



CAN YOU DIG IT?

Holly Richardson Simmons

AIG Grades 4-6

July 31, 2018

TABLE OF CONTENTS

Introduction

Goals and Outcomes

Assessment

Lesson Plan 1

Lesson Plan 2

Lesson Plan 3

Lesson Plan 4

Unit Resources

INTRODUCTION:

Rationale:

It is becoming increasingly important for all educators to truly educate their students. This does not mean that each day they come in, pass out worksheets, teach them the standard algorithms in mathematics, or have them read a book on a particular concept. Educators must teach to the student, not at the student. One way to accomplish this is to create in depth theme or concept-based units that allow the students to immerse themselves in a learning environment where they learn about different contents, learn different skills, and apply background knowledge while learning through a particular concept or concepts. One way to do this comes in the form of a unit much like the one I have created on “Can you dig it?” with an essential question of “How does curiosity impact discovery?”

When educators start applying theme and concept-based learning into their lessons something amazing occurs. Students start paying attention. They start asking questions and they become interested. The more interest a student shows, the harder they work. Often, what expectations a teacher has for their students is surpassed and the students become the teachers. The teachers become the facilitators while the students start doing research beyond what is expected and they in turn teach the teachers things they did not know. Because, as much as we would like to think we know so much about the concepts we teach, we however are not experts in everything. This is a great thing! Teachers who create theme and concept driven units have to put a lot of work on the front end, but once students start the learning process, the teachers can take a step back and watch their students thrive.

When creating these theme or concept based units, there are three important components a teacher must include. They are: skills, content, and concepts. Skills are what you are going to want your students to be able to do when you have completed the lesson or lessons. Content is what is actually being taught; It is the standards in which teachers are required to teach their students. A concept is the idea of how all information learned can be tied together into one category. The best lessons will have each of these components laid out and obvious to anyone looking at a particular lesson.

In this unit, students will learn many skills. Some of the skills they will be working on are analyzing, inferring, evaluating, examining, modifying, expressing, challenging, debating, deciding, and constructing. All the skills are necessary for the gifted learner working on this particular unit as they allow for different learning styles. These learning styles can include the kinesthetic learner, the auditory learner, and the visual learner. They also tie directly to the essential understanding of “How does curiosity impact discovery?” These skills allow the gifted learner to dig deep into the content. Please note, these skills are not learned one at a time, but are ongoing throughout

the unit and overlap and work in correlation with each other. Therefore, the gifted learner is gaining valuable skills without putting a specific focus on one skill at a time. It is the best way to cover many skills at once. These skills also help the learner gather information. As the information is gathered, students use this newfound knowledge to come up with their own higher order thinking questions for their teachers about the theme of “digging.” This learning matters because this is the part where students themselves learn to “dig deeper” independently and with some guidance through questioning.

The content for these lessons spans grades fourth through sixth. It covers the academic content areas of Mathematics, Social Studies, Science, English Language Arts, Technology, and Visual Arts. These lessons contain advanced reading passages for this grade span. It also contains content that is not typical for this age/grade group of students. Each of the lesson contains content-based open-ended questions that follows a higher order thinking process. Included in this is the Bloom’s and Costas format of questioning which the norm is not necessarily typical for these students when in a regular classroom setting. This learning is important because students need to be exposed to content that challenges their minds and requires them to do research, think for themselves, and explore other topics they are not as well versed on, but with hard work and determination, they can master.

In this unit, the concept of curiosity leads the way to the concept of discovery. Students will use higher order thinking skills and questioning throughout each lesson to make connections between curiosity and discovery. While each lesson has specific content areas, all lessons should lend themselves to answer the question, “How does curiosity impact discovery?” This learning is important, as students will be making connections, as the unit develops, and should be able to come away with confidence, answering that essential understanding question.

Differentiation:

Content

The content in this unit is complex for the gifted learner. Because it spans three grade levels, students will be learning about curriculum above their grade level. Students are rising fourth through sixth graders and none of them have likely been exposed to the sixth-grade curriculum. This is especially true for the mathematics included in the unit. The curriculum content is complex. It contains many facets of information that must be processed by the learner. It is complex also because of the application of the knowledge students must have to meet the expected outcomes. The content is advanced and therefore challenges the students to bring what background knowledge they have and apply this knowledge while learning many new things about the content. The content requires the students to dig deeper than they may normally do in a classroom setting. The depth of the content comes from the fact that there is a broad range of subject matter covered that is around a given focus topic. Depth from this unit does not come from how long an article is that the students must read, but from the aspect of what students will do with the article. This can be seen in the Taba Model lesson where students do read an article, but instead of summarizing the article, students make lists based on “How does

curiosity impacts discovery?” within the article. Students then group and regroup these lists. This is one example of depth in this lesson based on content.

Creativity for gifted learners can be seen in this unit through group and independent works. As a group and as individuals, students will be participating in a Visual Thinking Strategy. Students get to be creative to decide *what is it that they see*. This model allows students to use their imagination, to infer, what it is that they see in a photograph or what they think particular people are doing in the photograph. For students, there is no right or wrong answer so students can create in their own mind and share with others their thoughts on this activity. This unit is accelerated as the content is advanced for all learners and expects the gifted student to take something they may know about, but combine it with many facets in which they have no knowledge. This is beneficial for the gifted learner as they need accelerated units to keep them focused, challenged, and interested in the learning happening within the classroom.

Process

The processes in this unit are complex. It is expected of the gifted learner to analyze, classify, infer, interpret, apply, and examine. These are only a few of the complex processes that the gifted learners are expected to accomplish during their time participating in this unit. By doing so, this in turn challenges the gifted learner to be multifaceted and process many things during a single lesson. This then brings depth to the lesson. It requires the gifted student to dig into their academic abilities and take these skills to a level that is likely not required often in a regular classroom setting which is why rigor is often lacking in the classroom. These processes allow for the students to be creative in what they do. These processes allow for a wide range of academic creativity and students are not limited to what they can do. These processes also allow for academic acceleration. Students are able to cover a myriad of processes in a single lesson. This can be seen in the Problem Based Learning lesson within this unit. Students analyze, infer, apply, examine, build, combine, compose, decide, and defend in their PBL (just to name a few). All of these are done in an academic accelerated manner as they have forty-five minutes to complete the PBL and in general is accelerated processes for gifted learners.

Product

The products in this unit are complex, challenging, have depth, creativity, and are accelerated for the gifted learner. One example where you see all of these aspects in one product is the student created hieroglyphs. Students worked in a whole group and independent setting to accomplish this. They did research on the Rosetta Stone and learned about the three forms of writing located on the stone. Next, they focused on hieroglyphs and how they work (a bird does not necessarily represent a bird for example). Students then chose different letters in the alphabet and created a glyph for their English letter. Students then explained how they came up with the glyph to match the letter. Last, students took their English spelling of their name and wrote their name in hieroglyphs. This encompassed all necessary levels to meet the needs of the gifted learner.

Learning Environment

The learning environment of this unit would not be in a regular classroom setting, but in a summer enrichment type camp or in a pullout AIG time during a school day where only the truly gifted learner would be in this type of setting. This is mainly due to the complexity, challenge, depth and creativity required to be immersed in this unit. This learning environment allows for both independent and group work, flexibility of seating, flexibility of assignments, and acceleration of the curriculum and processes. Students are to be grouped by the teacher, but by themselves as well. This allows for voice and choice in the classroom. It is the hope that the teacher, after instruction of the day's topic/lesson, will be a support person and not there to direct everything that takes place. Gifted students need this type of learning environment so that they may be freely creative, so they may make decisions on their individual needs, so they may become the expert, and so they can learn, through hard work, to find the rewards when they master a skill.

Population of the Gifted Learner:

This unit is specifically for gifted learners. It is not directed for gifted learners from well off families, nor is it for the economically disadvantaged. This is a unit created for all socioeconomic backgrounds of gifted learners. There are facets of this unit that those with a higher socioeconomic background may be more familiar. This could come into play when doing the walking tour and seeing the artifacts, gems, and fossils. Many of these students will be able to make connections to their own lives as they may see some of these things in their own homes where their mothers may have jewelry, their parents may have quality artwork, or they may have fossils from where they brought items back from family vacations. However, some students from lower socio-economic backgrounds may not have first-hand knowledge or experience, but it may bring things they have only seen in books, to life. For either, this should be a positive, not negative experience.

