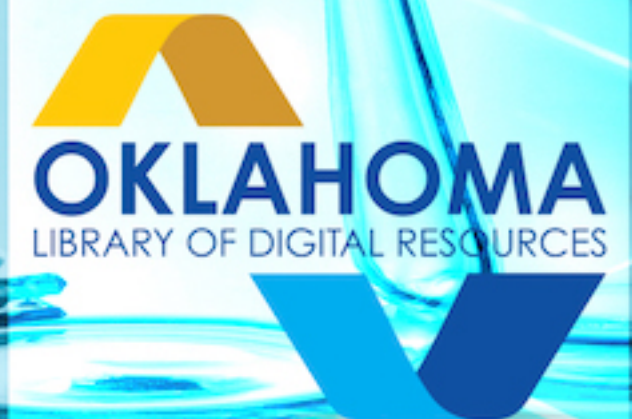


EVIDENCE OF UNDERSTANDING

8TH GRADE SCIENCE



The Oklahoma Library of Digital Resources is an innovative initiative to provide Oklahoma educators with high-quality, interactive teaching resources.

We appreciate our sponsors:



Thank you to the following educators for their work in curating digital resources:

Anissa Angier, Edmond Public Schools

Eman Beck, Norman Public Schools

Joy Filer, Putnam City Public Schools

Elizabeth Hackler, Glenpool Public Schools

Michele Hale, Yukon Public Schools

Kristen Harris, Woodward Public Schools

Chanda Peters, Woodward Public Schools

Paige Schmiedeberg, Edmond Public Schools

Gina Shepherd, Merritt Public Schools

Krista Steiner, Clinton Public Schools

Kym Tinsley, Tahlequah Public Schools

Alicia Underwood, Putnam City Public Schools

Susan Wray, Oakdale Public Schools

Shelly Langan, Bridge Creek Public Schools

Getting To Know OKLDR	5	Ancestral Relationships	36
Who Is OSSBA?	6	Embryology	38
Why OKLDR?	7	Natural Selection	40
How to Use this Book	8	Genetic Engineering	42
Moving Forward	9	Adaptations	44
 Physical Sciences	 10	 Environmental Science	 46
Newton's 3rd Law	11	Earth and the Solar System	47
Forces And Motion	13	Gravitational Motion	49
Electric and Magnetic Forces	15	Solar System Scale	51
Forces and Interactions	17		
Electric and Magnetic Fields	19	Additional Resources	53
Wave Properties	21	Teacher	54
Information Technologies and Instrumentation	23		
 Life Sciences	 25		
Structures & Processes	26		
Growth and Development	28		
Mutations	30		
Reproduction: Asexual & Sexual	32		
Fossil Record	34		

GETTING TO KNOW OKLDR

WHO IS OSSBA?

The Oklahoma State School Boards Association (OSSBA) works to promote quality public education for the children of Oklahoma through training and information services to school board members. The Association is a leader among leaders in Oklahoma education and a visible presence in the local school districts and throughout the state.

The OSSBA was created in 1944 to provide support for local school board members with a variety of information, assistance, and representation services. OSSBA reaches every school board member through training opportunities. It creates and encouraged effective leaders to promote public education and cultivates productive alliances with governing bodies. OSSBA trains school board members to participate in an effective and supportive manner to provide direction for educational innovation and improves public perception of education in Oklahoma by sharing strategies and tools with our member school districts to focus on the success of Oklahoma public education.

OSSBA works with school boards to demonstrate the impact they have on student achievement. We work to provide meaningful two-way communication of advocacy, services, and training activities to local boards of education and their stakeholders. Other services we provide that have a direct impact on student achievement include strategic planning and superintendent searches. Our legal team provides free legal information to the school districts.

WHY OKLDR?

In the summer of 2016, OSSBA set out on a journey assist teachers in the integration of technology into their classrooms. The Oklahoma Library of Digital Resources (OKLDR) became a collection of digital content resources selected by Oklahoma educators to support the Oklahoma Academic Standards. The resources were curated by teachers from school districts across Oklahoma. Each collection contained a variety of learning resources, such as videos, apps, pdf documents, and websites, and are designed so that teachers can then build their lesson plans. The resources helped bridge the digital equity gap among students while helping schools make the most of limited resources.

