ARETE HONORS SCIENCE - COURSE SYLLABUS

8th Grade Earth Science

God's World, Our Home

2026–2027 • Grade 8 • Weekly two-hour tutorial

"Not man alone, but also the earth and all the elemental forces pertaining thereto came under the Adamic curse; and as the soil no longer brought forth only good and useful fruits, but gave of its substance to nurture thorns and thistles, so the several forces of nature ceased to be obedient to man as agents subject to his direct control. What we call natural forces—heat, light, electricity, chemical affinity—are but a few of the manifestations of eternal energy through which the Creator's purposes are subserved; and these few, man is able to direct and utilize only through mechanical contrivance and physical adjustment. But the earth shall yet be 'renewed and receive its paradisaical glory'; then soil, water, air, and the forces acting upon them, shall directly respond to the command of glorified man, as now they obey the word of the Creator."

—Elder James E. Talmage, Jesus the Christ

Scale How School - Arete Honors Living Science

Course Description

Arete Honors Earth Science surveys the broad field of Earth science from a Latter-day Saint worldview using Earth Science: God's World, Our Home from Novare Science. Although written from a historic Christian perspective, the text is current in geological science and presents an old-earth framework.

The course combines a weekly two-hour tutorial with structured home study. Students investigate Earth in space, mapping and geospatial tools, scientific reasoning, minerals and rocks, plate tectonics, volcanoes and earthquakes, weathering and erosion, geologic time, oceans, atmosphere, weather, and climate.

The tutorial emphasizes cumulative mastery through written quizzes, quiz correction, discussion, demonstrations, interpretation practice, and laboratory investigations. At home, students use RRC notetaking, Anki, Moodle, exercises, lab reports, and independent projects to prepare for the next tutorial and retain prior learning. A fall field trip to the Bingham Canyon Mine is planned, subject to scheduling and availability.

Calendar: The tutorial follows the Davis County School District's 2026–2027 calendar. The first tutorial is Monday, August 24, 2026. Semester finals are Monday, December 14, 2026, and Monday, May 10, 2027. No tutorial is held on the holidays and breaks shown in the pacing guide.

Course Information	
Instructor	Emily Jones
Tutorial Meeting	Mondays, 1:00 p.m. to 3:00 p.m.
Location	Kaysville, Utah
Course Text	Earth Science: God's World, Our Home by Kevin Nelstead, 2nd edition
First Tutorial	Monday, August 24, 2026
Semester Finals	Monday, Dec. 14, 2026 and Monday, May 10, 2027
Grade Level	8th Grade

Course Color

Burnt orange - used for the 8th Grade Earth Science Anki deck and coordinated course materials.

Course Promise

Complex does not mean impossible. Every major concept is taught with a visual model, an analogy or memory tool, guided practice, and repeated opportunities to explain the idea in the student's own words.

Primary Course Objectives

- Explain Earth's place in the solar system, galaxy, and universe, including seasons, lunar phases, and eclipses.
- Read and interpret maps, topographic maps, remote-sensing products, and basic GIS information.

- Distinguish experimental and historical scientific reasoning and discuss relationships among Latter-day Saint belief, general Christian belief, and Earth science.
- Identify major minerals and rocks and explain the rock cycle and use of Earth resources.
- Explain plate tectonics, mountain building, volcanism, earthquakes, and Earth's internal structure.
- Describe weathering, erosion, soils, streams, groundwater, deserts, glaciers, and mass movement.
- Use relative-age principles, fossils, and absolute dating to interpret Earth history.
- Explain physical processes governing oceans, atmosphere, weather, climate, climate change, and air pollution.
- Collect observations, interpret evidence, maintain an organized lab journal, and write concise individual lab reports.