This unit can be altered for any grade level of student but would serve those well who have a keen interest in history. Because of the history imbedded through the Taba Model lesson, the Visual Thinking Strategy lesson, the PBL, and the Kohlberg's Moral Dilemma lesson, history is intertwined within this entire unit and it should be noted that those students who have no interest in history may find this unit more difficult to work through. Those students who do not work well with others will also need encouragement, as there are many group activities in this unit, especially during the PBL. Students must work as a group or they will not accomplish their goal. This unit will challenge the minds of the gifted learner morally as well. Through Kohlberg's Moral Dilemma lesson, students will have to make decisions about both current and historical dilemmas. This could encroach over to religious philosophies. It is important, as the teacher, to state and restate that there is no right or wrong answer and that if students do not agree with one another, they will do so with respect and kindness. Teachers should not relay their thoughts, beliefs or decisions to the student, as this is not the purpose of this activity and that in a fourth through sixth grade classroom setting, it is not appropriate, nor is it legal to push or influence students to have the same beliefs, moral compass, or religious preferences as you.

Content Goals and Outcomes

Goal: To develop an understanding of unearthed natural resources, buried treasures, gems, artifacts and relics, how their discoveries shape human history and they relate to modern human progress.

- Analyze historical events and the influence on modern society.
- Describe historical events discoveries and the events that led up to those events and discoveries.
- Predict future society changing events based on discoveries.
- Form a new opinion about unearthed discoveries.
- Compare and contrast two world discoveries and their relevance.
- Order world discoveries in order of importance.
- Imagine a world without life altering discoveries.
- Make inferences based on evidence.

Goal: To develop synthesizing and evaluation skills with application to social studies.

Students will be able to:

- Infer pre or post events associated with historical events.
- Orally communicate about historical events.
- Provide evidence and to support one's point of view.
- Define a complex problem, through reasoning and support, make assumptions about the solution.
- Make an inference/s based on evidence and data.
- Formulate multiple perspective based on self-inclinations and those of others.
- Express ideals about complex concepts.

Goal: To understand the concept of curiosity impacting discovery.

Students will be able to:

- Predict the impact of curiosity impacting discovery on historical events.
- Construct a meaningful rationale of how curiosity impacts discovery.
- Evaluate newfound knowledge to determine if prediction of curiosity impacting discovery came to fruition.
- Analyze curiosities about specific historical events.
- Analyze the discoveries of specific historical events.
- Predict future world discoveries.
- Describe how curiosity has shaped their lives.
- Predict how curiosity will shape their lives in the future.
- Describe something that they are currently curious.

Assessment Plan:

Formative Assessment

Formative assessments are used to improve teacher instruction and identify problem areas for students. Formative assessments are to be used daily in the classroom by all educators. There are many formative assessments taking place during this unit.

The first, and most basic formative assessments in this unit are body language, and observation. As educators, as we get to know our students, will watch a student with intent. Students tend to “wiggle,” look around, make faces, and can even make noises if they are unsure about what they are working on. Throughout this unit, there are many opportunities to observe these actions. This is especially true when participating in the Visual Thinking Strategies lesson, Taba lesson, and the Kohlberg Moral Dilemma lesson. It is important to put the students at ease when this is taking place. It is also just as noticeable if a student grasps and understands the lesson as you may observe smiles, “happy dances” in their chair and a look of relief can also be observed. Observing the student continually, especially while facilitating, will give the teacher much needed feedback. These two types of assessing strategies were used each day throughout this unit.

Formative assessments in these lessons also include questioning and discussion (listening). Questioning can be seen in all lessons in this unit, but is especially true with the Taba lesson, the Kohlberg Moral Dilemma lesson, and the VTS lesson. Students are asked specific questions related to the lessons. These questions are not answered with yes or no, but are deep thinking, higher order questions. Bloom’s and Costa’s is the best place to start when writing these types of questions and an educator can use these questioning types to assess and determine if the student/s has a true grasp on the skill, concept, or content of the lesson. The teacher is continually looking for evidence of student awareness through questioning. Discussions taking place within these lessons also give the teacher a glimpse of comprehension. These discussions will be taking place throughout the Problem Based Learning lesson where students must work together to solve multifaceted problems as well as the Taba lesson where students will work together to group items into categories. These types of assessing strategies were used throughout this entire unit.

Exit tickets were a daily formative assessment in this unit. Students were required to answer the question each day at the end of class, “In what ways does curiosity impact discovery?” By presenting this question daily at the end of each lesson, the teacher can see how over time, the student’s responses evolved. Students initially had very short answers, but by the end of the fourth day, all students had an in-depth answer that showed their growth and comprehension in this particular area.

Pre-assessment is a type of formative assessment. This was done daily at the beginning of each lesson through well thought pre-lesson questioning. These pre-lesson questions

helped to determine what, if any, background knowledge students have prior to the day's lesson. Examples of this are:

- What is curiosity and how would you define this?
- What are discoveries you have observed in your own lives?
- What significance does the Rosetta Stone have and how to it change the world?
- What impact did King Tut's tomb discovery have on science and history?

By asking what appears to be simple, but authentic questions, the teacher will gain important knowledge about their student's knowledge, or lack of.

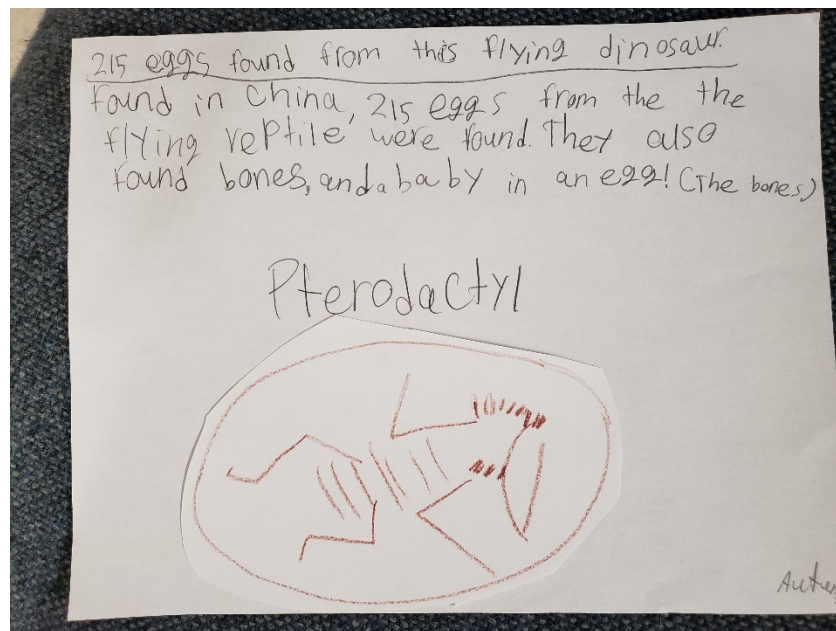
Summative Assessment

Summative assessment are used to evaluate student skill, academic achievement, and student learning over an instructional period of time, such as summer AIG camp. This could also be done at the end of a quarter, semester, unit, or end of grade. For this four-day unit, the summative assessment consists of a performance task. This particular performance task lends itself to the *Essential Understanding* of this unit, "In what ways does curiosity impact discovery?"

Students were to do research about something in which they were curious based on any world discoveries. The students did independent research, created a product (a booklet), and presented it to the board of a museum (the class and the teacher or anyone the teacher chooses to play the role of the board), to determine which of their discoveries could be included in the new museum wing. Students must also include in their product an explanation of how curiosity of a human/s impacted the discovery of their artifact or relic. Rubrics are necessary in order for students to understand the expectations of a teacher when students are presented with a performance task. The following is the rubric to the performance task.

