

Course Title:	Astronomy
Unit 1 Big Idea:	Looking Up
Essential Questions:	<p>How do we locate and identify objects in the night sky?</p> <p>What tools do astronomers use to help them study objects in space?</p>
Standards	
HSCE	<p>E1.1E: Describe a reason for a given conclusion using evidence from an investigation.</p> <p>E5.1A: Describe the position and motion of our solar system in our galaxy and the overall scale, structure, and age of the universe.</p>
CCSS	WHST.9-10.1
Assignment	Description
Unit readings, quizzes and unit test	Students read from many attached links and documents and are assessed via lesson quizzes and the unit test
1.1	Opinion writing on: Why should the American taxpayers support spending \$100 million to study deep space?
U1 Discussion	Light pollution
Unit 1 Project	Observatory visit
Unit 2 Big Idea:	Birth of Science
Essential Questions:	<p>How do objects in the sky move over the course of a day, month, and year?</p> <p>What did early astronomers know about the earth, moon, and space?</p>
Standards	
CCSS	<p>RST.9-10.2</p> <p>RST.9-10.4</p> <p>WHST.9-10.2</p>
Assignment	Description
Unit readings, quizzes and unit test	Students read from many attached links and documents and are assessed via lesson quizzes and the unit test
2.1	Guided lesson on the motion of the stars
2.3	Summary writing: Movement of the sun
2.5	Discovering Renaissance astronomers
Unit project	Where in the World am I? Reading for clues.
Unit 3 Big Idea:	Modern Astronomy
Essential Questions:	<p>What have space missions and satellites taught us about space?</p> <p>How do astronomers capture and study the light from distant space?</p>
Standards	
HSCE	P4.6h: Explain the relationship between the frequency of an electromagnetic wave and its technological uses.
CCSS	WHST.9-10.6
Assignment	Description
Unit readings, quizzes and unit test	Students read from many attached links and documents and are assessed via lesson quizzes and the unit test

3.1	EM Spectrum – What is light?	
3.3	Research opportunity on the importance of digital cameras to modern astronomy	
3.5	Guided lesson on space telescopes	
Unit project	Hubble Space Telescope image creation	
Unit 4 Big Idea:	The Solar System	
Essential Questions:	What are the planets in our solar system like? How do solar systems form?	
Standards		
HSCE	E.5.3A: Explain how the solar system formed. E.5.1A: Describe the position and motion of our solar system in our galaxy and the overall scale, structure, and age of the universe.	
CCSS	WHST.9-10.6 WHST.9-10.7	
Assignment	Description	
Unit readings, quizzes and unit test	Students read from many attached links and documents and are assessed via lesson quizzes and the unit test	
4.1	Compare the moon and Mercury	
4.3	Using Google Mars to explore	
4.5	Discovering asteroids	
Unit project	My favorite planet radio pitch	
Unit 5 Big Idea:	Life in the Universe	
Essential Questions:	What do we know about solar systems around other stars? How will we ever identify other life in the universe?	
Standards		
CCSS	WHST.9-10.1 RST.9-10.7	
Assignment	Description	
	Unit readings, quizzes and unit test	Students read from many attached links and documents and are assessed via lesson quizzes and the unit test
	5.1	Discovering exo-planets and other solar systems – Summary writing
	5.3	UFO sightings data analysis & discovery
	5.5	Opinion writing: “should we spend money searching for extraterrestrial intelligence?”
	Unit project	Creative writing introducing RAFT (Role, Audience, Format, Topic)
Unit 6 Big Idea:	Stars	
Essential Questions:	How does our Sun behave and interact with the Earth? What is the lifecycle of a star?	

Standards	
HSCE	E.5.2: Identify patterns in solar activity and describe the process of nuclear fusion.
CCSS	RST.9-10.2 WHST.9-10.2
Assignment	Description
Unit readings, quizzes and unit test	Students read from many attached links and documents and are assessed via lesson quizzes and the unit test
6.1	Graphing sunspot data to understand sun cycles
6.3	Analyzing stellar properties
6.5	Creative writing exercise on compact objects in space
Unit project	Life cycle of a star story board
Unit 7 Big Idea:	Galaxies
Essential Questions:	What are all the pieces that make up our galaxy? How do we identify and measure properties of other galaxies?
Standards	
HSCE	E.5.1: Describe the position and motion of our solar system in our galaxy.
CCSS	RST.9-10.7 WHST.9-10.2
Assignment	Description
Unit readings, quizzes and unit test	Students read from many attached links and documents and are assessed via lesson quizzes and the unit test
7.1	Graphing exercise: Globular clusters within the Milky Way
7.3	Classifying galaxies
Unit project	Creating a travel brochure of a galaxy
Unit 8 Big Idea:	The Universe
Essential Questions:	What do we know about the size, age, and shape of our universe? What mysteries of space remain unknown?
Standards	
CCSS	RST.9-10.2 WHST.9-10.1
Assignment	Description
Unit readings, quizzes and unit test	Students read from many attached links and documents and are assessed via lesson quizzes and the unit test
8.1	Understanding the expansion of the universe
8.3	Exploring cosmology and recent observations
Unit project	Writing a movie review with critique