Course Structure and Expectations

In the Tutorial

- Open with gratitude, prayer, hymn, and catechism.
- Review the previous quiz and handwrite a quiz-review (QR) card for each missed or incomplete item.
- Complete a timed, cumulative written quiz in complete sentences and, when appropriate, show all quantitative work clearly.
- Discuss the assigned reading, difficult concepts, worldview questions, exercises, and student questions.
- Participate in demonstrations, interpretation or problem-solving practice, laboratory investigations, and project presentations.
- Teacher-led Lyrical Earth Science: Geology selections provide brief memory practice in the listed weeks. Novare remains authoritative; students are assessed on science, not verbatim lyrics. No separate student purchase is required.
- Complete all quizzes, chapter assessments, laboratory investigations, and semester finals in person during the tutorial.

At Home

- Use the Read, Recall, Check (RRC) study regimen for every assigned text section and record organized notes in the commonplace journal. (daily)
- Complete daily Anki study (normally 15–30 minutes), rehearse handwritten QR cards, and continue cumulative review rather than cramming. (daily)
- Complete assigned chapter exercises, problem sets, study questions, or Review Guide work. (as needed)
- Complete the weekly Moodle check-in and any assigned class discussion or submission. (weekly)
- Write individual lab reports after investigations, revise work from instructor feedback, and complete one independent science project or presentation per semester.

- Plan for approximately 30–60 minutes on most weekdays (about 3–5 hours per week) of focused home study during a typical week, with additional time near lab-report, project, or final-exam deadlines.

Mastery and Study Systems

RRC Study Cycle: Inspect–Question–Read–Recall–Check

Students use this complete cycle for every assigned Upper School text section. Begin by surveying a text's structure and signposts, then read it closely with a governing question.

1. Inspect. Survey the assigned section before close reading: notice the title, headings, subheadings, diagrams, captions, bold terms, summaries, and overall structure.
2. Question. Turn the section heading into a question that the reading should answer.
3. Read. Read the section attentively with that question in mind.
4. Recall. Close the book. Answer the question from memory and reconstruct the main idea, process, diagram, and key words in the student's own words.
5. Check. Reopen the text. Correct errors or omissions in a different color. If the idea remains unclear, write a specific question to bring to the tutorial.

Five-Step Study Rescue

If the Check step shows that one important idea is still unclear, use the rescue on that one idea, then return to normal RRC study.

1. Shrink it. Choose one process, diagram, relationship, or paragraph—not the whole chapter.
2. Sketch it. Draw the parts and arrows before trying to memorize precise wording.
3. Say it. Explain the idea aloud as if teaching a younger student.
4. Compare it. State what the idea is and what a nearby, easily confused idea is not.
5. Retrieve it. Close every source and rebuild the explanation or diagram from memory; then check once more in a different color.

Enrollment and Code of Conduct

Enrollment is not complete until a parent or guardian submits the required Scale How School Student Code of Conduct and Host-Home Agreement. The digital agreement addresses respect for the host residence and property, authorized areas of the home, class etiquette, electronic devices, academic integrity, laboratory safety, and consequences for misconduct.

Parents are responsible for reviewing the agreement with each enrolled student. Completion of the agreement is a condition of enrollment and continued attendance. Serious misconduct—or repeated failure to follow the agreement—may result in dismissal or expulsion from the tutorial.

Required before enrollment: parent or guardian digital acknowledgment and signature.

Required Materials

- Earth Science: God's World, Our Home by Kevin Nelstead, 2nd edition
- The Student Lab Report Handbook by John D. Mays (a resource intended for continued use through high school and college)

- Standard lab journal with quad ruling
- A set of lined index cards with a ring; bring it every week for handwritten quiz-review cards. The ring may be clipped into the binder or stored in the binder pouch.
- Three-ring binder with five dividers labeled Syllabus, Reference, Quizzes, Class Notes, and Lab
- A durable commonplace journal for independent RRC notes; a journal with page numbers and a table of contents is recommended, and it must come to class each week; this journal may be used in other classes and is encouraged to be used from year to year
- Pencils, pens, scissors, and a three-hole ruler that can remain in the binder
- A three-ring binder pouch large enough for writing utensils, calculator, and quiz-review cards
- Independent project supplies; students and parents are responsible for materials used for individual science projects and presentations
- Scientific calculator; a basic model is sufficient, though students continuing into physics and chemistry may prefer a TI-84 or equivalent

Encouraged Family Outside Reading

Each Arete family is encouraged to keep one shared family copy of The God Proofs: How Science Points to YOUR Creator by Douglas Ell. This is optional family outside reading, not a class-specific text, and it may or may not be referred to during tutorials.