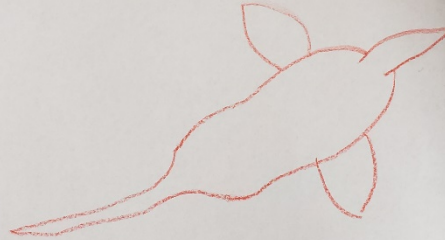
Categories	Novice	Apprentice	Practitioner	Expert	Weight/ Comments
Research	There is no evidence of independent research.	The research was incomplete with many missing or inaccurate details. While it provided some of the requirements, it did not follow through with all requirements. Developing.	The research was complete and adequate. It met the requirements effectively and contained the required information to complete the presentation. Meets all standards.	The research was thorough. It demonstrated an impressive level of depth and exceeded complete understanding and expectations. Exemplary.	X3
Number of Discoveries	There are only three or less discoveries demonstrated.	There are three to five discoveries demonstrated.	There are six to eight discoveries demonstrated.	There are more than eight discoveries demonstrated.	X3
Relationship to curiosity impacting discovery (conceptual understanding)	There is no demonstration of understanding of the relationship.	There is little demonstration of understanding of the relationship.	There is adequate demonstration of understanding of the relationship.	There is demonstration on an expert level showing the understanding of the relationship.	X3
Content Knowledge	There is a lack of student demonstration of understanding of the content.	There is an inconsistent demonstration of understanding of the content.	There is adequate demonstration of understanding of the content.	There is an in-depth demonstration of the understanding of the content.	X2
PERSUASIVENESS	There is no evidence of persuasiveness in the presentation and no way to determine comprehension or proficiency.	There were emerging details of persuasiveness in the presentation. It did lack enough detail to determine proficiency.	There was persuasiveness evident in the presentation and met expected requirements. Showed proficiency.	Persuasiveness expectations were exceeded and showed a thorough and extensive understanding and knowledge.	X2

TIMELINESS	The presentation was more than 5 days past the due date.	The presentation was no more than three days past the due date.	The presentation was turned in on the due date.	The presentation was turned in before the due date.	X1
NEATNESS/ PRESENTATION	There is no evidence of neatness, nor was the presentation organized/orderly to show preparedness.	The presentation was neat, but contained several errors. The presentation was at apprentice level and needs more work to show standard level.	The presentation was neat and contained very few errors. It met the expectations and showed proficiency.	The presentation was neat, contained no errors, and far exceeded general expectations for this presentation. Sophisticated presentation.	X1



Ichthyosaurs \ First Ichthyosaurs bones found in India

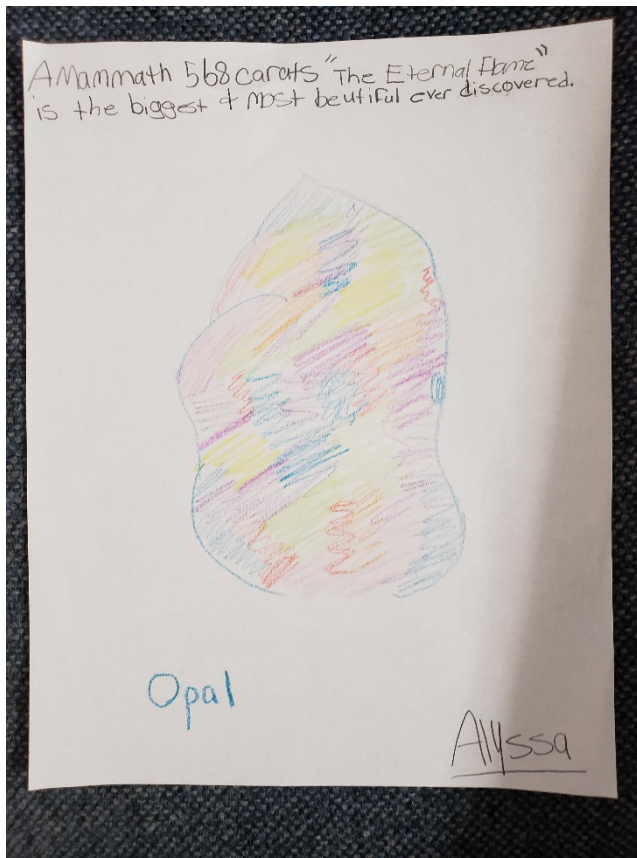
- Name means fish-lizard
- is a reptile
- length ranged from 1m to 14m- although average is 2m+
- creature was known for its sharp, robust teeth
- Became extinct around 90 million years ago
- parts of skull and tail were found missing
- very similar in appearance and habits to porpoises
- not dinosaurs



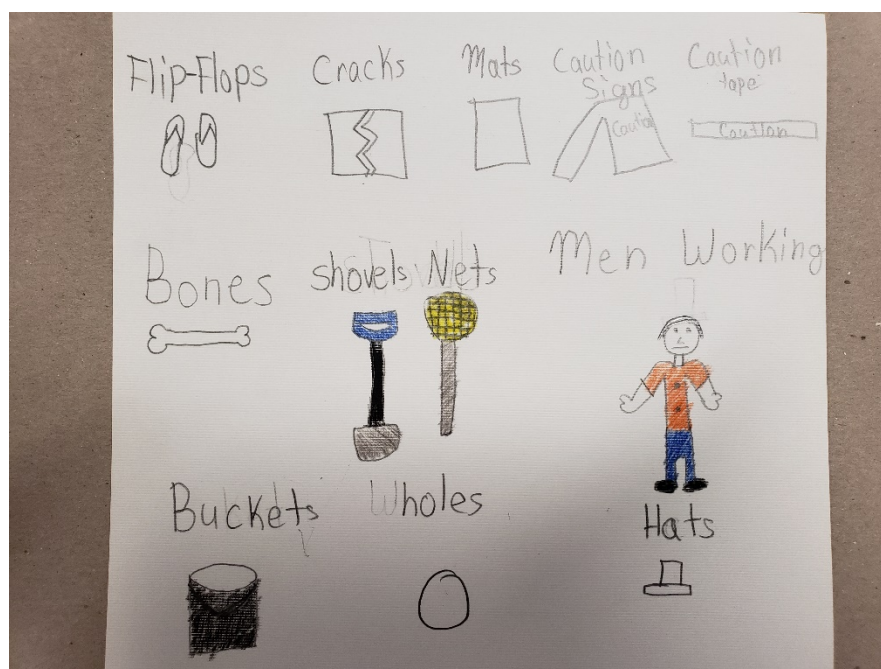
Elisabeth

A ^{fish report} 7 1/4 inch shark tooth was
Discovered near a ^{coastal} river in
South Carolina By a
Fossil Hunter
The tooth belonged
to a great white
shark

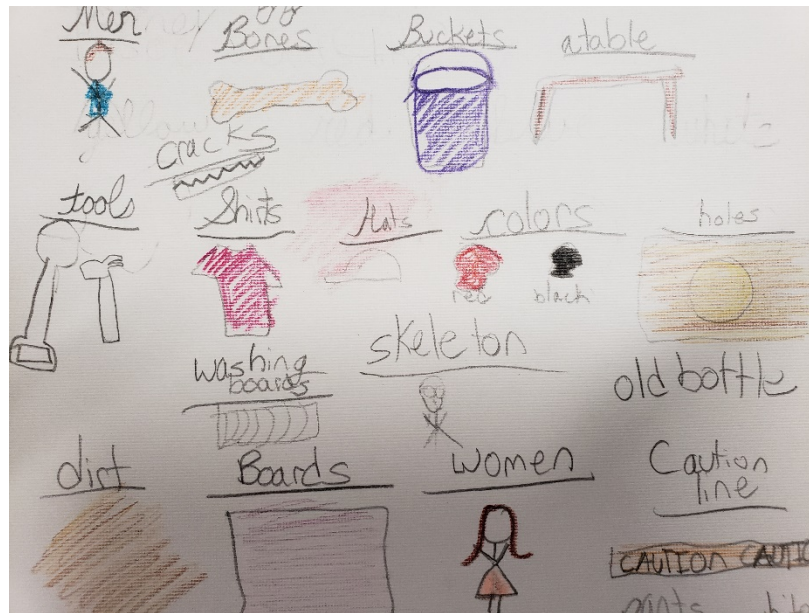




EXAMPLES OF STUDENT ASSESSMENT



It is ok if you only use the information for scientific study and history.
If any of his descendants are alive you should ask. Not to be
Used for monetary value.



