzes and tests are included to help reinforce learning and provide assessment opportunities.
	Designed for grades 3 to 8 in a one-year course. Master supply list included.

Course includes books from creationist authors with solid, biblical worldviews:

Tom DeRosa is an experienced science educator, a committed creationist, and founder/director of a growing national creation organization whose chief focus is education. His experience in the public school, Christian school, and homeschool markets for over 35 years has given him special insights into what really works in engaging young minds. He holds a master's degree in education, with the emphasis of science curriculum.

Carolyn Reeves is especially skilled at creating ways to help students develop a greater understanding of not just scientific concepts, but also how these are applied within the world around us. Carolyn retired after a 30-year career as a science teacher, finished a doctoral degree in science education, and now serves as a writer and an educational consultant.

Science Starters: Physical and Earth Science

Course Description

This is the suggested course sequence that allows one core area of science to be studied per semester. You can change the sequence of the semesters per the needs or interests of your student; materials for each semester are independent of one another to allow flexibility.

Semester 1: Water and Weather

Learn about zones in the ocean, from warm, clear water to the deepest, coldest places. Find out the facts about the weather cycle, earth's purification system, weather instruments, and more! Discover the important connection between water and fossils—how this helped to form, alter, and reveal them. Study not only the weather and varying climates around the world, but also explore the results of weather events in the past. The great Flood was a cataclysmic event that left behind fossils, and these impressions reveal much about what happened during and after this historical event. Form a connection between this biblical history and the world experienced outside your door as natural processes like rain and wind are shown to be forces at work in the environment!

Semester 2: The Universe

How big is the solar system? How big is the universe? Can we make a model to help us understand God's wonderful creation? These and other questions are answered through a fun and investigative process created just for upper elementary students! Through simple experiments and fact-finding problems, this astronomy curriculum brings to light God's design of this massive and intricate universe. Students will read about the historical discoveries of great scientists of the past like Kepler, Galileo, and Newton, and how their words impact us today. They will explore astronomy from the first observations of space, the creation of the telescope, the history of flight, and more. Students are encouraged in their faith as they become engaged in the scientific process through activities using inexpensive, everyday household items that bring science to life.

Calculating a Final Grade

Calculate the Average of the student's Activities & Observations grades.

Divide the average by 3 _____

Calculate the Average of the student's Questions & Quizzes grades.

Divide the average by 3 _____

Calculate the Average of the student's Projects, Contest & Dig Deeper grades.

Divide the average by 3 _____

Add up the numbers for the Final Grade: _____

First Semester Suggested Daily Schedule

Date	Day	Assignment	Due Date	✓	Grade
First Semester-First Quarter — ***Water & Weather***					
Week 1	Day 1				
	Day 2	Investigation #1: In the Beginning...God Created Dinosaurs! Read Pages 4-7 • *Water & Weather* (WW) Complete Page S4 • Student Journal (SJ)			
	Day 3				
	Day 4	Investigation #1: In the Beginning...God Created Dinosaurs! Read Pages 8-9 • (WW) • Complete Page S5 • (SJ)			
	Day 5				
Week 2	Day 6				
	Day 7	Investigation #2: Making a Big Impression! Read Pages 10-11 • (WW) • Complete Page S6 • (SJ)			
	Day 8				
	Day 9	Investigation #2: Making a Big Impression! Read Pages 12-13 • (WW) • Complete Page S7 • (SJ)			
	Day 10				
Week 3	Day 11				
	Day 12	Investigation #3: No Bones about It! Read Pages 14-15 • (WW) • Complete Page S8 • (SJ)			
	Day 13				
	Day 14	Investigation #3: No Bones about It! Read Pages 16-17 • (WW) • Complete Page S9 • (SJ)			
	Day 15				
Week 4	Day 16	Investigation #4: Digging in and Reconstructing Fossils Read Pages 18-19 • (WW) • Complete Page S10 • (SJ)			
	Day 17				
	Day 18	Investigation #4: Digging in and Reconstructing Fossils Read Pages 20-21 • (WW) • Complete Page S11 • (SJ)			
	Day 19				
	Day 20	**Water & Weather Investigations 1-4 Quiz 1** **Level 1** Page 17 • **Level 2** Page 33 • Lesson Plan (LP)			
Week 5	Day 21	Investigation #5: Can Rocks Tell Time? Read Pages 22-23 • (WW) • Complete Page S12 • (SJ)			
	Day 22				
	Day 23	Investigation #5: Can Rocks Tell Time? Read Pages 24-25 • (WW) • Complete Page S13 • (SJ)			
	Day 24				
	Day 25	Investigation #6: Leave No Stone Unturned Read Pages 26-27 • (WW) • Complete Page S14 • (SJ)			

Quizzes and Test

for Use with

Water and Weather

Testing:

This series is appropriate for both upper elementary and junior high students. Because of this, we have included quizzes and tests in two different levels, which you can choose from based on your child's abilities and understanding of the concepts in the course.

