Our Lady of the Lake Roman Catholic School
Yearly Course Outline
Science
Fourth Grade
2025–2026

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Course Description

Project Lead the Way (PLTW) Launch Curriculum, Grade 4 – Students will study the following PLTW Launch modules:

Module 1 – Input/Output: Computer Systems – Students will examine and explore:

1. How does a computer system work?
2. How do humans translate a problem so that a computer can operate on it?
3. What are the advantages that technology offers to humans that allow to accomplish things we couldn't do without technology.?

Module 2 – Input/Output: Human Brain – Students will examine and explore:

1. How does your body sense input from the outside world and make an appropriate response?
2. How can medical professionals use patient symptoms to diagnose brain injuries?
3. How does information we see in the media influence our decisions about healthy behavior?

Module 3 – Energy: Collisions – Students will examine and explore:

1. How are potential and kinetic energy related?
2. What happens to energy during a collision?

Module 4 – Energy: Conversion – Students will examine and explore:

1. How are energy conversion and transfer related?
2. How can humans use energy conversion and transfer to meet needs and wants?
3. How is usable energy converted from resources in your area?
4. What are some energy conversions that take place to create usable energy in a community?

Module 5 – Earth: Human Impact and Natural Disasters – Students will examine and explore:

1. In what ways do human interactions impact Earth?
2. How do natural hazards impact Earth?
3. How can a step-by-step process help you design or improve a solution to a problem?

Module 6 – Earth: Past, Present, and Future – Students will examine and explore:

1. How has Earth changed over time?
2. Why is Earth constantly changing?

How can a step-by-step process help you design or improve a solution to a problem?

Module 7 Organisms: Structure and Function – Students will examine and explore:

1. How are organisms structured to support and sustain life?
2. How do scientists and engineers understand the world around them?
3. How can a step-by-step process help you design or improve a solution to a problem?

Module 8 Waves and the Properties of Light – Students will examine and explore:

1. How are waves used to predict results and solve problems?

2. How do the properties of light allow us to see?
3. How can we use patterns to make sense of the world?
4. How can a step-by-step process help you design or improve a solution to a problem?

Instructional Materials

Launch logs, PLTW kits

Methods of Assessment and Distribution

All test, quiz, and homework grades will be posted on PowerSchool (www.ollpowerschool.org). Please check for postings frequently. Each quarter, four tests and four quiz assessments will be administered.

Assessment Weighting

60% Tests
30% Quizzes
10% Homework

Grading Scale

A: 100-94
B: 93-86
C: 85-78
D: 77-70
U: 69 and below

Tentative Course Calendar

***** Dates and course content are subject to change at discretion of teacher or administration. *****

Aug 7 – First day of school 4th - 7th

Week	Standards	Objectives (The learner will . . .)	Instructional Materials	Assessments
1st Quarter				
Week 1 ***Aug. 11-15***	4-LS1-1 4-LS1-2 (Science & Engineering Practices only) NGSS: 3-5-ETS1-1,2,3 ETS1.A,B,C	Module: Input/Output: Computer Systems Activity 1 and 2: Access the Computer Anatomy presentation. Sketch a machine that one input and one output. Play "pass the input game" Understand the algorithm to encode a bitmap which is described in the worksheet(Run Length Encoding) **Make the connection between 0 and 1 and electrical signals** (0 is off and 1 is on). Learn basic information about Internet safety such as privacy and appropriate behavior.	Ipads Inkling app Launch logs Code Intelligence Activity worksheet Image decoder worksheet	Quiz 1-1 (Conclusion questions and launch log for Activity one and two of the Module: Input/output Computer systems.
Week 2 ***Aug. 18-22***	4-LS1-1 4-LS1-2 (Science & Engineering Practices only) NGSS: 3-5-ETS1-1,2,3 ETS1.A,B,C	Module: Input/Output: Computer Systems Activity 3: Explore another aspect of computer science that deals with data. Students look at different representations of the same data set and make conclusions. Students make a game called Alien Tilt in which the main character moves left and right collecting objects that fall down the screen. At the end of the game, the counts for all objects collected are displayed visually in a column chart.	Ipads Inkling app Launch logs Tynker app	Launch logs and conclusion question on Activity 3 programming with Tynker. (Quiz grade 1-2)
Week 3 ***Aug. 25-29***	4-LS1-1 4-LS1-2	Module: Input/Output: Computer Systems	Ipads Inkling app Launch logs	Test grade (1-1)