Alyssa

I see... my favorite thing the Artifacts
I see... alot of Grooves From all different
times in the world. most likely.
I see... Cool artifacts that archeologists
have Found over time, which I want to be
an archeologist also.
When I got to the end of looking it over
I saw a little Plant that I thought was
Very cool and unique.
I also see lots of tools & baskets (those are
very helpful)
There is these dinosaur bones that are near
the middle of the dig site but I think they
are Really awesome.
I see a white space off to the side.

I see that the people are mining at an excavation site.

What are the people looking for?

What are they finding?

They are not mining in one big hole because they do not want to risk damaging the object. The people are looking in little holes at a time.

There are a lot of workers in a small excavation area.

They are all working except for one person sitting at a desk.

They all are bare-footed.

The workers seem to be surrounded by a wall of dirt.

Rowan

Curiosity impacts discovery by if you are curious enough about something you could go looking for it. If you look for it long enough and hard enough, you may discover it. Just like the person who discovered King Tut, he was curious about it.

Elizabeth

It's not ok to dig up tombs because I would not like it if somebody dug up my tomb if I had one. Even if they took one thing those are still my things. And it is basically stealing. And stealing is a bad thing.

Rowan

I think it is ok to dig up tombs because it will help us learn about Ancient Egypt.

Mackenzie

I think it's ok to dig up tombs because most of the things in their tomb tells us what happened in their life or how they died and that information could be very important to scientists and history. I only think it's ok though if you don't steal any of the jewels or other things.

Autumn

I think it's ok to dig up tombs because we should figure out stuff about the centuries.

Barley

I think it is ok because we need to learn more about history and try to figure out why he/she died. We do need to ask first though before going through people's personal belongings & the tombs.

Asher

I do not think it's right because that's where they put it to be forever.

Alyssa

I think it's ok to dig up tombs because if we don't we might not have the same history & have it for science & learning.

TEACHER NAME		Lesson #
Holly Simmons		1
MODEL	CONTENT AREA	GRADE LEVEL
Virtual Thinking Strategy	Science Visual Arts	4-6
CONCEPTUAL LENS		LESSON TOPIC
Curiosity		Digging
LEARNING OBJECTIVES (from State/Local Curriculum)		
North Carolina Standard Course of Study for Science 4.E.2 Understand the use of fossils and changes in the surface of the earth as evidence of the history of the Earth and its changing life forms. 4.E.2.1 Compare fossils (including molds, casts, and preserved parts of plants and animals) to one another and to living organisms. 4.E.2.2 Infer ideas about Earth's early environments from fossils of plants and animals that lived long ago. North Carolina Essential Standards for Visual Arts 4.V.1 Use the language of visual arts to communicate effectively. 4.V.1.3 Infer meaning from art.		
THE ESSENTIAL UNDERSTANDING (What is the overarching idea students will understand as a result of this lesson?)		THE ESSENTIAL QUESTION (What question will be asked to lead students to "uncover" the Essential Understanding)
Curiosity Impacts Discovery		In what ways does curiosity impact discovery?
CONTENT KNOWLEDGE (What factual information will students learn in this lesson?)		PROCESS SKILLS (What will students be able to do as a result of this lesson?)
Students will know: - Being curious is a precursor to discovery and holds the greatest impact to discovery. - Being able to look at a photograph and "seeing" only the first impression of an image will change their view as they "see more" through questioning. - That humans are innately curious. - That there are reasons for humans being innately curious.		Students will be able to: - Analyze the photograph on a deeper level than just the surface. (The surface being that there is obviously an archeological dig happening.) - Infer what is happening in the photograph. - Orally communicate what is happening in the photograph and why they think said things are happening. - Express ideals about complex concepts when referring to the photograph.
GUIDING QUESTIONS What questions will be asked to support instruction? Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding		
Pre-Lesson Questions:	During Lesson Questions:	Post Lesson Questions:

What do you think of when you hear the word curiosity? What does the word curiosity mean to you? What do you think of when you hear the word discovery? What do you think of when you hear the phrase, “to dig”? Why do people dig? What kinds of things do humans “dig”? (Dig into a good book, dig into the ground, dig for fossils, dig for treasure, dig into food, dig into information, dig into an assignment, dig into something fun, etc. are likely some responses.) What kinds of things are people curious about?	What do you see in this photograph? What is taking place in the photograph that makes you say that? What else do you see? OTHER POSSIBLE QUESTIONS BELOW, BUT FOCUS ON THE THREE ABOVE. What kinds of discoveries are taking place in the photograph? What do you think the people in the photograph are feeling about their task? What are the various tasks going on in this photograph? How do you feel about what the people in this photograph are doing? What was your initial reaction to this photograph? Be specific and detailed. In what ways are different forms of “discovery” taking place in the photograph?	How did your thoughts about this photograph change from the first time you looked at it, until after we started listening to others describe what they saw? What do you think are the roles that the different people are playing in the photograph? In what ways does this photograph remind you of something you have seen in real life, on television, in a book, or in a movie? What is being revealed to the viewer in this photograph? In what ways, from the photograph, do you feel that curiosity impacts discovery?
---	--	--

DIFFERENTIATION

(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.

Content	Process	Product	Learning Environment
	Students will be challenged through critical thinking and observation to construe personal meaning of the photograph through the Virtual Thinking Skills Model.		

PLANNED LEARNING EXPERIENCES

(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)

Engage and Connect - *This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.*

Students will enter the room and take a "walking tour" of the outer edges of the room. There, they will see relics, artifacts, gems, minerals, seashells, arrowheads, sharks teeth, bones, fossils, etc. The teacher will ask them not to touch or talk, but simply to observe in silence and to think about the connections that they see between each item. Next, the teacher will ask the pre-lesson questions.

What do you think of when you hear the word curiosity?
What does the word curiosity mean to you?
What do you think of when you hear the word discovery?
What do you think of when you hear the phrase, "to dig"?
What kinds of things do humans "dig"?
What kinds of things are people curious about?

Explore - *In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.*

The teacher will reveal the photograph of the archeological dig site to the students via the Smart Board. All students will be seated where they have a quality view of the photograph and the teacher will ask the students to observe the photograph for several minutes while not allowing student discussions to take place. Students should not be given any other direction for this part of the lesson other than to observe the photograph independently and silently.

Students have been studying fossils and should be able to make connections within the photograph, including the human skeletal remains to the fossils in which they have studied.

The teacher will then give the students an index card and ask them to write down their initial thoughts about this photograph. The students will then put these to the side to utilize later in the lesson.

Explain - *Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.*

During this phase of the lesson, and after silently observing the photograph for several minutes, students will answer the teacher's during lesson questions. After students start answering the questions, it may become more difficult for the students to answer the questions without digging into what is really happening in the photograph beyond the surface. This is a typical quality of all students. They do not always want to look beyond the obvious. The teacher should give the students time to think. It may be necessary to tell the students that you will continue to wait until someone shares more information.

The during lesson questions are:

What do you see going on in this photograph?
What is taking place in the photograph that makes you say that?
What else do you see?

If you absolutely cannot get more information from the students, you may possibly ask the following questions:

What kinds of discoveries are taking place in the photograph?
Why do you see that is curious?
What do you think the people in the photograph are feeling about their task?
What are the various tasks going on in this photograph?
How do you feel about what the people in this photograph are doing?
What was your initial reaction to this photograph? Be specific and detailed.
In what ways are different forms of "discovery" taking place in the photograph?

Elaborate —Allow students to use their new knowledge and continue to explore its implications. At this stage students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them in new ways

In this phase of the lesson, the teacher will give the students a series of post lesson questions. Groups of two to three students (preferably two) will work together to answer these post lesson questions. Groups will discuss and record their answers to these questions. Groups will share their responses, in detail, with the class. The teacher directed post lesson questions include:

What do you think are the roles that the different people are playing in the photograph?

In what ways does this photograph remind you of something you have seen in real life, on television, in a book, or in a movie?

