

Shutterfly Photo Story Lesson Plan

State: AZ

Subject: Earth Sciences

Grade level: 7

Lesson Title: Earth's Place in the Universe –Planetary History

Common Core/State Curriculum Standards:

Science-

Strand 6: Earth and Space Science

Concept 3: Earth in the Solar System

PO 1. Explain the phases of the Moon in terms of the relative positions of the Earth, Sun, and Moon.

PO 2. Construct a model for the relative positions of the Earth, Sun, and Moon as they relate to corresponding eclipses.

PO 3. Explain the interrelationship between the Earth's tides and the Moon.

PO 4. Explain the seasons in the Northern and Southern Hemispheres in terms of the tilt of the Earth's axis relative to the Earth's revolution around the Sun.

PO 5. Identify the following major constellations visible (seasonally) from the Northern Hemisphere:

- Orion
- Ursa Major (Great Bear)
- Cygnus
- Scorpius
- Cassiopeia

PO 6. Explain the relationship among common objects in the solar system, galaxy, and the universe.

1-ESS1 Earth's Place in the Universe

ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.

ESS1.A: The Universe and its Stars Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted.

ESS1.B: Earth and the Solar System Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (1-ESS1-2)

ELA/Literacy

Writing

W.1.7 Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-ESS1-1), (1-ESS1-2)

W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-ESS1-1), (1-ESS1-2)

AZ Art Standards: Strand 1: Create

Strand 1: Create

Concept 2: Materials, Tools, and Techniques

- The student will use materials, tools, and techniques in his or her artwork.

PO 201. *Identify and experiment with materials, tools, and techniques appropriately and expressively in his or her artwork*

ISTE STUDENT STANDARDS:

2. Communication and Collaboration Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

4. Critical Thinking, Problem Solving, and Decision Making Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

6. Technology Operations and Concepts Students demonstrate a sound understanding of technology concepts, systems, and operations.

Learning Objectives:

1. Students will gain an understanding of the Inquiry Process when researching Earth’s place in the universe
 - a. Answering the question “What is the universe and what is Earth’s place in it?”
 - b. How do people reconstruct and date events in Earth’s planetary history?
2. Students will read the chapter in the textbook, *A Journey back in time*, about the Earth and the universe.
3. Students will do further research online and complete experiments in the lab.
4. Students will pair up and choose a time period for in depth research.
5. Students will outline important facts about the Earth and create a script for the Photo Story.
6. Students will create and locate images to match their findings.
7. Students will communicate their findings within Shutterfly Photo Story.

Students Learning Targets: (What will students know and be able to do as a result of this lesson?)

1. Students will understand how the earth was formed and its placement in the universe.
2. Students will be able to explain the new words learned in this lesson.
3. Students will follow the rubrics provided

Instructional Strategies: (*Project-based learning, direct instruction, inquiry-based instruction, cooperative learning, etc.*)

Students will understand the steps in the Inquiry Process and be able to demonstrate what they have found using their “voice”, communicating this information through the use of Shutterfly Photo Story.

How Students Will Use Shutterfly Photo Story:

They will communicate their findings and research about a time period in earth’s history by photographs, drawings and research written.

Required Materials/Lesson Length:

iPads and computers will be used along with their research data. This lesson should last four weeks at 40 minutes a day.

Resources: (*Photos, drawings, student created stories; reference books, articles, website URLs, etc. for citation*)

- Original materials, student drawings and photos, research data from textbook, online science sources, outside local and online experts.
- <http://www.nasa.gov/>
- Foss Kit and website
- Student’s Science Journals

Procedures/Activities: (*What will the teacher and students do?*) (*Prior Knowledge. Opening Activity, Step-by-Step Learning Activities, Closure, Post-Instruction Reflection*)

Prior Knowledge: As a class discussion, have students respond to the question: What is the universe and what is Earth’s place in it? If prompting is needed, suggest that they think about what they’ve read or seen on TV.

Opening Activity: Show a collection of rocks to the students and say, “I’m looking at some of the Earth’s history. How do people reconstruct and date events in Earth’s planetary history?” Your assignment is to choose a time in Earth’s history and through your research, demonstrate your discovery with a report using images, original drawings and narration in Shutterfly Photo Story on the iPads. I show my example Photo Story book.

Learning Activities:

1. Students read the chapter on Earth’s history, research using the links provided, and other research materials.
2. Students are given the rubric and vocabulary list, collectively reading and pronunciation given for each word.
3. Following the steps in creating a hypothesis, pairs of students collaborate on answering the question.
4. Partners help each other in image gathering, research and writing an outline and storyboard for the Shutterfly Photo Story report.
5. Guiding students in developing a clear photo essay of the stated hypothesis, students begin putting together the approximately 20-page report on their findings.

6. Now 4 students (2 pair) work together to edit and refine their reports. Encouraging students to make suggestions as to images and drawings to be incorporated in the book. Double-checking spelling of scientific terms is required.
7. Once the report is planned out, the students create and input images into the Photo Story write and record an audio narration.
8. Have each student pick out one page important to their research and put a short paragraph and picture on the student webpage.
9. Have students create QR codes in their book leading to the student webpage.

Closure:

In small groups of 4, have students share their final products. As time permits, have each team nominate one person to share with the whole class. (Optional: give a vocabulary quiz over the new words)

Reflection:

Discuss with the students how well they rate their knowledge about the Earth and the new words learned. Ask what they felt about the writing process and the designing of a hypothesis and proving it. What was the most fun/difficult aspect?