	(Science & Engineering Practices only) NGSS: 3-5-ETS1-1,2,3 ETS1.A,B,C	Project: Use Tynker to create an interactive game that will collect data to assess the user's reaction and help diagnose a possible concussion.	Tynker app	½ grade on student – created game ½ on the conclusion questions and launch log for this project.
Week 4 ***Sept. 1-5*** 9/1 Labor Day No School	4-LS1-1 4-LS1-2 (Science & Engineering Practices only) NGSS: 3-5-ETS1-1,2,3 ETS1.A,B,C	Module: Input/Output: Computer Systems Problem: Design and create an interactive game that assesses the alertness of the human brain.	Ipads I inkling app Launch logs Tynker app	Activity grade 1-1: Game design, Launch logs and conclusion question Test grade 1-2: Check for understanding of the Module Input/Output Computer Systems
Week 5 ***Sept. 8-12***	4-LS1-1 4-LS1-2 NGSS : 4-LS1-2 LS1.A,D ETS1-1,2 ETS1.A,B	Module: Input/Output Human Brain Activity 1 and 2 read informational text about the nervous system, the brain, and the spinal cord on this resource sheet. For each section, students should underline or highlight any important information and write any main ideas in the column on the right. After they read through each section, they should answer the questions in the below row. Students will record information about each sense and about the associated sensory experience on the Senses Exploration Resource Sheet. Explore through stations smell, hearing, touch,sight, and taste.	Ipads Launch logs ● Body Outline (1 per group) ● Non-hardening modeling clay (6 colors per group) ● Resealable plastic bags ● Toothpicks ● White adhesive labels ● Clear tape ● Colored pencils or markers ● Nervous System Resource Sheet (1 print per student)	Quiz 1-3 Launch logs and nervous systems resource sheet. Activity 2 grade-senses exploration

			• Scent Kit (1 per class) • Brown paper bags (1 per group) • Sight Tests (2 per class) • Ruler • Miscellaneous sensory items • Sight Station Tests • Taste Station Word Bank • Senses Exploration Resource Sheet (1 print per student) • Hearing Station presentation • Brain model from Activity 1 • stopwatch	
Week 6 ***Sept. 15-19*** Spirit Week 9/19 Fun Run Kickoff	4-LS1-1 4-LS1-2 NGSS : 4-LS1-2 LS1.A,D ETS1-1,2 ETS1.A,B	Module: Input/Output Human Brain Activity 3 Explore how your body senses input from the outside world and make an appropriate response. This exploration will be done through Memory Game Station, Remember that object station, and reaction test pro on the ipad.	Pltw equipment kit Ipads(inkling) • Memory game cards • Classroom items (10-15 per station) • Stopwatch Reaction test app · Colored pencils or markers	Quiz 1-4 Activity 3 launch logs which include recording information from the senses exploration activity.
Week 7 ***Sept. 22-26***	4-LS1-1 4-LS1-2 NGSS : 4-LS1-2 LS1.A,D ETS1-1,2 ETS1.A,B	Module: Input/Output Human Brain Project Describe how each region within the brain helps control and regulate specific functions in the body.	Pltw equipment kit Ipads(inkling) Launch logs • Colored pencils or markers • Peripheral Nervous System	Test 1-3 Peripheral Nervous System and launch logs for project.