*How did your thoughts about this photograph change from the first time you looked at it, until after we started listening to others describe what they saw?

*What do you think are the roles that the different people are playing in the photograph?

*In what ways does this photograph remind you of something you have seen in real life, on television, in a book, or in a movie?

*What is being revealed to the viewer in this photograph?

*In what ways, from the photograph, do you feel that curiosity impacts discovery?

Evaluate: *This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.*

The teacher will summarize the lesson at this time. Students will then retrieve their index card where they recorded their initial thoughts about this lesson. They will then record their thoughts about the photograph after the discussions and responses of what others saw. They should describe if their views changed (Did they “see” more, or were their initial views the same as their post lesson views? What were the differences? What kinds of discoveries were taking place?) Students will then share their finding with their larger group setting of combining two or more groups, and discuss in detail the differences of their initial thoughts about the photograph and how they changed as they listened to their peers “seeing” more and more.

Next, the students will participate in a performance task. The performance task will be completed over the course of several days.

The town of Elkhville has just opened a new wing in their museum. The Elkhville Museum Curator is looking for artifacts to be placed in the new wing of the museum. The new wing will be titled, “Can You Dig It?” As a historian who has studied the importance of other cultures, you have been chosen to nominate several artifacts to be housed in the museum.

Your task is to create a photo album of artifacts that were discovered from archeological digs in the United States. Be sure to include a description of the artifacts and why they should be included in the new wing. Your job also includes taking your photo album to the museum to present it to the curator and the Board of Directors explaining why these artifacts need to be a part of the new wing.

After completion of the task, students will share their finding with the class by presenting their photo album and discussing what knowledge they gained.

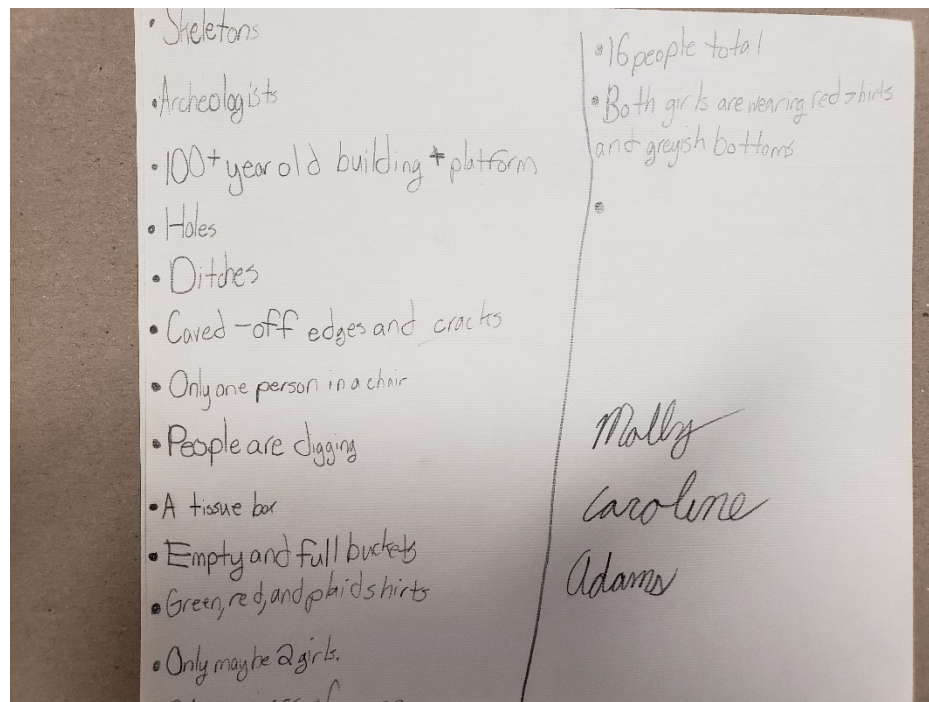
As a ticket out the door, for about ten minutes, students will be asked to write down on a large index card, from this lesson today, "How do you believe curiosity impacts discovery?"

After all lessons, students will participate in a shark teeth find and dig.

Archeological Dig VTS Picture



https://www.flickr.com/photos/carsten_tb/285048313



DAY ONE GALLERY WALK/WALKING TOUR PHOTOGRAPHS





- Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgment

SCS

- RL.6.6 Explain how an author develops the point of view of the narrator or speaker in a text.
- RI.6.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
- RI.6.2 Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments
- RI.6.3 Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text.
- RI.6.4 Determine the meaning of words and phrases as they are used in a text; analyze the impact of a specific word choice on meaning.
- RI.6.5 Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.
- RI.6.6 Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.
- RI.6.8 Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.
- RI.6.9 Compare and contrast one author's presentation of events with that of another
- RI.6.10 By the end of grade 6, read and understand informational texts within the 6-8 text complexity band proficiently and independently for sustained periods of time. Connect prior knowledge and experiences to text.
- SL.6.1 Engage effectively in a range of collaborative discussions (one on one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.

THE ESSENTIAL UNDERSTANDING (What is the overarching idea students will understand as a result of this lesson?)		THE ESSENTIAL QUESTION (What question will be asked to lead students to “uncover” the Essential Understanding)	
Curiosity Impacts Discovery		How does curiosity impact discovery?	
CONTENT KNOWLEDGE (What factual information will students learn in this lesson?)		PROCESS SKILLS (What will students be able to do as a result of this lesson?)	
The students will know: • Point of View is directly impacted by morality. • That moral decisions made have both positive and negative impacts on humans and what both the positive and the negative outcomes could be. • The definition of morality- a particular system of values and principles of conduct; especially one held by a specified person or society. • The definition of dilemma- a situation in which a difficult choice has to be made between two or more alternatives, especially equally undesirable ones. • That dilemma is a problem where resolution is based on an individual’s morals and ethics. • That moral dilemma does not necessarily have a right or wrong resolution and that strong morals/ethics can drive passion about any given dilemma.		Students will be able to: • Work effectively and collaboratively with others when discussing if something is moral or not. • Evaluate information. • Analyze an issue and discuss it respectfully with classmates. • Create an original piece of writing. • Form a new opinion based on opinions of others. • Justify positions using reasoning. • Draw conclusions based on the ideals of others. • Respectfully challenge others and their points of view. • Support your point of view with statistics and data. • Make connections between this dilemma and something in their own life they have had to face.	
GUIDING QUESTIONS What questions will be asked to support instruction? Include both “lesson plan level” questions as well as questions designed to guide students to the essential understanding			
Pre-Lesson Questions:		During Lesson Questions:	
		Post Lesson Questions:	

• What is the relationship between curiosity and moral dilemma? • What is the driving force/s to someone's morals? • What can one discover about moral dilemma? • What does it mean for one to be moral? • What does it mean when you hear the word dilemma? • What are examples of dilemma? • What are some examples of when someone has used their morals to make a decision? • What are factors that drive solving a dilemma? • What does it mean to excavate? • What are artifacts/relics? • What does point of view mean?	• What is the relationship between curiosity and moral dilemma? • What is there to discover in a moral dilemma? • What are the advantages of excavation? • What are the disadvantages of excavation? • Who is impacted when someone makes life-altering decisions related to excavation? • In what ways are you seeing that the words moral and dilemma interrelate? • What are some examples you are seeing with excavation advantages when referring to the video? • What are some examples you are seeing with excavation disadvantages when referring to the video? • In what ways does morality impact point of view? • In what ways are moral dilemma issues resolved? • Is there always going to be a resolution to a dilemma.	• What was the overall theme of this video relate to curiosity? To moral dilemma? To discovery? • What part did curiosity play in the discovery and excavation? • What inferences could you make about the video in relation to moral dilemma? • In what ways could you see yourself changing your point of view about excavation after watching the video? • In what ways could you see yourself having to face some sort of moral dilemma in your life? • In what ways does moral dilemma affect our future as humans? • How does morality impact point of view?
--	---	--

DIFFERENTIATION

(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.

Content	Process	Product	Learning Environment
The journal article is above grade level in its content.	Higher order thinking will be required in order to utilize Kolberg's Stages of Moral Development.		

PLANNED LEARNING EXPERIENCES

(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)

Engage and Connect - This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.