After collaborating with educators, school and district leaders for a couple of years, OKLDR has been enhanced in the following ways:

- Resources are now an Open Education Resource (OER) “book” format, making it easier to use and accessible on multiple devices.
- Resources map to ESSA expectations for evidence of student understanding and students’ mastery of the academic standards.
- Tools are now agnostic and can be used on multiple devices.
- Lessons are now focused on student engagement through the use of technology. The first OKLDR version focused on teacher resources. **This is a major change.**
- To prioritize student learning, teacher resources are now located at the back of each book.

HOW TO USE THIS BOOK



The Oklahoma Academic Standards for this lesson are grouped together by key topics. Sometimes you will see only one standard, but other times you will see a grouping of standards.



Evidence of Understanding is the key. This is the concept you want your students to master that reinforces the standards. Mastery means deeper understanding, not just “skim the surface” learning.



Digital Tools are the recommended applications and/or tools for the lesson. Think of this element as the “supplies box.”



In Practice is a suggested activity to engage the students to demonstrate mastery of the standard. You will notice that this is just one suggested lesson, and sometimes there might be a second lesson. The suggested lesson, developed by Oklahoma teachers, is meant to give you a starting point. You might decide to use the lesson or it might give you an idea of something else you could do to teach the concept.

MOVING FORWARD

As you can see the OKLDR book has been designed to inspire educators to have students demonstrate their understanding of the Oklahoma Academic Standards through the use of technology as a productivity tool. While educators have limited time in the day to plan and research high quality content, this book is a jumping off point, with suggested peer-reviewed activities and resources.

While you might encounter extra white space in the book, it is intentional for growth. As you integrate the activities into your lessons, you are encouraged to send us student work samples that might be included in the book, as well as additional activities and resources that could be included in future revisions.

Next Steps:

- We would love to add samples of student work to the activities, so please send the work to: okldr@ossba.org.
- If you would like to be involved in future course creation, or know teachers who would like to be involved, please contact us at: okldr@ossba.org.
- See anything that needs to be changed or enhanced? Contact us at: okldr@ossba.org.

PHYSICAL SCIENCES

NEWTON'S 3RD LAW



8.PS2.1 Students who demonstrate understanding can:

Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects in a system.

CCC: Models can be used to represent systems and their interactions—such as inputs, processes and outputs—and energy and matter flows within systems.



Evidence of Understanding

Students will use their knowledge of Newton's third law of motion to design a solution for the impact caused by the collision of two objects.

Students will determine how the choice of technologies that are used in a design are valuable to society.



Digital Tools

- Website - Phet Simulation Collision Lab, or Bumper Ducks for ipad
- Optional Phet Resource - Collision Lab Guide
- Content Video - The Auto Crumple Zone
- Science Journal - Arduino Science Journal, One Note
- Device Camera



In Practice

- Students will play an interactive game or use a simulation website where two objects collide and create a solution to reduce the effect of the collision.
- Students will use a sketch application to design their solution.
- Students will watch a video of the collision of two objects where technologies are present that reduce the impact of the collision.
- Students will then take a picture of an object that has impact reducing technologies and construct an explanation for how the technology reduces the impact in relation to Newton's third law of motion.
- Students will create a report using their photo in a science journal to show their understanding.

FORCES AND MOTION



8.PS2.2 Students who demonstrate understanding can:

Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

CCC: Explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and forces at different scales.



Evidence of Understanding

Students will carry out investigations using interactive websites to observe how the change in an object's motion depends on the sum of the forces on the object and the mass of the object.



Digital Tools

- *Simulation Website - Phet: Motion, Phet Force and Motion: Acceleration*
- *Science Journal - Arduino Science Journal, One Note*
- *Sketch Application- Sketches School, ibis paint, Absolute Board, Google Draw*



In Practice

- Students will investigate how the change in an object's motion depends on the sum of the forces on the object and the mass of the object.
- After students have investigated changes in an objects motion due to the sum of forces and the mass of the object, they will write rules in their journal app for the change in motion when the forces change and the change in motion when the mass of the object changes.
- Students may use diagrams in a sketch application for explanations.

ELECTRIC AND MAGNETIC FORCES



8.PS2.3 Students who demonstrate understanding can:

Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.



Evidence of Understanding

Students will ask questions to investigate electric forces and create a hypothesis to determine factors that increase or decrease the strength of their force.