Differentiation: *(Lesson suggestions for enrichment or re-teaching. Scaffolding needed as a result of misunderstandings noted during formative assessment.)*

The nature of the class provides help with specific student needs through individual talks with the teacher, collaboration with a partner or team. There are checkpoints throughout the lesson to make sure there is an understanding of what is required. Quizzes are part of half of the checkpoints.

Special Education/ESL Accommodations & Modifications:

- Assign students specific time period and help with the research words
- Have them work closely with the teacher during sentence construction using the new words
- Guide the research
- Have the students work on the storybooks collaboratively, rather than independently

Extensions: *(Additional activities, follow-up lesson ideas, how the Photo Story book will be shared)*

The books will be shown to parents at the student-lead conferences as well as being e-books available for other students in the school to view. The QR codes leading to the student created web pages will be posted in the school library.

Assessment: *(How will you determine if students have met the lesson objectives? How will your students know if they have successfully met the lesson objectives? Incorporate formative as well as summative assessments – rubrics, etc.)*

This is projected based following assessments:

Constructing Scientific Arguments using Claims, Evidence and Reasoning Rubric

	Beginning (1)	Developing (2)	Meeting (3)	Score
Claim	Claim does not address the question.	A general claim is present.	An accurate and complete claim is present	
Evidence	Evidence is provided, but it does not support the claim.	Provides appropriate, but insufficient evidence to support the claim. May include some inappropriate evidence.	Provides appropriate and sufficient evidence to support the claim.	
Reasoning	Makes a simple assert that the evidence “proves it” or it simply refers to the evidence without explaining it.	Explains how some of the evidence ties to the claim.	Explains why the evidence was included and how the evidence supports the claim.	
Counterclaim	A counterclaim, or alternative explanation, is present, but is irrelevant.	There is not a clear distinction between the claim and counterclaim. Some minor errors are present.	Explains the strengths and limitations of a distinguished relevant counterclaim, or alternative explanation.	
Counterclaim Evidence	Provides evidence for counterclaim.	Provides some counter evidence that ties to why the counterclaim is not accurate.	Provides sufficient evidence that relates to why the counterclaim is not accurate.	
Counterclaim Reasoning	Makes a simple assertion that the evidence “proves it wrong” or it simply refers to the evidence without explaining it.	Provides reasoning, but may not be fully developed to explain why the evidence supports that the counterclaim is inaccurate.	Provides strong reasoning for why the alternative explanation or counterclaim is inaccurate.	
Science Content	The science concept is not	The science concept is explained, but	Accurate scientific information is	

	developed or contains major misconceptions.	minor mistakes are made.	included throughout the writing.	
Academic Language	The targeted science vocabulary is not used correctly.	The targeted science vocabulary is used with minor mistakes.	The targeted science vocabulary is correctly consistently.	
Organization	The writing is causal or narrative. There are several grammatical, spelling, and punctuation errors that make the writing difficult to understand.	The writing has a sense of organization and can be followed; however, it may not include an introduction or a conclusion.	The writing gives a feeling of organization. It has a clear introduction and a relevant conclusion.	
Style and Conventions	The style is casual or narrative. There are several grammatical, spelling, and punctuation errors that make the writing difficult to understand.	The style has some feeling of formal style. There are some grammatical, spelling, and punctuation errors that do not interfere with understanding of the writing.	Formal style reflects an objective tone. Words, phrases, and clauses are used to create cohesion and clarify relationships among claims, counterclaims, reasons, and evidence. Grammar and punctuation is mainly used correctly.	
			Total:	

Rubric for Shutterfly Photo Story

Criteria	1	2	3	4	Score
Page Design	Many pages are either cluttered or empty. There is no text/image balance. No attention paid to variation in design.	Some pages are either cluttered or empty. Inconsistent attention paid to sizing of graphics, placement of graphics and text, and text wrapping.	Most pages contain well-placed objects, with thoughtful text/image balance. Inconsistent text wrapping.	Objects on all pages are well placed and sized. Pages are not cluttered or empty. Imaginative and logical text wrapping.	
Mechanics	Text contains many spelling/grammar errors. Sentences seem disconnected, and there is carelessness throughout.	Text contains some spelling/grammar errors. Little logical structure or flow to sentences. Evidence of carelessness in writing.	Grammar and spelling are nearly flawless. Logical sequence apparent. Some wording is careless. Inconsistency in style.	Grammar and spelling are flawless and the flow provides a logical pathway of ideas. Consistent and engaging style throughout.	
Graphics	Images do not connect to text and/or are not relevant.	Images are not always relevant. Text citations are not always present and do not connect to images.	Images are mostly relevant. Text citations are usually present and identify the images.	Images are relevant, and complement the text. Each image is cited in the text and identified. The number of images is appropriate.	

Planning	Storyboard is incomplete. Little or no details about graphics, content, formatting, or effects are provided.	Storyboard lacks some important details about graphics, content, formatting, and effects.	Storyboard is mostly complete. Includes many important details about graphics, content, formatting, and effects.	Storyboard is complete. All necessary information about graphics, content, formatting, and effects is included.	
Content	Information is cursory or incorrect. Little understanding of content is evident from presentation.	Some solid information presented; however, some information is incorrect or cursory.	Information is clear and correct throughout most of presentation.	Information is well presented, clear, and correct throughout.	
Effects	Effects are limited or not present.	One or more than one type of effect is used; however, some or all effects detract from presentation.	More than one type of effect is used. Effects enhance presentation.	Effects are varied, yet cohesive, and they significantly enrich the presentation.	
Image Size	Photo or art image too large for the allotted space.	Some images fit well in the allotted space.	Most of the images fit well in the allotted space.	Image layout works well on the page.	