		Describe how different sense receptors are specialized for particular kinds of information. Describe how the organs responsible for each sense communicate with the brain. Recognize that the nervous system relies on specialized cells called neurons to pass signals to and from the brain and spinal cord. Outline what happens in the human body from an initial stimulus to a response.	Resource Sheet (print 1 per student) ● Tape ● White poster board (1 per group) ● Red yarn ● Blue yarn ● Body outline (with CNS attached)	
Week 8 ***Sept.29- Oct. 3*** *10/2 – Fun Run* *10/2 - ½ day dismissal* *10/3 – Faculty Inservice*	4-LS1-1 4-LS1-2 NGSS : 4-LS1-2 LS1.A,D ETS1-1,2 ETS1.A,B	Module: Input/Output Human Brain Problem students will work as part of a team to design, plan, and create a video or podcast to raise awareness about concussions and educate their peers as to how concussions can either be identified early or prevented all together. They will follow a design process, a step by step way to solve problems, to help them develop their video or podcast.	Launch logs Ipads ● Colored pencils or markers ● Storyboard Resource Sheet (1 per group) ● Inkling ● iMovie (iPad®) ● ShowMe Interactive Whiteboard ● Camera	
Week 9 ***Oct. 6-10*** 10/10 - ½ day	4-LS1-1 4-LS1-2 NGSS : 4-LS1-2 LS1.A,D ETS1-1,2 ETS1.A,B	Module: Input/Output Human Brain Problem Share videos with classmates. Complete any remaining design improvements.	Pltw equipment kit Ipads(inkling) Launch logs Peripheral Nervous System resource sheet	Test 1- 4 ½ grade podcast ½ grade check for understanding for this module.
2nd Quarter				
Week 10 ***Oct. 13-17***	4-PS3-1,3 PS2.A,b 3-5-ETS1-1,2,3 ETS1.A,B	Energy Collisions Module (Activity 1- Energy, Activity 2 potential & kinetic energy How are potential and kinetic energy related? What happens to energy during a collision?	Ipads Inkling app Launch Logs	Quiz 2-1 Launch logs and conclusion questions on activity 1 and 2 and vehicle creation.

		State questions that engineers may ask when gathering information about a situation people want to change. List ways in which energy can be transferred. Classify energy in a system as potential or kinetic energy.		
Week 11 ***Oct. 20-24*** 10/24 Faculty Inservice 10/24-26 OLL Festival	4-PS3-1,3 PS2.A,b 3-5-ETS1-1,2,3 ETS1.A,B	Energy Collisions Module activity 3 speed & energy) Explain, citing evidence, the relationship between the speed of an object and the energy of that object.	Ipads Inkling app Launch Logs	Test 2-1 Activity 3 ½ Pendulum build, observation of vehicle travel down ramp. ½ Launch log and conclusion questions.
Week 12 ***Oct. 27-31*** *10/31 – Fun Run Reward Day*	4-PS3-1,3 PS2.A,b 3-5-ETS1-1,2,3 ETS1.A,B	Energy Collisions Module (Project Energy transfer in collisions) How are potential and kinetic energy related? What happens to energy during a collision? Explain, citing evidence, the relationship between the speed of an object and the energy of that object. Predict the transfer of energy as a result of a collision between two objects.	Ipads Inkling app Launch Logs	Activity 2-1 Build of different weighted vehicles. Quiz 2-2 Launch log and conclusion questions for activity 3 (energy transfer in collisions)
Week 13 ***Nov. 3-7***	PS2.A,b 3-5-ETS1-1,2,3 ETS1.A,B	Energy Collisions Module (Problem-Vehicle Restraint System) Design a restraint system or alter the vehicle design to protect a passenger in a car during a collision. Students will prototype their design using the VEX IQ vehicle they constructed in Activity 3 and an egg as a passenger. The solution will be tested by rolling the vehicle down an inclined plane at varying slopes to evaluate the effectiveness of the design. Students will use technology to present their design	Inkling app Launch Logs	Test 2-2 -Check for understanding of Vehicle restraint design (1/2) and