As soon as students enter the classroom they will be presented with a short video on King Tut. The teacher will instruct the students to listen with intent about the process from inception of the discovery of his tomb and all through the removal process of removing the contents of the tomb. Students will take notes as the video plays on whether they can see a moral dilemma developing with the clip in regards to disturbing a burial site.

<https://www.youtube.com/watch?v=dmkDPaHSBzg>

After the five minute video, the teacher will ask the following questions that will allow students to think about morals, dilemmas, points of view, etc.:

- When is it okay to commit robbery?
- How does the removal of the artifacts in Tut's tomb represent robbery?
- What are your perspectives?
- How might this question about robbery represent a dilemma?
- What is a dilemma?
- How might we go about solving a moral dilemma?
- What are reasons one should be able to keep found items or what are the reasons one must hand over to the government what they find from discovery, excavation, etc.?
- What would be some examples of reasons why King Tut's remains should have been removed from the tomb?
- What would be some examples of reason why King Tut's remains should have not been removed from the tomb?
- What are some reasons why King Tut's possessions should have been removed from the tomb?
- What are some reasons why King Tut's possessions should not have been removed from the tomb?
- In what ways was the world impacted by the discovery of King Tut's tomb? Give specific details to the positive and negative outcomes.
- In what ways would the world be different if the discovery of King Tut's tomb had never taken place?

Students will thoughtfully respond to the above questions. Their answers need to include the moral implications or lack of when making their choices about King Tut and his relics/artifacts. The teacher will create a chart with two sides. One side will be human action and the other side will be the implications of human actions. The students will then discuss this chart.

Next, a statement/question will be displayed on the board. The statement/question reads, "Utilize what information you have about archeology. Defend whether, in your point of view if it is morally right to excavate, dig up, or remove items from the ground, including, but not limited to: gems, skeletons, fossils, tombs, oil, etc. even when it destroys property, destroys artifacts, changes the landscape, and removes irreplaceable items?" Students will record their answers on a large post it note to be displayed in the room and will be discussed later.

Next, the teacher will ask the pre-lesson questions and will record student responses for post lesson comparison.

- What does it mean for one to be moral? Be specific in your thoughts.
- What does it mean when you hear the word dilemma?
- What are examples of dilemma? Are there good vs. bad dilemmas?
- How do the words moral and dilemma interrelate?
- What are some examples of when someone has used their morals to make a decision?
- What is the driving force/s to someone's morals? Be specific.
- What are factors that drive solving a dilemma? Be specific and thoughtful.
- What does it mean to excavate? Could you give examples of this?

- What are artifacts/relics?
- What does point of view mean to you?
- How is your morality guiding your point of view?

Explore - *In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.*

In this part of the lesson, students will read, "The Destructive Nature of Archaeology," by Sophia Calugay, a journal article, which is from The Post Hole.org, a university/college student run archaeology journal. This journal writing discusses the aim of excavation, its meanings, and the three main reasons why people excavate. It addresses the pros of archaeology, which are many, while also discussing the many cons and why the cons to archaeology are numerous.

Students will read this independently, write down their opinion of the article, whether they agree or not and explaining how their morality is guiding their point of view.

Then, they will get in their groups to discuss the findings and opinions of others about the journal article. The teacher will discuss point of view with the students to reinforce that there is no correct answer to these questions. The teacher will ask the students to define the dilemma in this specific journal article. They will discuss the relevancy of the issue/dilemma addressed and answer the question: Should archeology be governed thorough strict laws? Should archeologists be allowed to disturb the resting place or burial grounds of others?

Explain - *Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.*

Next, the teacher will give groups a copy of Kohlberg's Stages of Moral Development. The teacher will explain about these stages, one to six, in a grade appropriate manner.

Stage One-Avoid Punishment

Stage Two-Receive a Reward

Stage Three-Receive Approval

Stage Four-Rules or Laws

Stage Five-Know the Difference Between Moral and Legal

Stage Six-Universal Principle

Then, the teacher work through the steps of the moral discussion process.

Step One-What is the dilemma in the article? Should one dig or not?

Step Two-What are the facts related to this article and what are the issues?

Step Three-What position do you take pertaining to this article? Are you for or against digging and why?

Step Four-The class will be divided into two groups based on their answer to step three. Students will take turns explaining from their point of view.

Step Five-The students will come back to a full class setting.

Step Six-Students will reflect on what they originally thought about the position they took. They will record whether their view changed or not based on other's point of view.

The teacher will then ask those during lesson questions:

- In what ways are you seeing how curiosity leads to discovery, which leads to excavation?
- In what ways would your morals cause you a dilemma with this excavation?

- In what ways could there be a resolution to this dilemma?
- What are the advantages/disadvantages of excavation?
- Who is impacted when someone makes life altering decisions related to excavation?
- In what ways are you seeing that the words moral and dilemma interrelate?
- What are some examples you are seeing with excavation advantages when referring to the video?
- What are some examples you are seeing with excavation disadvantages when referring to the video?
- In what ways are moral dilemma issues resolved?
- In what ways does morality impact point of view?

Elaborate —Allow students to use their new knowledge and continue to explore its implications. At this stage students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them in new ways

In this stage, the teacher will step back and allow the students to work back in their groups to discuss Kohlberg.

Students will use the journal article reading to talk about where different phases of the excavation process would fall into the Kohlberg Model for Moral Development. A chart will be created with the stages of Moral Development. Students will record the stage that the events fall under.

While monitoring the students, the teacher will make note as to the discussions of the groups. After about ten minutes, the teacher will pull the class back together and will call on various students from each group to discuss and elaborate on their findings. While the teacher must express that one should listen and embrace others point of view, that one should not change their point of view to meet the desires of others.

Evaluate: *This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.*

After many discussions about the moral dilemma of excavation, the teacher will ask the students to retrieve their response from the question posed on the board after they watched the video and was on large post it notes.

The teacher will ask the students to independently reflect on their discussions throughout this lesson. The teacher will ask the students to simply write on their card whether they stood by their original thoughts or whether their thoughts had changed throughout the course of the lesson and did their morality change their point of view? Students should answer if their point of view changed and elaborate on if it did change or why it did not change.

Once complete, the students will be divided into groups to create a poster to represent and explain their stance on the moral dilemma of excavation. Groups will be based on those for excavation and those who oppose excavation. Groups will share with the class after time is permitted to complete the task.

Next, students will pick up on where they left off yesterday on their performance task. They will on starting their photograph album as most of yesterday's tasks were to do research.

The town of Elkville has just opened a new wing in their museum. The Elkville Museum Curator is looking for artifacts to be placed in the new wing of the museum. The new wing will be titled, "Can You Dig It?" As a historian, who is innately curious and has studied the importance of other cultures, you have been chosen to nominate several artifacts to be housed in the museum. Through research, you will discover a treasure trove of archeological finds.