Digital Tools

- Video Editor - Clips, WeVideo, Do Ink, imovie
- Digital Portfolio - Seesaw, Book Creator



In Practice

- Students will research Electromagnetic Power to investigate the characteristics of electromagnetism, and then create their own electromagnet.
- Students will make a video using a Video Editing program to document how they made the electromagnet and how it works.
- Students will upload completed video to a digital portfolio.

FORCES AND INTERACTIONS



8.PS2.4 Students who demonstrate understanding can:

Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.

CCC: Models can be used to represent systems and their interactions—such as inputs, processes and outputs—and energy and matter flows within systems.



Evidence of Understanding

Students will develop and use models to show that there are gravitational forces between different masses.



Digital Tools

- Website - Phet simulation: Gravity Force Lab. Journal questions and data table are found as a download on this website. Your Weight on Other Worlds
- Video Editor - Clips, WeVideo, Do Ink, imovie
- Classroom Management System - Google Classroom, Edmodo, Apple Classroom, Canvas



In Practice

- Students will complete the Gravity Virtual Lab including the journal questions and data table to demonstrate their understanding of gravity. They will find their weight on other planets to help them view gravity universally.
- Students use a video editor to explain and demonstrate how the gravitational forces depend on the masses of interacting objects to prove their understanding that the larger an object is, the more gravitational pull the object has.
- Students should upload the pdf copy of their journal question answers as well as the video explanation file to their teachers classroom management system.

ELECTRIC AND MAGNETIC FIELDS



8.PS2.5 Students who demonstrate understanding can:

Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.



Evidence of Understanding

Students will ask questions to be investigated to demonstrate that electric and magnetic forces can be attractive or repulsive.



Digital Tools

- Content Video - NASA: Magnetometry 101
- Website - Phet Simulation: Static Electricity, Lab document, Inspector Detector Challenge
- Video Editor - Clips, WeVideo, Do Ink, imovie
- Student Response - Flipgrid



In Practice

- Students will watch the NASA video about Magnetometry.
- Students will then perform and explore the Static Electricity PhET lab activity.
- Students will begin and perform the Inspector Detector Challenge.
- Students will record their findings using Flipgrid or a Video Editing app.

WAVE PROPERTIES



8.PS4.1 Students who demonstrate understanding can:

Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.

CCC: Graphs and charts can be used to identify patterns in data.



Evidence of Understanding

Students will analyze and interpret graphical displays of data to identify that a simple wave has a repeating pattern with a specific wavelength, frequency, and amplitude.

Students will record mathematical data representing a wave, and amounts of energy present or transmitted to identify patterns such as the energy of the wave is proportional to the amplitude and the amount of energy transferred by waves in an amount of time is proportional to frequency.



Digital Tools

- *Interactive Website* - Wave Simulator
- *Interactive Website* - Wave Generator
- *Video Editor* - Clips, WeVideo, iMovie
- *Science Journal* - Google Science Journal App , Science Journal, One Note



In Practice

- Students will use the wave simulator in the digital tools section to identify and predict the characteristics of a simple mathematical wave model.
- They will use screen capture to upload photos to a video editing app and use the voice over feature to explain the relationship between frequency, wavelength and amplitude as they manipulate the simulation.
- Students will use a science journal to write an explanation of how sound changes when the frequency, wavelength, and amplitude change.

INFORMATION TECHNOLOGIES AND INSTRUMENTATION



8.PS4.3 Students who demonstrate understanding can:

Integrate qualitative scientific and technical information to support the claim that digitized signals (sent as wave pulses) are a more reliable way to encode and transmit information.

CCC: Structures can be designed to serve particular functions.



Evidence of Understanding

Students will obtain, evaluate, and communicate information to support the claim that digitized signals are more reliable way to encode and transmit information.



Digital Tools

- *Websites* - Analog and Digital, Analog vs. Digital
- *Presentation* - Keynote, Google Slides, Microsoft PowerPoint



In Practice

- Students will obtain information about digital devices and analog devices.
- Students will evaluate the information, and communicate the information through a presentation to support a claim that digitized signals are more reliable way to encode and transmit information.
- Students will use examples of digital and analog devices to write an explanation about the reliability of the digital device.