		solution, test outcomes, and provide suggestions for improvement. .		
Week 14 ***Nov. 10-14***	4-PS3-2,4 PS2.A,b 3-5-ETS1-1,2,3 ETS1.A,B	Energy Conversion Module Activity 1 and 2– Explore what is Energy Conversion review potential and kinetic energy by searching the classroom for examples and documenting and sharing with the class. Build a KinetiCan to demonstrate the conversion between kinetic energy to potential energy and back. Reflect on human energy sources and how energy from food is converted to usable energy. Construct a stationary bike model using the VEX IQ equipment. Students will use the Fusion 360 link to view instructions on how to construct the bike Experience several types of energy conversion through the exploration of glow sticks, hand warmers and generators.	Ipads Inkling app Launch Logs Mindomo Internet browser for Fusion 360 links Equipment kit VEX® IQ Construction Kit or Robot Design Kit (I per group) Aluminum 12 oz. drink can (1 per student) Cellophane tape (1 roll) Hammer (1 per class) Needle nose pliers (1 per class) ● 16D nail (1 per class) ● Rubber bands #32 (1 per student) ● 5/16 – 18 x ¾" Machine bolts (1 per student) ● 5/16 – 18 Nuts (3 per student) ● Large paper clips (10) ● Small paper clips (1 per student) ● Motors (2 per class)	Quiz 2-3 Stationary bike construction, launch log and conclusion questions.

			• Light Emitting Diodes, LED (2 per class) • Jumper leads (4 per class) • 8 Inch solid core wires (2 per class) • 4 Inch solid core wires (2 per class) • Hand warmers (6 per class) • Glow sticks (1 per student)	
Week 15 ***Nov. 17-21***	4-PS3-2,4 PS2.A,b 3-5-ETS1-1,2,3 ETS1.A,B	Energy Conversion Module Activity 3 Activity 3 (Light up Your World) List ways in which energy may be converted from one form to another. Explain how energy can be converted to meet a human need or want. Describe how sound, light, heat, and electric current can transfer energy. Compare and contrast the transfer and conversion.	Ipads Inkling app Launch Logs Mindomo Internet browser for Fusion 360 links Show me interactive whiteboard • 3V batteries (1 per student pair) • Light Emitting Diodes, LED (1 per student pair) • Flashlights (1 per student pair) VEX® IQ Construction Kit or Robot Design Kit (I per group) The Boy Who Harnessed the Wind: Picture	Quiz 2-4 (Research energy source such as oil, natural gas, coal, or wind. Documented research using mindomo)

			Book Edition by William Kamkwamba (eBook)	
Thanksgiving Holidays ***Nov. 24-28***				
Week 16 ***Dec. 1-5***	4-PS3-2,4 PS2.A,b 3-5-ETS1-1,2,3 ETS1.A,B	Energy Conversion Module (Project-Harnessing Energy) . Identify the differences between invention and innovation. List examples in which energy is converted between potential and kinetic energy. Differentiate between potential and kinetic energy. Explain how energy can be converted to meet a human need or want. Apply scientific ideas about the conversion of energy to solve a simple design problem. Construct a bike and bike pulley system. Design a solution for lifting objects into a tree house.	Ipads Inkling app Launch Logs Mindomo Internet browser for Fusion 360 links Show me interactive whiteboard VEX® IQ Construction Kit or Robot Design Kit (I per group) (bicycle built in activity 1) ● String (48 inches per group) Internet browser for Fusion 360 links ●	Test 2-3 ½ on bike pulley creation ½ on launch logs and conclusion questions
Week 17 **Dec. 8-12**	4-PS3-2,4 PS2.A,b 3-5-ETS1-1,2,3 ETS1.A,B	Energy Conversion Module (Problem – Food pantry design) In this design challenge, students will design and model a system to unload boxes of food at a community food pantry. Collect and evaluate test data. Students record how well their system moved boxes of food a minimum of 12 inches.	Ipads Inkling app Launch Logs Mindomo Show me interactive whiteboard Equipment kit VEX® IQ Construction Kit or Robot Design Kit (I per group)	Test 2-4 Launch logs and check for understanding of Energy Conversion Module.
Week 18 ***Dec. 15-19*** 12/19 - ½ day	4-PS3-2,4 PS2.A,b	Present their design, evaluation, and suggestions for improving their food box unloading system.	Ipads Inkling app Launch Logs	Activity 2-2 Presentation of

