Lesson Cycle (Gradual Release of Responsibility)

Lesson Title/Topic:

An Archaeological Look into Earth's Timeline by Simulating a Dig Site with Artifacts

Standards:

CCRS: Science Standards. IV. C. 1. Understand the historical development of major theories in science.

CCRS: Cross-Disciplinary Standards. I. D. 3. Strive for accuracy and precision.

CCRS: Cross-Disciplinary Standards. I. E. 2. Work collaboratively.

Lesson Objectives: Students will complete	Assessment: Completed Archaeological
Archaeological Dig Artifact Log with 80%	Dig Artifact Log sheet.
accuracy.	

Materials:

Large containers for dig-sit, sand, dirt, rocks, fossils, arrow heads, coins, shells, pieces of trash, pieces of pottery, sticky notes, pens, paint brushes (different sizes), plastic spoons, card stock, poster board, trash bags, Archaeological Dig Artifact Log sheet

The teacher will:	The student will:
Focus: Hand out career sheet for students to fill out. Ask students what they think an archaeologist is? Ask students to raise their hands and complete the definition of an archaeologist.	Students will respond to the questions and write down the definition of an archaeologist on the career sheet.
Teacher Input (I Do): Go over tri-fold display. Discuss education levels (bachelors, masters, doctoral), how many years of school, and what jobs they can get with each level. Discuss salary of archaeologist and explain that the lower level is bachelors and upper level is upper level education. An archaeologist is someone who studies human history and before through excavation and analysis of artifacts and physical remains. Ask students what excavation means? Ask students what they think an artifact is, show them pictures to explain. An artifact is an object made by humans often times found in the Earths layers. Show students the Earth timeline picture	Students will listen and ask questions about archaeologist career. Students will respond to what excavation means. Students will respond to the questions about artifacts and ask any questions they have about archaeology.

and explain that Earth's layers each contain	
artifacts of the past.	
Guided Practice (We Do):	
Begin by displaying a dig box and explain	
what each section is.	
- (A) is the oldest layer. Point to the layer on	Students will respond to the questions the
the Earth Timeline. (Contains sand), 443	teacher is asking.
million years ago. Ask students what they	
guess will be in this layer? As students say	
what they think will be in the layer, write on a sticky note and put on the heard in the (A) layer	
- (B) is the next layer on the Earth timeline	
(Contains rocks and dirt) 200 million years	
ago Point to laver Ask students to guess	
what could be in this layer? As students say	
what they think will be in the layer, write on a	
sticky note and put on the board in the (B) layer.	
- (C) is the 3 rd layer up on the Earth	
Timeline, point to layer. (Contains dirt and	
sand), 10,000 years ago. Ask students what	
they think will be in this layer? As students	
sticky note and put on the board in the (C) layer.	
- (D) is the final and top layer on the Earth	
Timeline, point to layer. (Contains dirt),	
present time. Ask students what they think	
will be in this layer? As students say what they	
think will be in the layer, write on a sticky note and	
put on the board in the (D) layer.	
Give each student the Archaeological Dig Artifact	
Log sheet Students will get into groups of 4	
two on each side of the table.	
Explain that record keeping is very	
important in archaeology. Explain that they	
will be excavating for artifacts and fossils	After instructions are given, students will
in each "Earth layer" (each pan will contain	use the tools provide to search and uncover the feasile and artifacts in the dist. Students
2 layers, one on each side). Student will be	the lossing and artifacts in the dift. Students
instructed to use the brushes and spoons to	find on their log sheet
find the pieces in the dirt, they should not	The off then tog sheet.
move the pieces out of the dirt but be very	One pair of students will excavate Λ and B
careful not to break the fragile artifacts.	layer the other group will excavate C and
When the students find the artifacts they	D layer Each pair will discuss and share
will label it on the paper and note where	what they found in their layer Students
they found it.	paper has a space to write down what the
Walk around the table and observe students, answer questions and assist as needed	other layers contained that they did not
questions and assist as needed.	excavate.

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Independent Practice (You Do): Instruct students to discuss and reflect with their partner on what they found and what it could mean for that time period. Instruct students to write down on the sticky notes	Students will work with their partner to brainstorm about what other fossils and artifacts may have been found in each Earth layer. Students may also brainstorm about what might be found in the future by
other ideas about what could have been found in each layer. They can also brainstorm about what may be found in the future by archaeologists.	archaeologists.
Closure: Teacher will discuss and reflect on the words students put on each Earth layer. Discuss why or why not that would or would not be found in that layer. Move sticky notes around as needed. Instruct students to take the arrowhead out of the dirt and each will state a use for that arrow head. <i>Students may take home the</i> <i>arrow head.</i>	Students will reflect and discuss the choices they made for each layer. Students will respond to what they think the arrowheads could have been used for.
Bloom's Level(s):	Technology Integration
Create: Students will investigate what is under the dirt as they excavate each layer	In the classroom students would play online
Evaluate: Students will discuss and debate what they believe archaeologists will find	extension.
in our future Earth layers. Apply: Students will re evaluate what they first thought would be in each layer compared to what they actually found in each layer. Understand: Students will describe what	(https://www.history.org/kids/games/dirtDetective.cfm)
an archaeologist, excavate, and artifact means	
Extension:	Reteach:
Students have the opportunity to get online	Students will complete nine "Fossil Stations"
and play "Dirt Detective". Students can	by moving around the room in small groups
play individually or with a partner.	and completing the worksheet. Teacher will
	walk around the room and assist students and
	answer questions as needed.

Accommodations / Modifications:	References:
- For students with a physical	Brown, S. (n.d.). Shoebox Dig. Retrieved October
disability, they will have a partner	25, 2019, from
that will assist in the excavation of	https://www.archaeological.org/pdfs/education/digs
the artifacts and fossils.	/Digs_shoebox.pdf.
- For students with anxiety, they will	
be allowed to sit in a quiet place to	Science Pictures and Multiplication Freebies.
do their activity at their own pace.	(2014, January 7). Retrieved October 27, 2019,
- For students with dyslexia, they will	from https://www.ashleigh-
not be graded on spelling or	educationjourney.com/science-pictures-and-
grammar on worksheet/career sheet.	multiplication/.