LIFE SCIENCES

STRUCTURES & PROCESSES



8.LS1.4 Students who demonstrate understanding can:

Use arguments based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

CCC: Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.



Evidence of Understanding

Students will engage in argument from evidence that certain characteristic behaviors of animals can increase the odds of reproduction.

Construct scientific explanations based on valid and reliable evidence from sources to explain that plants reproduce in a variety of ways.

Engage in argument from evidence, using cause and effect relationships to explain that plants sometimes depend on animal behavior for reproduction.



Digital Tool

- Game Website - Legends of Learning Bid for Life (Set up an account before hand.)
- Interactive Website - Exploring Nature Activities, Flower Dissection Structure and Function
- Video - Peacock Spider Mating Dance
- Presentation - Keynote, Google Slides, Microsoft PowerPoint
- Video Editor - Clips, Wevideo, Do Ink

In Practice

- Students will begin by playing through the Legends of Learning game, exploring the interactive websites, and watching an example via the Peacock Spider Mating Dance.
- Students can make their choice of a plant or animal from the websites above to feature the unique reproductive strategies in a presentation and or video.
- Students should then use a presentation app and or video editor app to share how characteristics or structures of the subject they chose affects the probability of successful reproduction.

GROWTH AND DEVELOPMENT



8.LS1.5 Students who demonstrate understanding can:

Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

CCC: Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.



Evidence of Understanding

Students will develop and use models to show how genetic factors affect the growth of plants and animals.

Analyze and interpret data to show how local conditions can affect the growth of a plant or animal.



Digital Tool

- *Interactive Website - Learn Genetics*
- *Game Website - Legends of Learning: plant growth effect of genes and environment (5 games, set up an account beforehand)*
- *Story Telling Application - Powtoon, Canva- Comic Strip*



In Practice

- Students will gather evidence for how the environment and genetic factors influence the growth of organisms from the Learn Genetics website.
- Students will use a story telling app to make a scientific explanation for how both the environment and genetics can impact growth.

MUTATIONS



8.LS3.1 Students who demonstrate understanding can:

Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.



Evidence of Understanding

Students will develop and use a model to describe changes (mutations) to genes that can result in changes to proteins, which can affect both the structures and as a result, their function of an organism and thereby change traits.



Digital Tools

- Content Video - Mutations: The Potential Power of a Small Change
- Interactive Website - Learn Genetics Scroll down to the "More about Proteins" and "More about Mutations" options.
- Story Telling Application - Powtoon, Canva- Comic Strip



In Practice

- Students will explore the interactive website and watch the Mutation video illustrating how structural changes to genes (mutations) may result in harmful, beneficial, and neutral effects to the function of the organisms.
- Students will then use a Story Telling Application to create a cartoon showing a mutation of their choice.
- Students should be sure to specify whether the mutation is harmful, beneficial, and neutral.

REPRODUCTION: ASEXUAL & SEXUAL



8.LS3.2 Students who demonstrate understanding can:

Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.



Evidence of Understanding

Students will apply scientific reasoning to show the effects of both asexual and sexual reproduction.



Digital Tools

- Website - *Asexual vs. Sexual Reproduction- CK 12*
- Video - *Amoeba Sisters: Asexual and Sexual Reproduction*
- Mind Mapping Application - *ReadWriteThink, Simple Mind*



In Practice

- Students will use the CK 12 resources to research about the similarities and differences between Asexual and Sexual Reproduction.
- Students will watch the Amoeba Sisters video to clarify what they have learned.
- Students will use a Mind Mapping App to draw a Venn diagram to compare and contrast asexual and sexual reproduction.

FOSSIL RECORD



8.LS4.1 Students who demonstrate understanding can:

Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth --under the assumption that natural laws operate today as in the past.

CCC: Graphs, charts, and images can be used to identify patterns in data.



Evidence of Understanding

Students will analyze data charts and images of the fossil record and document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth.

Students will interpret data charts and images of fossils to find similarities and differences in the patterns to provide evidence for when organisms emerged, went extinct, or evolved.