	3-5-ETS1-1,2,3 ETS1.A,B		Mindomo Show me interactive whiteboard Equipment kit VEX® IQ Construction Kit or Robot Design Kit (I per group)	Food Pantry Design.
Christmas Holidays ***Dec. 22 – Jan. 4***				
3rd Quarter				
Week 19 ***Jan. 5-9***	4-ESS3-1 4-ESS3-2 3-5-ETS1-1 3-5-ETS1-2	Earth: Human Impact and Natural Disasters Module Activity 1: Review natural resources interactive experience. Review the world map, the natural resources and population density overlay. Create graphic organizers about resources found locally. Discuss renewable vs nonrenewable resources. Read "Human Environmental Impact: How We Affect Earth" Track natural resource at home and school. Activity 2: Investigate upcycling and recycling.	• PLTW Launch Logs (1 per student) • Ipads • Pencils or colored pencils for sketching • Chart paper • Blank paper • Markers • Assorted materials, such as: • String • Tape • Milk cartons • Plastic bottles • Tissue boxes • Fabric scraps • Natural Resource Use chart from Activity 1 • Index cards • Natural resources, such as: • Wood • Water • Plants • Rocks	Quiz 3-1 Quiz grade on graphic organizer created in Activity 1. Quiz 3-2 grade on Activity 2- Upcycling examples.

			• Empty water bottle (to represent air) • *Human Environmental Impact: How We Affect Earth (Humans and Our Planet)* by Ava Sawyer • World map • Map overlays: • Population Density • Natural Resources	
Week 20 **Jan. 12-16**	4-ESS3-1 4-ESS3-2 3-5-ETS1-1 3-5-ETS1-2	Earth: Human Impact and Natural Disasters Module Activity 3 Review the chart created in Activity and the natural processes that cause natural disasters. Review Earthquake data. Review preparation for disasters. Create chart about earthquake disasters	• PLTW Launch Logs (1 per student) • Digital devices • Pencils or colored pencils for sketching • Chart paper • Markers • Natural Resource • Use chart from Activity 1 World map • Population Density overlay • Inkling • **Earthquake Hazards** • **Disaster Master**	Activity grade 3-1: Chart on earthquake disasters.
Week 21 ***Jan. 19-23*** 1/19 – MLK Day No School	4-ESS3-1 4-ESS3-2 3-5-ETS1-1	Earth: Human Impact and Natural Disasters Module Project: In this project, students play a game to gather supplies	• Object Cards Launch logs Ipads	Test Grade 3-1 on project portion of Earth: Human

	3-5-ETS1-2	needed for an emergency. Then, they sort cards to determine the best supplies to pack into an emergency preparedness kit for a specific natural disaster.	• Device application : **Ready Kids Build a Kit** • Pencils or colored pencils for sketching • Sticky notes • Natural Resource Use chart from Activity 1	Impact and natural disasters.
Week 22 ***Jan. 26-30*** Catholic Schools Week 1/30 - Pep Rally	4-ESS3-1 4-ESS3-2 3-5-ETS1-1 3-5-ETS1-2	Earth: Human Impact and Natural Disasters Module Problem: Use the *design process* to create an *action plan* to either reduce human impact on Earth or lessen the impact of natural disasters on humans. Students present their plan as a podcast, video blog, or another digital media format.	Launch logs Ipads Device application: Twisted Wave Pencils or colored pencils for sketching	Test Grade 3-2 – ½ on Action plan created in the problem. ½ on the Check for Understanding Summative assessment on the Module Earth: Human Impact and Natural Disasters.
Week 23 ***Feb. 2-6***	4-ESS1-1 4-ESS2-1 4-ESS2-2 3-5-ETS1-1 3-5-ETS1-2	Earth: Past, Present, and Future Module Activity 1 and 2 Read the introduction story: THE AMAZING EARTH. Create a graphic organizer in their Launch Logs to record observations as they explore eight natural features of Earth. Explore a specific continent and their natural features. Create tectonic plates using moldable sand. Place plate boundaries overlay on top of the physical map of the world.	Ipad Launch logs Google earth • Pencils or colored pencils for sketching • Chart paper • Markers World map • Moldable sand • World map • Map overlays • Plate Boundaries • Earthquake Activity • Volcanic Activity	Quiz 3-3 : Activity 1: Conclusion questions and graphic organizer. Activity grade 3-2: activity 2 tectonic plate creation and exploration and conclusion questions.