Level 1: suggested for younger ages or those who struggle with application of the concepts beyond just definitions and basic concepts

Level 2: suggested for older ages or those who can both grasp the scientific concepts and apply them consistently

Q	*Water & Weather* Concepts & Comprehension	Quiz 1 Level 1	Scope: Chapters 1–4	Total score: ____of 100	Name

Choose answers from these terms.
All the terms may not be used and some may be used more than once:

rocks	eggs	offspring	dinosaurs	fossils
sea	reptiles	mammals	weights	mammoth
distance	sedimentary	paleontologists	location	land
volcanic	metamorphic	environment	minerals	triceratops

Fill in the Blank: Each question is worth 5 points.

1. Many dinosaurs had _____ in their stomachs to aid in digestion.
2. _____ laid _____, while most Ice Age animals gave birth to live _____.
3. Dinosaurs are classified as _____.
4. Woolly mammoths are classified as _____.
5. _____ measure the _____ between footprints to help determine the size of the animal.
6. Most fossils are found in _____ rock.
7. Most fossils are the remains of _____-dwelling organisms.
8. Scientists record the _____ and _____ of each fossil they collect.

Short Answer: Each answer is worth 5 points.

9. Which of the following is most likely to turn into a fossil — a dead buffalo lying on the ground or an animal that was covered by a large amount of sediment?

10. Is the formation of fossils a common occurrence today?

11. Are fossils common all over the earth or is it rare to find a fossil?

12. Are all fossils found in a layer of hard rocks?

True / False: Each answer is worth 5 points.

13. A paleontologist can conclude many things about an animal that left fossil footprints, including the kind of animal that left the footprint, how heavy it was, if it was limping, if it was running or walking, and the size of the animal.

14. In order for bones or other remains of once-living organisms to turn to fossils they must have a constant supply of oxygen.

15. It is easy to excavate fossils from surrounding rocks without damaging them.

16. Many plants and animals were transported long distances from their original homes before they turned into fossils.

***Bonus Question:** 10 points.

17. Explain the important role that water plays in the formation of fossils.

*Bonus questions will be included in the test at the end of the semester

Q	*Water & Weather* Concepts & Comprehension	Quiz 2 Level 1	Scope: Chapters 5–6	Total score: ____of 100	Name

Choose answers from these terms.
All the terms may not be used and some may be used more than once:

decay	sedimentary	no	index fossils	superposition
geologic column	yes	magma	unconformities	oldest
worldwide flood	graveyards	evolutionary	radioactive	half life
daughter	bottom	erosion	uplift	assumptions

Fill in the Blank: Each question is worth 5 points.

1. In order to reach a more stable state, some radioactive atoms throw out little bits of nuclear particles, causing the original element to change into something else. This process is known as radioactive _____.
2. The length of time it takes for one half of the original radioactive element to change into _____ elements is called its _____ _____.
3. _____ rock is composed of many rocks of different ages that were cemented together.
4. Evolutionary scientists usually attempt to date sedimentary rocks by _____ _____ found in the rocks, by dating igneous rocks around them, or by how they fit into the geologic column.
5. The principle of superposition states that the _____ layers, along with fossils and artifacts in them, are on the _____.
6. Evidence of _____ between layers are called unconformities.
7. Intrusive rock formations may form as liquid _____ from deep below the ground squeezes through cracks in existing sedimentary rocks.
8. Creation scientists believe that the mass extinction of plants and animals came about because of a _____ _____.
9. Fossil _____ occur when plants and animals from one environmental location may have been transported to another location.
10. The geologic column was established and agreed upon according to _____ ideas.
11. Does absolute dating mean the same thing as proven correct? _____

True / False: Each answer is worth 5 points.

12. During the process of radioactive decay, one element changes into another.

13. The amount of the original radioactive element becomes more and more over time.

14. The rate at which radioactive decay occurs is not affected by temperature, pressure, or other chemicals.

15. When radioactive dating methods are used to date the age of certain rocks, they are always correct.

16. The ages of antiques and certain pieces of art are sometimes obtained by using carbon 14 dating.

17. Radiometric dating is only accurate if the assumptions that are made are accurate.

18. There are very few places on earth where all the layers of the geologic column are found in the "official" order.

***Bonus Question:** 10 points

19. The surface of the earth's continents consists mostly of sedimentary rock layers. These layers often extend over several states, sometimes over entire countries! How does water play a part in the formation of these layers?