Laboratory and Investigation Program

Eight principal investigations are planned. Weather, materials, and class progress may require substitutions, but laboratory data collection remains an in-tutorial activity.

No.	Investigation	Primary Skill or Product
1	Topographic Maps	Read contour lines, calculate gradient, and interpret terrain.
2	Identifying Minerals	Use physical properties to classify unknown mineral samples.
3	Identifying Rocks	Classify igneous, sedimentary, and metamorphic rocks.
4	Studying Volcanoes with Maps	Relate volcanic patterns to tectonic setting and geography.
5	Modeling Weathering	Observe and compare physical and chemical weathering.
6	The Stream Table	Model erosion, deposition, channel change, and stream landforms.
7	Glaciers with Topographic Maps	Interpret glacial landforms and past ice movement.
8	Weather Maps	Read fronts, air masses, pressure patterns, and forecasts.

All experimental work and data collection take place in the tutorial. The instructor may designate selected activities as journal-only investigations rather than full formal reports.

Grading Plan

Weekly cumulative quizzes form the large majority of each term grade. All quizzes and semester exams are completed during the tutorial. Laboratory investigations also occur during the tutorial; students write reports independently at home and prepare special projects for presentation.

How Each Term Average Is Calculated

Component	Grade Contribution
Weekly cumulative quizzes	70%
Homework assignments	5%
Lab reports and lab journal	15%
Special projects or presentations	10%
Total	100%

How the Final Course Grade Is Calculated

Component	Grade Contribution
Fall term average	40%
Fall semester exam	10%
Spring term average	40%
Spring semester exam	10%
Total	100%

Semester exams are given during the final tutorial meeting of each term: Monday, December 14, 2026, and Monday, May 10, 2027.

Course Policies

Attendance: Because the tutorial meets only once each week, regular attendance is essential. Notify the instructor in advance when possible. Quizzes, labs, and finals may not be completed at home; any permitted make-up must be arranged and supervised by the instructor.

Preparedness: Arrive with the assigned RRC study and notetaking complete, required materials in hand, QR cards reviewed, and questions marked for discussion.

Late Work: Late work is accepted according to the instructor's stated policy. Lab reports are ordinarily due within one week of the investigation unless the schedule or instructor provides a longer report window.

Lab Safety: Follow all oral and written safety directions. Unsafe conduct may result in immediate removal from an activity, an alternate assignment, dismissal from class, or expulsion under the behavior policy.

Academic Integrity: Submitted work must be the student's own. Data, sources, quotations, digital assistance, and collaboration must be acknowledged. Students may discuss an investigation but may not share or copy report text, calculations, graphs, or files.

Schedule Changes: Weather, materials, progress, and student needs may require adjustments. Changes will be communicated through Moodle or the usual family channel.

Optional Science and Nature-Lore Reading

These optional selections are adapted from AmblesideOnline's current science and natural-history recommendations for AO Year 8. They are not required, graded, or a substitute for assigned course reading. Families may choose according to interest and reading level; parent read-alouds and audiobooks are welcome.

- Rural Hours — Susan Fenimore Cooper (AO Year 8)
- Signs and Seasons — Jay Ryan (AO Year 8)
- Great Astronomers — Robert S. Ball (AO Year 8)
- First Studies of Plant Life — George Francis Atkinson (AO Year 8)
- Napoleon's Buttons — Penny Le Couteur and Jay Burreson (AO Year 8)

Current source schedules: AmblesideOnline Year 8 schedule