

## Course Syllabus

**Course Title:** Science, Grade 8 (Integrated)

**School Year:** 2024-2025

**Semester(s):** 1 and 2

**Grade Level(s):** Grade 8

**Course Day(s) and Times:** Mondays and Wednesdays, 12:00 pm - 1:00 pm PST

### Teacher Information

- **Name:** Kendra Etter
- **Email:** [kendra.etter@brancheslearning.org](mailto:kendra.etter@brancheslearning.org)
- **Office Hours:** By appointment only
- **Branches Learning Main Office Number:** (323) 955-0114

**Class Materials** - <https://brancheslearning.org/product/science-grade-8/#Materials>

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### Course Description

Aligned with the Next Generation Science Standards (NGSS), this 8th-grade science course deepens understanding across multiple sciences (life, physical, earth, and engineering/technology). By engaging in hands-on activities, students investigate various topics, including genetic coding, cyclical lunar patterns, magnetic force, and engineering design. Students pose questions, conduct observations, and formulate conclusions based on evidence. Projects promote creativity and encourage students to develop innovative solutions to real-world problems.

### Course Units

#### **Unit 1 - Genetics, Adaptations, and Natural Selection**

Project: Archaeology

- MS-LS3-1: Mutations - Harmful, Beneficial or Neutral
- MS-LS4-5: Artificial Selection
- MS-LS4-1: Fossil Evidence of Common Ancestry and Diversity
- MS-LS4-2: Anatomical Evidence of Evolutionary Relationships
- MS-LS4-3: Embryological Evidence of Common Ancestry
- MS-LS4-4: Natural Selection
- MS-LS4-6: Adaptation of Populations over Time

#### **Unit 2 - Earth and Space Systems**

Project: Planet Colonization

- MS-ESS1-1: Earth-Sun-Moon System
- MS-ESS1-2: Gravity and Motions in Space

- MS-ESS1-3: Scale Properties in the Solar System
- MS-ESS1-4: Geologic Time Scale
- MS-ESS3-4: Human Consumption of Natural Resources

### Unit 3 - Energy, Forces, and Interactions

Project: Roller Coasters

- MS-PS2-1: Collision Design Solution
- MS-PS2-2: Forces, Mass, and the Motion of an Object
- MS-PS2-4: Gravitational Interactions
- MS-PS3-1: Kinetic Energy of an Object
- MS-PS3-2: Potential Energy of the System

### Unit 4 - Waves and Electromagnetism

Project: Turbines

- MS-PS2-3: Electric and Magnetic Forces
- MS-PS2-5: Electric and Magnetic Fields
- MS-PS4-1: Wave Properties
- MS-PS4-2: Wave Reflection, Absorption, and Transmission
- MS-PS4-3: Digitized Wave Signals

## Assignments and Projects

Assignments and project descriptions will be provided for each unit on the website and will be turned in on Google Classroom. Students will complete one guided experiment during the unit and one creative project to present as evidence of learning at the end of each unit. Quizzes will be administered to assess learning and identify areas for continued improvement. Weekly prompts and responses are participatory activities conducted during class. Points cannot be made up for missed classes or lack of participation, though there are more weeks than points, so it is possible to earn extra credit/bonus points by participating.

Unit	Deliverable	Points
1	Modeling Project (Family Tree)	10
1	Creative Project (Fossil Analysis)	15
2	Modeling Project (Geo / Solar System / Etc. Scale)	10
2	Creative Project (Colony Design)	15
all	Weekly Prompts & Responses (1 each)	20
all	Quizzes (5 each)	30
	<b>Total (Semester 1)</b>	<b>100</b>

Unit	Deliverable	Points
3	Experiment and Report (Acceleration by Gravity)	10
3	Creative Project (Coaster Design*)	15
4	Experiment and Report (Oscillations)	10
4	Creative Project (Turbine Design)	15
all	Weekly Prompts & Responses (1 each)	20
all	Quizzes (5 each)	30
	<b>Total (Semester 2)</b>	<b>100</b>

\* Alternate projects will be discussed

### Course Expectations

- Always come to class prepared with prior assignments completed.
- Expect to have coursework and project work outside of class time.
- Keep your camera on; active cameras count toward participation.
- Submit work on time, and you will never fall behind.
- Treat others with respect; that includes remaining focused on the screen and in the chat, as well as during group work in breakout rooms.
- The more you participate in class, the more your peers will respect you.
- Never feel afraid to ask for help - the only dumb question is the one never asked.
- Communicate with me as soon as possible if there is any issue, question, or need for additional support.

### Grading Scale

#### Middle School, Grades 6-8

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

Final grades are determined by the quality and completion of assignments, attendance, and participation.



## **Important Branches Learning Policy Information**

### **Camera Policy**

Branches Learning requires students to keep their cameras on during live classes unless otherwise instructed by the teacher. Exceptions can be made in rare circumstances if the course teacher, supervising teacher (HST), and the parent all approve a camera waiver.

### **Headset Policy**

Students attending live classes from a shared space must have a headset with a microphone to ensure the class is not disrupted by background noise.

### **Attendance Policy**

Absences must be reported to the course instructor via email or sent to [info@brancheslearning.org](mailto:info@brancheslearning.org). Class recordings are available upon requests.

Attendance and participation are part of the final grade. Students who miss more than 40% of live classes may fail the course. Exceptions may be made if a pre-approved plan is in place.

### **Late Work**

Assignments turned in after the due date will result in a lower grade unless pre-approved by the instructor.