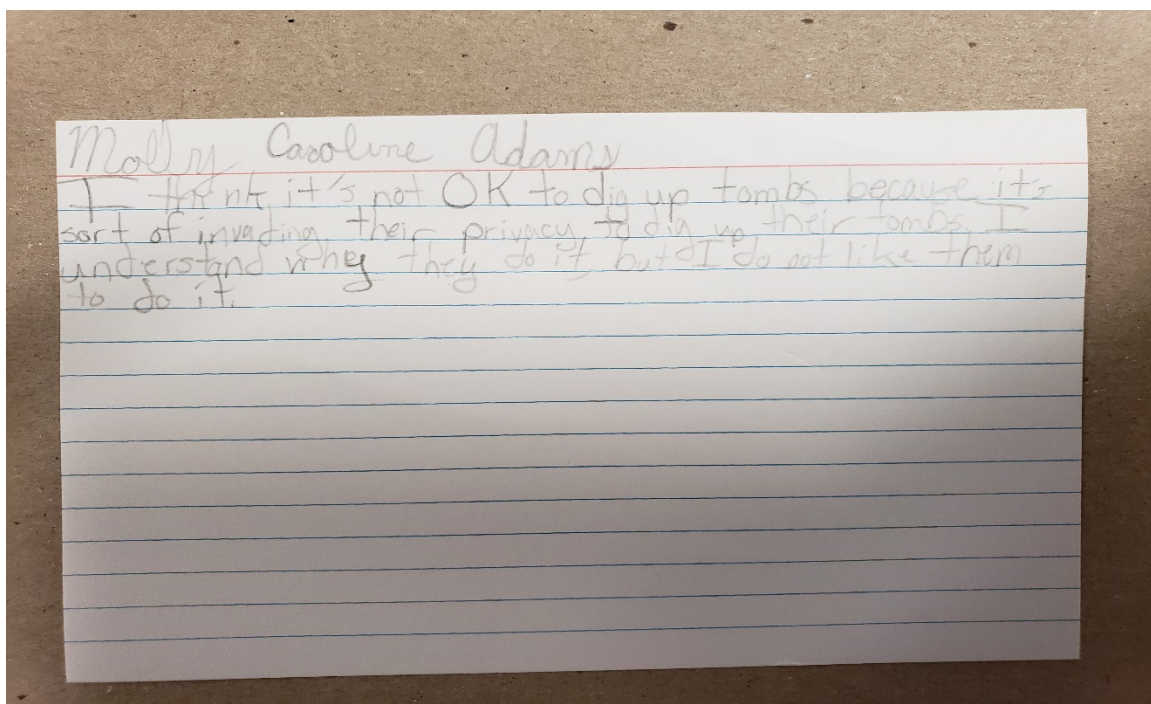
Your task is to create a photo album of artifacts that were discovered from archeological digs in

the United States. Be sure to include a description of the artifacts and why they should be included in the new wing. Your job also includes taking your photo album to the museum to present it to the curator and the Board of Directors explaining why these artifacts need to be a part of the new wing.

After completion of this stage of the performance task, students will pick up where they left off tomorrow.

Last, students will be given several minutes to think about today's lesson and jot down notes if needed. They will use these notes to share with the class in an open discussion about what they feel has the most impact on discoveries they researched through the performance task. Did these discoveries come because people were innately curious? Was it for fame? For wealth? Was it just happenstance? How does curiosity impact discovery? A class discussion should ensue after giving students time to answer these questions.

Students will dig for shark teeth after the end of the lesson.



[The Destructive Nature of Archeology](#)

The Post Hole Issue 45 www.theposthole.org 22 The term 'excavation' came from the Latin word excavare: ex- 'out' and cavare - 'to make or become hollow'. The dictionary definition of the act of excavating is one which digs, extracts, or removes materials from the ground in order to find remains. Excavation is the main tool of the archaeologist in learning about the past. Without it, only a small portion of the human past would be recovered and studied through history books (Champion 1980, 43), alternatively archaeology can examine the everyday lives of ordinary people. According to Barker it is

“almost the only source of information... [that] provides evidence where the documents are silent or missing... [However] it is always destructive” (1993, 13).

The aim of an excavation is to “identify, define, uncover, date, and – by understanding transformation processes – interpret each archaeological context on a site” (Drewett 1999, 107). This is achieved by carefully recording what is in the ground, considering spatial organization and stratification which enables archaeologists to theorize the site purpose (King 2005, 71-72). The interpretive nature of the analysis of archaeological discoveries means different people have alternative ideas about the conclusions drawn after an excavation, this often stems back to the original purpose and aims of an excavation. There are three main reasons for conducting an archaeological excavation:

1. salvage, or rescue archaeology: sites are excavated to save and record any information that will not be available in the future. Such sites are those that are vulnerable to natural erosion or urban developments, e.g. road systems, housing, dams etc. (Champion 1980, 43; Drewett 1999, 107; King 2005, 33 and 61; Renfrew and Bahn 2008, 75; Walker 2001).

2. Research projects: Excavating to expand the knowledge of the past (King 2005, 28-29).

3. Conservation: For purposes of cultural and heritage sites by interested organisations (King 2005, 87; Renfrew and Bahn 2008, 75).

Excavation, extracts everything that is known leaving little original evidence of the site (Barker 1986, 71). Barker argues further that the terrain containing the material remains plays a major part in human development (1993, 14), making the study of landscape a recent and growing sub discipline of archaeology (Renfrew and Bahn 2008, 77). Furthermore, in recent years archaeologists have considered how ‘off-site’ or ‘non-site’ areas may have also affected human development, especially where people are leading a mobile life leaving few remains, resulting in a sparse archaeological record which needs to be documented and carefully analysed rather than being excluded from the main excavation site (Renfrew and Bahn 2008, 77). However, exclusion is often the case as the “very faint scatters of artifacts... might not qualify as ‘sites’... Nevertheless [they] represent significant human activity” (Renfrew and Bahn 2008, 77) and so should be recorded.

There are a number of writers and scholars who refer to excavation being destructive, but specific examples or case studies of such sites are seldom mentioned. Perhaps because the importance of the discoveries tends to outweigh the destruction caused by the excavation. The notion that the excavation process itself is a destructive one is self-explanatory (Barker 1986, 73-99); “Whether on a small or massive scale, [it] involves the destruction of the primary evidence, which can never be recovered nor repeated since no two sites are identical” (Champion 1980, 43). In response to this, if excavation is never undertaken with reference to the three main purposes of excavation above, then human knowledge of the past will never be expanded or included in our archives. King described sites as ‘non-renewable resources’ because they can never be returned to an undisturbed state after archaeological interference, he stresses the importance of an archaeologists appreciation of a site which they may be the last to study before it is destroyed (2005, 60-61). By this King could mean that archaeologists should recognise that excavation is disrupting the resting place of antiquities. So, when excavating, archaeologists should maximize their time to attain the greatest information they can in order to outweigh the destruction it can bring.

Although, there is not a single scholarly book based solely around the notion that excavation is non-destructive; non-destructive methods which may limit the need for excavation are frequently referred to. For instance, ground survey, with the help of technology, outlines the geological and geographical layout of the landscape, enabling archaeologists to have an idea of the site context in a wider landscape. Egyptologist Mark Lehner used Geographic Information Systems (GIS) in the Giza Plateau to expose the “vast urban centre attached to the pyramids, sometimes known as ‘The Lost City of the Pyramid Builders’” (Renfrew and Bahn 2008, 92). The technology was also used to compile all the data they had, including digital photographs, notebooks, forms and artifact records into a single information source enabling them to map spatial patterns of architecture, burials and artifacts (Renfrew and Bahn 2008, 92). The discovery of so called ‘Japanese Atlantis’ at Yonaguni proved to have shed light into the archaeological evidences of ‘pyramids’ and somehow brought legendary stories, which have been passed down through generations in the Ryukyu Islands, back to life (Journeyman Pictures 2008). Masaaki Kimura, a marine geologist from the University of Ryukyu, believes that a 5,000 year old city lies below the surface of the water at Yonaguni “based on dates of stalactites found inside underwater caves...ruins of a castle, a triumphal arch, five temples [and] one large stadium” (Ryall 2007).

In this case, the knowledge attained from excavating the ruins at Yonaguni is immensely The Post Hole Issue 45 www.theposthole.org 24 valuable, and the destruction caused by excavation was deemed appropriate due to the value and of the data obtained: an unknown city preserved by the water. Despite the excavation at Yonaguni being underwater, the processes involved are similar to ground excavations but, the scale and type of destruction may differ. For instance, “shifting vast quantities of sediment [and] removing bulky objects” from the ocean floor to the surface may mean that some materials are lost; the conservation of such artefacts which have survived in a waterlogged environment will also be very different (Renfrew and Bahn 2008, 109). Methods such as ‘non-destructive’ or ‘pre-excavation’ techniques are increasing in popularity as alternatives to traditional excavations. These methods are often employed together as nondestructive methods are, in effect, pre-excavation techniques (Greene 2002, 50). Roskams stated that these techniques, either way you term them, are used “to give knowledge of sites prior to full excavation” (2001, 48).

