

4th Grade Science

SCI0400

Course Description

Fourth grade science challenges students to gain a better understanding of God as they investigate the world through research, projects, and activities. The fourth grade science course is comprised of exciting units that cover the following: creation, space, weather, rocks and minerals, plants, insects, ecosystems, friction, force, and electricity.

Rationale

Fourth grade science builds on the foundations of critical scientific thinking. God has given everyone an inquisitive mind for thinking beyond what we see. He has provided ways to explore His creation. Students will learn to apply critical scientific thinking skills through the guidance of this curriculum.

Prerequisite

3rd Grade Science

Biblical Integration Outcomes

- A. The student will understand that God created the world in 7 days.
- B. The student will understand that God's hand is in all of creation from weather phenomena to the specific placement of the sun, moon, and stars.
- C. The student will understand that God has created a universe that is orderly.
- D. The student will understand that God has given people the ability to create things like electricity.
- E. The student will understand that God has put forces in place to keep the world working.

Measurable Learning Outcomes

- A. The student will know what occurred on each day of creation.
- B. The student will investigate the timing of the creation of the Earth, moon, and sun.
- C. The student will investigate and understand how plants and animals in an ecosystem interact with one another and the nonliving environment.
- D. The student will investigate and understand basic plant anatomy and life processes.
- E. The student will investigate and understand the relationships among the Earth, moon, sun, and the planets.

- F. The student will investigate and understand how weather conditions and phenomena occur and can be predicted.
- G. The student will investigate and understand important natural resources.
- H. The student will investigate and understand characteristics and interaction of moving objects.
- I. The student will investigate and understand the characteristics of electricity.

Course Materials

See LUOA's [Systems Requirements](#) for computer specifications necessary to operate LUOA curriculum. Also view [Digital Literacy Requirements](#) for LUOA's expectation of users' digital literacy.

This course contains additional physical materials. See the materials page toward the end of this syllabus for a listing of course materials.

This course makes use of third-party digital resources to enhance the learning experience. LUOA staff and faculty have curated these resources. Students can safely access them to complete coursework. Please ensure that internet browser settings, pop-up blockers, and other filtering tools allow for these resources to be accessed. See Technologies and Resources Used in this Course below for a specific list.

- Note: Embedded YouTube videos may be utilized to supplement LUOA curriculum. YouTube videos are the property of the respective content creator, licensed to YouTube for distribution and user access. As a non-profit educational institution, LUOA is able to use YouTube video content under the YouTube Terms of Service. For additional information on copyright, please contact the [Jerry Falwell Library](#).

Technologies and Resources Used in this Course

The following resource(s) are used throughout this course:

- Reading Eggs
- RightNow Media

Course Grading Policies

The student's grades will be determined according to the following grading scale and assignment weights. The final letter grade for the course is determined by a 10-point scale. Assignments are weighted according to a tier system, which can be referenced on the Grades Page in Canvas. Each tier is weighted according to the table below. Items that do not affect the student's grade are found in Tier 0.

Grading Scale

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

Assignment Weights

Tier 0	0%
Tier 1	25%
Tier 2	35%
Tier 3	40%

In order for students to receive credit for a course, the following conditions have to be met:

1. All semester exams and module tests have to be completed,
2. All Tier 3 projects or papers have to be completed, and
3. Fewer than 10 zeros exist in the gradebook for blank submissions in a full credit course and 5 zeros for blank submissions in a semester course.

Course Policies

Students are accountable for *all* information in the Student Handbook. Below are a few policies that have been highlighted from the Student Handbook.

Types of Assessments

To simplify and clearly identify which policies apply to which assessment, each assessment has been categorized into one of four categories: Lesson, Assignment, Quiz, or Test. Each applicable item on the course Modules page has been designated with an identifier chosen from among these categories. Thus, a Quiz on the American Revolution may be designated by the title, "1.2.W Quiz: The American Revolution." These identifiers were placed on the Modules page to help students understand which Honor Code and Resubmission policies apply to that assessment (see the Honor Code and Resubmission policies on the pages that follow for further details).

- **Lesson:** *Any item on the Modules page designated as a "Lesson"*
These include instructional content and sometimes an assessment of that content. Typically, a Lesson will be the day-to-day work that a student completes.
- **Assignment:** *Any item on the Modules page designated as an "Assignment"*
Typical examples of Assignments include, but are not limited to, papers, book reports, projects, labs, and speeches. Assignments are usually something that the student should do his or her best work on the first time.
- **Quiz:** *Any item on the Modules page designated as a "Quiz"*
This usually takes the form of a traditional assessment where the student will answer questions to demonstrate knowledge of the subject. Quizzes cover a smaller amount of material than Tests.
- **Test:** *Any item on the Modules page designated as a "Test"*
This usually takes the form of a traditional assessment where the student will answer questions to demonstrate knowledge of the subject. Tests cover a larger amount of material than Quizzes.

