

2nd Grade Science

SCI0200

Course Description

The Liberty University Online Academy's science course will show God's creation in all of science. Many hands-on activities will be incorporated to show exactly how a concept works or is displayed. Journals will be used to observe and note observations that are made. God's creation and design of our world will be the emphasis of the science program.

Rationale

Science is the study of the earth around us. It is based on God's Word, and the beginning of this study is at creation. It is important for all to understand the foundation of how the world was created and how it operates. Science involves investigation, and all aspects of this will be investigated.

Prerequisite

1st Grade Science

Measurable Learning Outcomes

- A. The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations.
- B. The student will investigate and understand that natural and artificial magnets have certain characteristics and attract specific types of metals.
- C. The student will investigate and understand basic properties of solids, liquids, and gases.
- D. The student will investigate and understand that plants and animals undergo a series of orderly changes as they mature and grow.
- E. The student will investigate and understand that living things are part of a system.
- F. The student will investigate and understand basic types, changes, and patterns of weather.
- G. The student will investigate and understand that weather and seasonal changes affect plants, animals, and their surroundings.
- H. The student will investigate and understand that plants produce oxygen and food, are a source of useful products, and provide benefits in nature.
- I. The student will identify the major body systems, healthy food and beverage choices, emotions, and social skills, and explain how each is connected to personal health.

- J. The student will identify personal health decisions and health habits that influence health and wellness throughout life.
- K. The student will describe the influences and factors that impact health and wellness.

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

Aluminum foil
Bowl or deep pan
Water
Pennies (or small objects of your choice- quarters, beans, etc.)
Coat hanger
2 pieces of string (string needs to be the same length)
2 small cups
Beans, pennies, cereal, or rice
2 cups of cornstarch
1 cup of water
Bowl
Food coloring (optional)
Two magnets (preferably with North and South marked on the magnet)
Magnet
20 items of your choice from around your house
Materials of your choice to create a new use for a magnet

Module 2

Construction paper (2 pieces)
Glue or tape
Scissors
Food coloring (optional)
Ice cubes
Plastic bag
Water
Ice Tray
Coat hanger balance created in Module 1
10 small items to balance
1 cup measuring cup
Large bowl
Small bowl
Mug
Glass
Milk jug (or juice carton, etc.)

Module 3

Supplies for the following will be determined by how you decide to make the following:
Make a rain gauge (various supplies needed)
Make a weather vane (various supplies needed)
Make a thermometer (various supplies needed)

Module 4

You will create a camouflage habitat (supplies will be determined by student)

Module 5

Draw a forest and stream habitat (paper, crayons or markers, etc., if you use online pictures you will need to be able to print the pictures and glue them onto your habitat.)

Module 6

Craft supplies for life cycle of an animal.
Life cycle of a fruit or vegetable.

Module 7

Students will create an animal home. Outside materials needed (sticks, leaves, rocks, etc.)

Module 8

Paper plates or circle of paper
Pictures of food or draw your own food

Module 9

Students will make a large human body poster: 15+ sheets computer paper (or a large sheet of bulletin board paper)
Tape- either masking tape, clear tape, painters tape
Crayon, colored pencils, or markers
Playdough
Straws
Colored paper
2 brown paper bags

Module 10

Scissors
Tape or glue

Scope and Sequence

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Module 1: Magnets

Week 1: Scientific Method Review
Week 2: Magnets Introduction
Week 3: Use for Magnets

Module 2: Solid, Liquid, Gas

Week 4: Solid, Liquid, and Gas Review
Week 5: Water Cycle
Week 6: Mass and Volume Measurement
Week 7: Matter Review

Module 3: Weather

Week 8: Precipitation and Water Cycle
Week 9: Recording Weather
Week 10: Thermometers and Weather Graphs
Week 11: Types of Weather

Module 4: Weather and Earth

Week 12: Weathering and Erosion
Week 13: Weather, Seasons, and Plants
Week 14: Weather, Seasons, and Animals
Week 15: Animal Adaptation

Module 5: Habitats

Week 16: Living and Non-living things
Week 17: Forest and Stream Habitats
Week 18: Forest and Stream Review

Module 6: Life Cycles

Week 19: Frog and Butterfly Life Cycles
Week 20: Deer and Butterfly Life Cycles
Week 21: Plant Life Cycles
Week 22: Review Life Cycles

Module 7: Plants

Week 23: Use of Plants
Week 24: Plants in Virginia and Animal Homes
Week 25: Plant Eaters
Week 26: Review of Plants

Module 8: Health

Week 27: Healthy Food
Week 28: Exercise
Week 29: Review Keeping Healthy

Module 9: Health Focus

Week 30: Bones
Week 31: Muscles
Week 32: Lungs
Week 33: Eyes

Module 10: Health Part 2

Week 34: Heart
Week 35: Brain
Week 36: Mouth