			• Resealable plastic bags (8) **Dynamic Earth Interactive**,	
Week 24 ***Feb. 9-13*** 2/13– ½ Day Grandparents Day	4-ESS1-1 4-ESS2-1 4-ESS2-2 3-5-ETS1-1 3-5-ETS1-2	Earth: Past, Present, and Future Module Activity 3 Weathering and Erosion. Examine photographs of weathering and erosion. Record observations in launch log. Make a claim about which process might have affected the landform. Support this claim with evidence.	Ipad Launch logs · *How Mountains Are Made* by Kathleen Weidner Zoehfeld · Pencils or colored pencils for sketching · Chart paper · Markers	Test grade 3-3 Student responses on photographs and launch log entries and conclusion questions.
Mardi Gras Holiday ***February 16-20***				
Week 25 ***Feb. 23-27***	4-ESS1-1 4-ESS2-1 4-ESS2-2 3-5-ETS1-1 3-5-ETS1-2	Explore a form of mechanical weathering. Explore a form of chemical weathering Record observations in the launch logs. Take an outdoor walk to observe local examples of weathering and erosion. Record observations. Create a Venn diagram to compare and contrast mechanical and chemical weathering.	• Pencils or colored pencils for sketching • Markers • Water • White vinegar • Lemon juice (optional) • Rocks: • Chalk (8) • Limestone (10) • Tufa (10) • Sandstone (10) • Dual magnifiers (8) • Dried lima beans (4 or 5 per group) • 3 oz paper cups (2 per group) • 12 oz plastic cups (4 per group)	Quiz 3-4 Launch logs and weathering and erosion explorations.

			• 14 oz paper cups (2 per group) • Plaster of Paris • Water balloons (8) • Plastic spoons • Tablespoons (2) • Measuring cups (2 sets) • Sandpaper • Paper towels • Black construction paper • Plastic drainage bin (4)	
Week 26 ***March 2-6***	4-ESS1-1 4-ESS2-1 4-ESS2-2 3-5-ETS1-1 3-5-ETS1-2	Earth: Past, Present, and Future Module Problem: Earth Rocks! Follow the *design process* to research, create, and reflect on a *documentary* that explains how one of Earth's landforms has been shaped over time.	Ipad Launch logs Kapwing · Pencils or colored pencils for sketching	Test 3-4 Problem Storyboard, documentary and check for understanding of this module Earth: past, present, and future.
Week 27 ***March 9-13*** 3/13 – ½ Day	4-ESS1-1 4-ESS2-1 4-ESS2-2 3-5-ETS1-1 3-5-ETS1-2	Earth: Past, Present, and Future Module Problem: partner with another group to complete a cross-team review. Guide each group to view the other group's documentary and provide constructive feedback on how to improve the documentary. Iterate on their design to ensure it successfully solves the design challenge.	Ipad Launch logs Kapwing · Pencils or colored pencils for sketching	Test 3-4 Problem Storyboard, documentary and check for understanding of this module Earth: past, present, and future.
4th Quarter				
Week 28 ***March 16-20***	4-LS1-1 4-LS1-2 3-5-ETS1-1 3-5-ETS1-1	Organisms: structure and function module Activity 1 and 2 Make observations to draw conclusions of phenomena.	• Ipads • Launch logs • Organism cards • Tape	Quiz 4-1 Launch logs for activity 1 Quiz 4-2 Activity 2 rotations and