Resubmission Policy

Students are expected to submit their best work on the first submission for every Lesson, Assignment, Quiz, and Test. However, resubmissions may be permitted in the following circumstances:

- **Lesson:** Students are automatically permitted two attempts on a Lesson. Students may freely resubmit for their first two attempts without the need for teacher approval.
- **Assignment:** Students should do their best work the first time on all Assignments. However, any resubmissions must be completed before the student moves more than one module ahead of that Assignment. For example, a student may resubmit an Assignment from Module 3 while in Module 4, but not an Assignment from Modules 1 or 2. High School students may not resubmit an Assignment without expressed written permission from the teacher in a comment.
- **Quiz:** Students may NOT resubmit for an increased grade.
- **Test:** Students may NOT resubmit for an increased grade.

If a student feels that he or she deserves a resubmission on a Lesson, Assignment, Quiz, or Test due to a technical issue such as a computer malfunction, the student should message his or her teacher to make the request, and that request will need to be approved by a Department Chair.

Consequences for Violations to the Honor Code

Every time a student violates the Honor Code, the teacher will submit an Honor Code Incident Report. The Student Support Coordinator will review the incident and allocate the appropriate consequences. Consequences, which are determined by the number of student offenses, are outlined below:

- **Warning:** This ONLY applies to high school Lessons and elementary/middle school Assignments and Lessons. Students should view these actions as learning opportunities.
 - **Lessons:** A zero will be assigned for the question only.
 - **Elementary/Middle School Assignment:** The student must redo his or her work; however, the student may retain his or her original grade.
- **1st Offense:**
 - **Lesson, Quiz, or Test:** The student will receive a 0% on the entire assessment.
 - **Assignment:** The student will either:
 - Receive a 0% on the original assignment
 - Complete the Plagiarism Workshop
 - Retry the assignment for a maximum grade of 80%
- **2nd Offense:** The student will receive a 0% and be placed on academic probation.
- **3rd Offense:** The student will receive a 0% and the Faculty Chair will determine the consequences that should follow, possibly including withdrawal from the course or expulsion from the academy.

Materials List

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The following materials are required to successfully complete this course.
Any items marked with * are provided by LUOA through the Canvas course.

All other materials must be purchased separately.

Module 1

Materials to create the seven days of Creation

Module 2

None

Module 3

None

Module 4

Large bowl filled $\frac{1}{4}$ of the way with water
Rubber band
Plastic wrap
Coffee mug
Cotton balls to create clouds

Module 5

Water
A clear bottle with a cap
Glitter (optional)
Dish washing liquid
One clear plastic container about the size of a shoebox
Red food coloring
Ice cubes made with water dyed with blue food coloring
Colored pencils
Piece of paper
Make a snow cone

Module 6

None

Module 7

Real flower to dissect

Module 8

None

Module 9

None

Module 10

None

Scope and Sequence

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Module 1: Creation

Week 1: Days of Creation

Week 2: Creation Project

Module 2: Solar System, Part 1

Week 3: Earth/seasons

Week 4: Sun/eclipse

Week 5: Moon/galaxies

Week 6: Stars

Module 3: Solar System, Part 2

Week 7: Planets

Week 8: Planets

Week 9: Planets

Week 10: Planets

Week 11: Review/space test

Module 4: Weather, Part 1

Week 12: Water cycle/clouds

Week 13: Clouds/weather instruments

Week 14: Weather

Week 15: Review day/weather test

Module 5: Weather, Part 2

Week 16: Severe weather

Week 17: Severe weather

Week 18: Severe weather test

Module 6: Rocks

Week 19: Earth's layers/rock cycle

Week 20: Types of rocks/erosion

Week 21: Minerals/test

Module 7: Plants and Insects

Week 22: Insects/metamorphosis

Week 23: Plant structure

Week 24: Photosynthesis/pollination

Module 8: Ecosystems, Part 1

Week 25: What are ecosystems?

Week 26: Biomes: Taiga/Grasslands

Week 27: Biomes: Desert/Deciduous

Week 28: Biomes: Tundra/Rainforest

Week 29: Ecosystems review/test

Module 9: Ecosystems, Part 2

Week 30: Adaptations

Week 31: Types of consumers

Week 32: Food chains/food webs/test

Module 10: Friction, Force, Electricity

Week 33: Friction

Week 34: Types of energy

Week 35: Electricity

Week 36: Circuits/Electromagnets/Static Electricity