*Bonus questions will be included in the test at the end of the semester

Q	*Water & Weather* Concepts & Comprehension	Quiz 3 Level 1	Scope: Chapters 7–9	Total score: ____of 100	Name

Choose answers from these terms.
All the terms may not be used and some may be used more than once:

brackish	estuaries	zones	minerals	weight
delta	greater	salinity	shelf	water
salt lake	temperature	force	oceans	rivers
lesser	submersibles	ice	plains	slope
seamount	sediment	ocean floor	submarine	

Fill in the Blank: Each question is worth 5 points.

1. _____ contain fresh water; _____ contain a mixture of salt water and fresh water; _____ contain salt water.
2. If an inland lake has no way to drain water to the ocean, it is probably a _____ _____.
3. Rivers carry _____ to oceans where it is deposited in the _____ region.
4. Rivers also carry _____ to the ocean, but they are not deposited.
5. Oysters, clams, and crabs often live in estuaries in _____ waters (a mixture of salt and fresh water).
6. Sudden changes in the ocean's _____ (amount of salt in the water) may cause some ocean animals to die.
7. Which is more dense — ice or water? _____
8. There are different _____ in the ocean that are suitable for different kinds of living things.
9. Ocean zones differ primarily in the amount of water pressure, the food supply, the amount of sunlight, and the _____.
10. Water pressure is the force exerted by the _____ of water at a specific place under water.
11. Water pressure becomes _____ as the depth of the ocean increases.
12. _____ are small submarines built to withstand the tremendous pressure of the deep ocean.
13. The continental _____ is the area bordering each continent, where the ocean floor gently slopes downward, as the ocean gradually gets deeper.
14. The deep ocean _____ are broad flat areas covered by thick layers of sediment.
15. The continental _____ is an area where the ocean floor suddenly becomes very steep, continuing downward until it reaches the flat ocean plains.

True / False: Each answer is worth 5 points.

16. All ocean plants and animals are able to live anywhere in the ocean.

17. Some of the underwater mountains are higher than Mt. Everest.

18. Scuba divers usually don't go past depths of 130 feet because the increased water pressure makes it difficult for a diver to live and function well.

***Bonus Question:** 10 points

19. How is the density of an object determined?

*Bonus questions will be included in the test at the end of the semester

Q	*Water & Weather* Concepts & Comprehension	Quiz 4 Level 1	Scope: Chapters 10–13	Total score: ____of 100	Name

Choose answers from these terms.
All the terms may not be used and some may be used more than once:

runoff	evaporation	prevailing winds	wind	streams
clockwise	Missouri River	Continental Divide	colder	groundwater
watersheds	condensation	Mississippi River	convection	climate
water cycle	Great Basin	river currents	warmer	germs

Fill in the Blank: Each question is worth 5 points.

1. Ocean currents are large _____ of moving water that flow through the ocean.
2. _____ currents can produce movements in any kind of fluid — air, water, and even magma.
3. Surface ocean currents are affected by several factors, but they tend to follow major _____ patterns.
4. Surface ocean currents form large circular patterns that generally flow _____ in the Northern Hemisphere.
5. The climate of the eastern seaboard would be much _____ if not for the Gulf Stream.
6. Surface ocean currents all over the world are important in how they affect life and _____.
7. There are several large drainage basins, also known as _____, in the United States.
8. A drainage basin acts like a funnel, collecting all the _____ water within the area and channeling it toward the same point.
9. The _____ _____ is the largest river system in North America.
10. The north-south dividing line through the Rocky Mountains where water on one side drains to the east and water on the other side drains to the west is called the _____ _____.
11. Air that comes from over the Pacific Ocean contains a great deal of water vapor and is pushed farther to the east by the _____ _____.
12. The _____ _____ describes the balance between water vapor and liquid or frozen water.
13. _____ and _____ are the two main processes in the water cycle.
14. Lakes, rivers, and _____ are our main sources of drinking water.
15. Filtration does not remove _____ or chemicals that might be in water.

True / False: Each answer is worth 5 points.

16. Lewis and Clark found a connecting water route from the Missouri River to the Pacific Ocean.

17. The total amount of liquid water on the earth has changed in the last 200 years.

18. Energy from the sun is what drives the water cycle.

19. The Lewis and Clark expedition marked the beginning of a major westward expansion of the United States.

***Bonus Question:** 10 points

20. Explain the water cycle.

*Bonus questions will be included in the test at the end of the semester