		Describe how plants and/or animals survive, grow, behave and reproduce. Compare and contrast structures of plants and animals and how their structures and functions are similar or different. Rotate through four centers following the same process. The four centers are leaf structure, foot structure, teeth structure, internal plant structure and function	• Sticky notes or scrap paper • Pencils or colored pencils for sketching • Chart paper • Markers • *Creature Features* by Steve Jenkins • Decorative leaves • Pine branch leaves • Broad leaf branch • Sifter • Small mirrors (one per center) • Food coloring • Paper towels • Clear plastic cups (4 or 5 per center) • String • Clothespins • Fine Sand (1 lb) • Box or plastic tub • Baby carrots (1 or 2 per student) • Plastic sheeting or other protective cloth for surface • Scissors • Water • Rulers (3 or 4	observations on structure and function of plants and animals. Launch logs included.
Week 29 ***March 23-27*** 3/26 – Passion Play	4-LS1-1 4-LS1-2 3-5-ETS1-1 3-5-ETS1-1	Organisms: structure and function module Activity 3: Systems create a graphic organizer in their Launch Logs to record notes	Ipads Launch logs · Assorted books (3 per pair of students)	Activity 4-1 Octopus activity including launch logs and the

		about how an octopus interacts with its environment. Preview the **Systems of the Human Body** interactive experience. Create a mind map as they watch the Human Systems Interactive Experience.	· Clean socks or plastic or paper bags (2 per pair of students) · Blindfolds or clean handkerchiefs (1 per pair of students) · Pencils or colored pencils for sketching · Chart paper · Markers	human interactive experience.
Week 30 ***Mar 30 - Apr 3*** No Bus Service 4/3 – Good Friday	4-LS1-1 4-LS1-2 3-5-ETS1-1 3-5-ETS1-1	Organisms: structure and function module Project: Design a plant Create a plant with the following structure and function of this fictious plant is: Resists herbivore predation. Survives in dry soil. Obtains sunlight in a shady area. Survives in a cold, snowy climate. Attracts pollinators in a field of flowers. Reproduces in an area crowded with plants and no open ground.	● Launch logs ● ipads ● Organism Cards ● Tape ● Sticky notes or scrap paper ● Crayons, pencils or colored pencils for sketching ● Chart paper ● Markers	Test 4-1: Fictious plant model(consider all parts of the design process in the evaluation)
Easter Holiday ***April 3-10***				
Week 31 ***April 13-17***	4-LS1-1 4-LS1-2 3-5-ETS1-1 3-5-ETS1-1	Organisms: structure and function module Problem: Animal Prosthesis students follow the *design process* to design, build, and evaluate a model of a *prosthesis* to help an injured animal survive by being able to move or eat again.	Ipad Launch logs ● *Pierre the Penguin*by Jean Marzollo ● Foam Sheets ● Aluminum foil ● Plastic wrap ● Tacky glue ● Tape ● Feathers ● String	Test 4-2: ½ Evaluate prosthesis as well as launch logs for this problem. ½ check for understanding

			• Pipe cleaners • Craft sticks • Modeling clay • Felt • Wooden dowels • Bamboo skewers • Toothpicks • Glue gun/sticks • Quik • **TwistedWave** • Pencils or colored pencils for sketching • Chart paper • Markers	
Week 32 ***April 20-24***	PS4.A PS4.B ETS1.A ETS1.B ETS1.C	Waves and the Properties of Light Module: Activity 1 and 2: What are waves and motion of waves. Learn how waves travel and identify their patterns. Through a simulation explore amplitude and wavelength, as well as how waves reflect.	Launch logs Ipads Metal coil spring • **PhET® Wave on a String** simulation • Pencils or colored pencils for sketching • Chart paper • Markers • Container, such as a shallow bowl • Salt, rice, sand, or sugar (1 pinch per group) • Scissors • Speaker (1 per group) • Plastic cup (1 per group) • Cling wrap	Quiz 4-3 Launch logs and conclusion questions activity 1.(What are waves)