Digital Tools

- Website - *Prehistoric Planet: Rock Layers Timeline of life on Earth*
- Interactive Website - *BiolInteractive Deep History of Life on Earth, Rock Layers Label Activity*
- Content Document - *Nat Geo Article: Mass Extinction, 5 Extinction Level Events*
- Presentation - *Keynote, Google Slides, Microsoft Powerpoint*
- Content Applications - *Smart Draw, Sutori, RTW Timeline*



In Practice

- Students will create a timeline to organize data showing time periods and fossil records to document the existence, diversity, extinctions, and change of time forms throughout the history of life on Earth.
- Students will create a presentation about the five mass extinctions of organism on Earth to show when organisms emerged, went extinct, or evolved.
- Students will include in the presentation an argument for what will cause the next extinction.

ANCESTRAL RELATIONSHIPS



8.LS4.2 Students who demonstrate understanding can:

Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer ancestral relationships.

CCC: Patterns can be used to identify cause and effect relationships.



Evidence of Understanding

Students will observe images of modern and fossil organisms as well as read articles about the similarities and differences among modern organisms and fossil organisms.

Students will construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer ancestral relationships.



Digital Tools

- Website - Comparative Anatomy and Embiology, Layers of Time Fossil Game
- Interactive Website - The Tale of the Limb
- Mind Mapping Application - ReadWriteThink, Simple Mind
- Science Journal - Arduino Science Journal, One Note



In Practice

- Students will observe fossil organism images and make claims on a data collection application of ancestral relationships to modern organisms by identifying similarities and differences.
- Students will use a mapping application to describe a relationship among fossil organisms and modern organisms by mapping organisms with similarities.

EMBRYOLOGY



8.LS4.3 Students who demonstrate understanding can: Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in fully-formed anatomy.

CCC: Graphs and charts can be used to identify patterns in data.



Evidence of Understanding

Students will analyze graphs, charts, and images to make a comparison of the embryological development of different species.



Digital Tools

- Website - *Guess the Embryo*
- Website - *Guess which embryo is human?*
- Sketch Application- *Sketches School, ibis, Absolute Board, Google Draw*



In Practice

- Students will play the Guess the Embryo game to analyze pictures of different animals at various stages of embryonic development.
- Students will discuss the differences/similarities between each embryo.
- Students should screen shot various photos of organisms at varying stages of development and use photo editing apps to annotate them to include the similarities between species that identify relationships.

NATURAL SELECTION



8.LS4.4 Students who demonstrate understanding can: Construct an explanation based on evidence that describes how genetic variations of traits in population increase some individuals' probability of surviving and reproducing in a specific environment.

CCC: Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.



Evidence of Understanding

Students will construct explanations of how traits which are less successful for survival and reproduction become less common over time, resulting in a change in the distribution of traits in a population.



Digital Tools

- *Simulation Website - Pepper Moth Simulation*
- *Online Graphing Tool - Create a graph*
- *Spreadsheet- Numbers, Google Sheets, Microsoft Excel*
- *Video Editor- Clips, WeVideo, Do-Ink, iMovie*



In Practice

- Students will participate in the Peppered Moth Simulation.
- Students will record their results in a data table using a spreadsheet or online graphing tool.
- Students will then use a video editing app to make a claim based on evidence that describes how genetic variations of traits in population increase some individuals' probability of surviving and reproducing in a specific environment citing evidence from their data table or graphs.

GENETIC ENGINEERING



8.LS4.5 Students who demonstrate understanding can:

Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.



Evidence of Understanding

Students will gather and synthesize information to determine that humans have the capacity to influence certain characteristics of organisms through artificial selection by selective breeding, animal husbandry, genetic modification, and/or gene



Digital Tools

- *Simulation Website - [Click and clone Mimi the Mouse](#)*
- *Podcast Application - [italk](#), [Anchor](#), [Voice Recorder Pro](#)*



In Practice

- Students will complete the cloning simulation to understand the human capacity to influence characteristics of organisms.
- Students will then create a podcast reflecting on the human impact through selective breeding, cloning, and genetic engineering.

ADAPTATIONS



8.LS4.6 Students who demonstrate understanding can:

Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.



Evidence of Understanding

Students will construct an explanation using mathematical evidence to show that natural selection leads to the predominance or suppression of certain traits in a population over time.



