

Elementary Science

4th Grade

“ . . . all things denote there is a God; yea, even the earth, and all things that are upon the face of it, yea, and its motion, yea, and also all the planets which move in their regular form do witness that there is a Supreme Creator.”
~Alma 30:44

Course Description

In this course, students will learn about:

1. Physics – the lives and contributions of Galileo and Newton, force and motion, energy, light, and sound
2. Oceanography – the life and contribution of Matthew Maury, ocean water (chemical content, currents, waves, and tides), the ocean floor, individuality of plant and animal life in the ocean, resources in the ocean, and conservation of the ocean
3. Chemistry – atomic structure and molecules, properties and states of matter, physical and chemical changes
4. Meteorology – weather and climate, atmosphere, clouds, and storms

Course Objectives

Students will demonstrate their understanding of the science curriculum through participating in class instruction and completing the following tasks:

- Students will recount the contributions Galileo and Newton made to our understanding of Physics.
- Students will describe the interactions of force and motion.
- Students will demonstrate and describe different forms of energy.
- Students will describe basic principles of light and sound.
- Students will recount the contributions Matthew Maury made to our understanding of Oceanography.
- Students will discover different resources in the ocean and how they are used.
- Students will list ways to conserve and be stewards of the resources in the ocean.
- Students will make models of an atom and a molecule and will describe the functions of the parts.
- Students will describe the states of matter and their properties.
- Students will give examples of physical and chemical changes.

Course Texts

The following titles are books used within lessons in the curriculum.

Title	Author	ISBN	Annotation
Understanding God's World	A Beka Book Science Series for Fourth Grade		Parts of this text will be used in various lessons.

Course Assignments

The assignments consist of notebook pages, experiments or activities (referred to as “labs”), memorizations and quarterly homework projects.

Notebook Pages

Your child’s Notebook is not just an organized compilation of assignments; rather, it is a product of his/her creativity, insights, and progress. It is a permanent record of the researching, reasoning, relating, and recording that causes him/her to become an “active producer” rather than a “passive consumer.” The assignments in this course are designed to guide students on this journey.

Labs

The lab activities are hands-on explorations of the topic being studied which could be in the form of an experiment, an observation and explanation, or a partner activity.

Homework Projects

To enrich your child’s experience in Elementary Science, Fourth Graders will complete one homework project during each quarter of the year. Your child will create a “junk” mouse trap using properties of force and motion, an oceanography written report, a Science Fair project, and a science-related career oral report.

Memorizations

In this course students will memorize and recite the following scriptures:

Physics: “And the light which shineth, which giveth you light, is through him who enlighteneth your eyes, which is the same light that quickeneth your understandings; which light proceedeth forth from the presence of God to fill the immensity of space—“ ~ Doctrine & Covenants 88:11 & 12

Oceanography: “And I, God, created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind;. . . and I, God, saw that all things which I had created were good.” ~Moses 2:21

Chemistry: “Let all things be done decently and in order.” ~1 Corinthians 14:40

Meteorology: “For behold, ye shall be as a whale in the midst of the sea; for the mountain waves shall dash upon you. Nevertheless, I will bring you up again out of the depths of the sea; for the winds have gone forth out of my mouth, and also the rains and the floods have I sent forth.” ~Ether 2:24

Grading: Point Breakdown

Grading at the Fourth Grade level is based upon participation as well as Notebook work, Labs, and memorizations. Students will also complete four homework projects during the year. Grades will be given as follows:

Participation	5 Points	(total of 35 lessons = 175 points)
Notebook Assignment / Lab	10 Points	(total of 34 assignments = 340 points)
Unit Memorizations	10 Points	(total of 4 scriptures = 40 points)
Quarterly Projects	25 Points	(total of 4 projects = 100 points)

TOTAL 655 Points Possible

If your child misses a science class, an alternative assignment will be provided, and your child will have one week to complete it.

Grading Rubric:

Participation	5	Actively participates, asks questions, is focused.	1	Minimal focus and attentiveness to lesson
Notebook	10	Work is done neatly, carefully, and shows thought.	1	Work is done sloppily and lacks neatness or thought.
Lab		Actively participates, asks questions, is focused.		Minimal focus and attentiveness to lesson
Memorizations		Scripture is recited with confidence and with no help.		Scripture is not memorized at all.

Homework Projects: A scoring guide specific to each project will be sent home with the directions to each project.

Grading: Scale

A = 100% - 95%	C = 76% - 74%
A- = 94% - 90%	C- = 73% - 70%
B+ = 89% - 87%	D+ = 69% - 67%
B = 86% - 84%	D = 66% - 64%
B- = 83% - 80%	D- = 63% - 60%

C+ = 79% - 77% F = 59% - 0%

* = With Special Accommodation

Self-Government Grade

O = Outstanding

- Demonstrates exceptional effort and work ethic; and
- Makes significant or frequent contributions to the class; and
- Completes and submits all in-class and homework assignments on time, unless otherwise excused by the instructor; and
- Does not require more than one warning from faculty or administration to improve specifically identified misbehavior.

G = Good

- Demonstrates good effort and work ethic; and
- Makes occasional contributions to the class; and
- Completes and submits most in-class and homework assignments on time; and
- Generally does not require more than two (but occasionally more) warnings from faculty or administration to improve specifically identified misbehavior.

MS = Minimum Standard

- Demonstrates a minimal level of effort and work ethic; and
- Makes very few contributions to the class; and
- Submits most in-class and homework assignments, but not in a complete or timely way; and
- Requires multiple warnings from faculty or administration to improve specifically identified misbehavior.

BM = Below Minimum Standard

- Demonstrates an unacceptable level of effort and work ethic; or
- Does not contribute to the class; or
- Consistently neglects to submit in-class or homework assignments.

Strategies for Success

Each week a “Science News” newsletter is emailed to all parents who have an email address in the school email system. The newsletter includes information about what we are learning in class, assignments your child has, and enrichment opportunities to expand your child’s science learning experience. This information will help you ask your child specific questions about what he/she is learning in Science. To help your child be successful in Science, please take time to read the “Science News” each week.

Instructor Contact Information

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Instructor Bio

Mrs. Willis has over 25 years of experience teaching kindergarten through fourth grade children. She grew up in Provo where she attended Brigham Young University and graduated with a bachelor's in Elementary Education. After serving an LDS mission and teaching for three years in Utah she and her husband moved to Alaska where she lived for the next 24 years until moving back to Utah in August of 2008. She has taught Kindergarten for two years at American Heritage School and began teaching Elementary Science in the fall of 2010. In Alaska, Mrs. Willis taught for 20 years in public schools. While there, Mrs. Willis also completed a Masters degree in Educational Leadership and spent two years as an Elementary School principal. After retiring, she volunteered with the Alaska PTA, taught piano lessons, and home-schooled her youngest child. She and her husband have eight children and three grand children. In her spare time, Mrs. Willis enjoys spending time with her family, going for walks, playing games, reading, doing family history research, baking, and playing and listening to music, and traveling. During her years in the classroom, Mrs. Willis taught science curriculum to all of her classes as there were no science specialists in elementary public schools. Over the years she has helped her own children raise a variety of pets, including dogs, cats, guinea pigs, hamsters, gerbils, birds, fish, a rabbit, and snakes. She has a love of nature and a deep love and appreciation for its Creator. "I am grateful for the opportunity to share my love of learning and the wonders of God's creations with the children in the K-4 science classes at American Heritage."