			• Rubber bands (1 per group) • **PhET® Waves Intro**simulation	
Week 33 ***April 27 - May 1*** 5/1 - Field Day ½ Day	PS4.A PS4.B ETS1.A ETS1.B ETS1.C	Waves and the Properties of Light Module: Activity 1 and 2: What are waves and motion of waves. Learn how waves travel and identify their patterns. Through a simulation explore amplitude and wavelength, as well as how waves reflect. Observe how a disturbance that travels through a medium causes a wave. Learn that particles or small parts of the medium move in place up and down, or side to side, while the energy travels through the medium from one location to another.	Launch logs Ipads Metal coil spring • **PhET® Wave on a String** simulation • Pencils or colored pencils for sketching • Chart paper • Markers • Container, such as a shallow bowl • Salt, rice, sand, or sugar (1 pinch per group) • Scissors • Speaker (1 per group) • Plastic cup (1 per group) • Cling wrap • Rubber bands (1 per group) • **PhET® Waves Intro**simulation	Quiz 4-4 Launch logs and conclusion questions activity 2 (Motion of Waves)
Week 34 ***May 4-8*** 5/5 May Crowning 5/7 – 7th Graduation	PS4.A PS4.B ETS1.A ETS1.B ETS1.C	Waves and the Properties of Light Module: Light Waves activity 3 Consider how light helps you see in daily life. Explore the electromagnetic spectrum, focusing on visible light. Explore how light travels in waves, and	• Ipads • Launch logs • pencils for sketching • Chart paper • Markers • Container, such as a	Activity 4-2 Observation of students color investigation and completed launch logs

		how wavelength determines color. Complete a color investigation using the scientific inquiry process to predict what happens when you mix the primary colors of light.	shallow baking dish ● Water ● *Light and Its Effects* by Jenna Winterberg ● Small mirror ● Flashlights (3 per group) Color filter cards (1 set per group	
Week 35 ***May 11-15***	PS4.A PS4.B ETS1.A ETS1.B ETS1.C	Waves and the Properties of Light Module: Project Light Exploration Describe *patterns* of *light* and how light interacts with different materials, Experience this through centers. Explore *reflection* and apply mathematical thinking by measuring the angle of reflection off of mirrors. Identify materials as *transparent*, *translucent*, or *opaque* while making observations. Complete a simulation to explore how light bends when it interacts with different types of matter.	● *Ipads* ● *Launch logs* ● *Light and Its Effects* by Jenna Winterberg ● Flashlights (6) ● VEX® IQ PLTW Light Game (2 sets) ● **PhET® Bending Light** simulation ● Pencils or colored pencils for sketching ● Chart paper ● Markers ● Protractors (4) ● Boxes or baskets to hold materials (2) ● Transparent materials such as: ○ Glass ○ Clear plastic ● Translucent materials such as:	Test 4-3 Evaluate center activities and student created light simulation.

			● Frosted plastic ● Ice ● Tissue paper ● Opaque materials such as: ● Blocks ● Cardboard	
Week 36 ***May 18-21*** 5/21 ½ day	PS4.A PS4.B ETS1.A ETS1.B ETS1.C	Waves and the Properties of Light Module Problem: Design a game Design a game that uses *light* and its *patterns*. Use the *design process* to develop a game using the knowledge learned throughout the module. Create a rule book and use available equipment to challenge others and test their design.	Launch log Ipad ● VEX® IQ PLTW Light Game (1 set per group) ● Optional: ● Flashlights ● Color filter cards · Pencils or colored pencils for sketching · Games with rule books such as: o Board games o Card games · Optional materials such as: o VEX IQ Construction Kits o Paper o Tape o Dice o Cards	Test 4-4 Check for understanding of module Waves and the properties of light.