Digital Tools

- Website - [Animal Adaptations](#)
- Video - [Top 15 Animal Adaptations](#)
- Interactive Website - [Switch Zoo](#)
- Sketch Application- [Sketches School](#), [ibis](#), [Absolute Board](#), [Google Draw](#)



In Practice

- Students will explore the Animal Adaptations website and video to familiarize themselves with the definition of adaptation and in order to see the Top 15 Animal Adaptations.
- Students will then use Switch Zoo or Switch Zoo Lite to piece together an animal of their choosing.
- Students will screenshot their animal and upload the image to a sketch application to annotate/mark up the picture with explanations of how their selected adaptations would harm or benefit the animal in that environment.

ENVIRONMENTAL SCIENCE

EARTH AND THE SOLAR SYSTEM



8.ESS1.1 Students who demonstrate understanding can:

Develop and use a model of the Earth-Sun-Moon system to describe the cyclic patterns of the lunar phases, eclipses of the sun and moon, and seasons.



Evidence of Understanding

Students will develop and use a model of the Earth-Sun-Moon system to explain the motion of the sun, the moon, and earth during Lunar and Solar Eclipses.



Digital Tools _

- *Interactive Website - Earth Space Lab: Eclipse, Phet Simulation, Sun, Moon, Earth Orbits*
- *Device Camera*



In Practice

- Students will participate in the Eclipse Interactive in order to understand the Earth-Sun-Moon system during an eclipse.
- Students will then use simple resources (cell phone flashlight and balls of various sizes to represent the moon and earth) to video themselves as they create a model showing the movements of the earth, moon, and sun during both a Solar and Lunar Eclipse.
- Students should explain as they model what is occurring during each.

GRAVITATIONAL MOTION



8.ESS1.2 Students who demonstrate understanding can:

Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.

CCC: Models can be used to represent systems and their interactions.



Evidence of Understanding

Students will analyze and explain that planets, moons, and asteroids are held in orbit around the sun by its gravitational pull on them.



Digital Tools _

- *Website - What is Gravity?- Nasa*
- *Animation Application - Stop Motion Studio Do-Ink, Koma Koma, Animatic*



In Practice

- Students will explore the Nasa website and analyze how the planets are held in orbit around the sun by its gravitational pull on them.
- Students will then make an Animated Video using an animation app (eg. Stop Motion Studio, Do-Ink, Koma Koma, or Animatic) to model and explain the force holding them in orbit.

SOLAR SYSTEM SCALE



8.ESS1.3 Students who demonstrate understanding can:

Analyze and interpret data to determine scale properties of objects in the solar system.

CCC: Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small.



Evidence of Understanding

Students will interpret data to create a scale model of the solar system.



Digital Tools

- *Augmented Reality App - Solar System Builder AR*
- *Video Recording App - Screen Recording on iPad, Screencastify*
- *Device Camera*



In Practice

- Students will use the Solar System app to build an Augmented Reality solar system to scale.
- Students will then build solar system models and make a video or use the screen record option to show the scale of the AP solar system.
- Students can also mirror their models onto an Apple TV to present to the class.

ADDITIONAL RESOURCES

TEACHER

- [The Periodic Table](#)
- [The Periodic Table and Energy Levels](#)
- [Nuclear App](#)
- [Periodic Table](#)
- [Molecularium](#)
- [States of Matter Simulation](#)
- [Build a Molecule Simulation](#)
- [RNA Virtual Lab](#)
- [Nova Elements App](#)
- [Energy Levels, Electrons, Covalent Bonding](#)
- [Temperature and the Rate of a Chemical Reaction](#)
- [Cooking with the Sun: Creating a Solar Oven](#)
- [Energy Forms and Changes Simulation](#)
- [Corn for Fuel: Hands on Activity](#)
- [Pigeonetics](#)

- [Natural Selection Simulation](#)
- [Animal Adaptations Interactives](#)
- [DNA Color Sheet](#)
- [What is a Mutation?](#)
- [Mutation Virtual Lab](#)
- [Dragon Genetics](#)
- [Neuroscience Concepts & Activities by Grade Level: Middle School, Grades 7 - 8](#)
- [The Science of the Sun](#)
- [Oreo Moon Phases](#)
- [Moon Phase Calendar Plus App](#)
- [Solar Eclipse](#)
- [Season Interactive](#)
- [The Pull of the Planets](#)
- [Toilet Paper Solar System](#)
- [Pocket Solar System and Pocket Solar System Video](#)
- [A Solar System Journey](#)
- [To Scale: The Solar System Video](#)

- Weather Lab
- The Coriolis Effect