One such technique is reconnaissance survey from the air and the ground (Renfrew and Bahn 2008: 74, 79, 95, 99). This non-destructive technique began as a preliminary inquiry of an area of interest, but has developed into an important source of information in its own right, producing very different data to digging (Renfrew and Bahn 2008, 77). Aerial reconnaissance is commonly known as ‘aerial photography’ and consists of different sub strategies which assist in locating and acquiring information from sites (Greene 2002, 62). For example, the use of oblique and vertical photographs have drawbacks and advantages that consequently affect the way interpreters and archaeologists decipher sites (Renfrew and Bahn 2008, 83). Other techniques used are analysing crop marks, soil marks and earth works in the landscape because they reveal where materials have been buried. For instance, crop marks can clearly exhibit where archaeological remains are since “buried features either enhance or reduce the growth of plants.” (Greene 2002, 63-64; Roskams 2001, 44).

These abnormalities can be detected using aerial photography and are used to assess sites in order to gain information or to help prepare for excavations, by indicating potential trench locations. In recent decades, technological advancements have also provided useful and valuable tools to improve the reliability of aerial photography. These include, infrared and radar photography, satellite images, digital terrain modelling, computer enhancement etc. (Renfrew and Bahn 2008, 86). Such additions can be used to critically reveal landscape and geological features and also improve the sharpness and contrasts of photos making differences in the crop easier to identify. Aerial photography inevitably has pros and cons. The main advantage is that the identification of archaeological sites becomes easier and more time efficient as researchers do not have to rely on analysing ancient documents and maps to locate

sites. For example, Father Antoine Poidebard in Syria has “discovered many new forts and roads [showing] that underwater sites could be detected from the air, revealing for the first time the ancient harbor beneath the sea at Tyre, Lebanon” (Renfrew and Bahn 2008, 79).

According to Greene the use of aerial photography has “made the greatest single contribution to archaeological fieldwork and recording” (2002, 57) and is The Post Hole Issue 45 www.theposthole.org 25 continuously used to map and document sites. Despite aerial photographs revealing the potential location of a site, most are far more complex than the impression given from how they look from the air (Barker 1986, 58). This means that excavation is still required if there is the need for further research. Aerial photography is a useful tool for locating, mapping, and documenting sites, however to gain a comprehensive interpretation of a site or in cases where further research is required, excavation is still the most useful method. Likewise, ground reconnaissance is another key non-destructive method utilised regularly by archaeologists. The main advantage of using this method is that the whole landscape of the site can be mapped using three types of geophysical sensing: resistivity, magnetometry, and radar transmission (Greene 2002, 73; Roskams 2001, 52). When combining aerial and ground reconnaissance into a 3-D model, the results are immensely detailed; therefore the need to excavate can be carefully considered and questioned (Roskams 2001, 56).

In summary, excavation is said to be ‘destructive’ because of the process of removing remains from the ground, as stated by Barker (1986), Champion (1980) and King (2005). However, it is generally agreed that the scale of discovery and knowledge gained from the thorough excavation of a site outweighs the destruction it brings. With reference to examples mentioned, such as the Japanese Atlantis and the lost city of pyramid builders in the Giza Plateau, excavation expands our knowledge of the human past. It is the means to an end when it comes to further research on sites. ‘Non-destructive’ methods are known as ‘pre-excavation’ techniques because they are used to attain as much information as they can before resolving into excavation. Pre-excavation methods are especially useful when they combine aerial and ground survey techniques, as this can reliably indicate potential trench locations or possibly omit the need for excavation altogether.





TEACHER NAME		Lesson #
Holly Richardson Simmons		3
MODEL	CONTENT AREA	GRADE LEVEL
Taba	English/Language Arts	4-6
CONCEPTUAL LENS		LESSON TOPIC
Discovery		Rosetta Stone
LEARNING OBJECTIVES <i>(from State/Local Curriculum)</i>		
North Carolina Standard Course of Study English Language Arts RL.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. RL.4.10 By the end of grade 4, read and understand literature within the 4-5 text complexity band proficiently and independently for sustained periods of time. Connect prior knowledge and experiences to text. RL.5.10 By the end of grade 5, read and understand literature at the high end of the 4-5 text complexity band proficiently and independently for sustained periods of time. Connect prior knowledge and experiences to text. RL.6.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. RI.6.4 Determine the meaning of words and phrases as they are used in a text; analyze the impact of a specific word choice on meaning.		
THE ESSENTIAL UNDERSTANDING		THE ESSENTIAL QUESTION
<i>(What is the overarching idea students will understand as a result of this lesson?)</i>		<i>(What question will be asked to lead students to “uncover” the Essential Understanding)</i>
Curiosity Impacts Discovery		In what ways does curiosity impact discovery?
CONTENT KNOWLEDGE		PROCESS SKILLS
<i>(What factual information will students learn in this lesson?)</i>		<i>(What will students be able to do as a result of this lesson?)</i>

- What is the Rosetta Stone?
- The Rosetta Stone was discovered by accident.
- The history of the Rosetta Stone.
- The Rosetta Stone contains three different forms of writing.
- The significance of the ancient artifact.
- The original size of the Rosetta Stone was much larger.
- New vocabulary:
 - *Hieroglyphics-enigmatic or incomprehensible symbols or writing.
 - *Demotic-a cursive form of ancient Egypt script.
 - *Deciphered-succeed in understanding, interpreting, or identifying.
 - *Granodiorite- a coarse-grained, plutonic rock containing quartz and plagioclase, between granite and diorite in composition.
 - *Geologist- an expert in or student of geology.
 - *Archeology- the study of human history and prehistory through the excavation of sites and the analysis of artifacts and other physical remains.
 - *Decree- an official order issued by a legal authority.
 - *Stela- an upright stone slab or column typically bearing a commemorative inscription or relief design, often serving as a gravestone.
 - *Archaic- (of a word or a style of language) no longer in everyday use but sometimes used to impart an old-fashioned flavor.
 - *Incised- mark or decorate (an object or surface) with a cut or a series of cuts.
 - *Antiquities- an object, building, or work of art from the ancient past.
 - *Looting-steal goods from (a place), typically during a war or riot.

- Identify shared attributes.
- Categorize, through grouping, regrouping, listing, and labeling.
- Analyze the effects of discovery on curiosity.
- Work collaboratively in a group.
- Draw conclusions and make generalizations about curiosity.
- Draw conclusions and make generalizations about discovery.
- Support ideas about the cause and effect of discovery on curiosity.
- Support ideas about the cause and effect of curiosity on discovery.

GUIDING QUESTIONS

What questions will be asked to support instruction?

Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding

Pre-Lesson Questions:

During Lesson Questions:

Post Lesson Questions:

*What is discovery? *What is curiosity? *What is the Rosetta Stone? *What are some discoveries that you know about that were made in our county? State? Nation? *What world discoveries do you know that have been made?	* What inferences can you make about the text? *What kinds of connections are you making with this text and what you already knew about the Rosetta Stone? *What evidences are being shown in this text that would allow you to believe that the discovery of the stone had a huge world impact? *Where are you seeing curiosity in relation to the Rosetta Stone? *What words within the text did you discovery their meaning based on context clues?	*What were the discoveries made within this article? *How did the discovery by Bouchard lead to the curiosity of others. *What was the impact that the discovery of the Rosetta Stone had on man's curiosity to know more about the writings contained on the stone? *In what ways would the world be different today if not for the discovery of the Rosetta Stone? *In what ways does discovery impact curiosity?
---	---	--

DIFFERENTIATION

(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.

Content	Process	Product	Learning Environment
	The Taba Model allows for students to utilize critical thinking skills through the process of grouping and regrouping., listing, and labeling.	Students will create their own set of hieroglyphics and then write their own name using the new hieroglyphics.	

PLANNED LEARNING EXPERIENCES

(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)

Engage and Connect - This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.

This part of the lesson will begin with a video clip on the Rosetta Stone. Students will watch with intent about The Rosetta Stone and specifics about its history, origin, discovery, and the three scripts found on it, including hieroglyphics.

<https://www.khanacademy.org/humanities/world-history/world-history-beginnings/ancient/v/rosetta-stone-196-b-c-e>

<https://www.youtube.com/watch?v=ptXlmZzSVV8>

Pre lesson questions will be asked here:

***What is discovery?**

***What is curiosity?**

***What is the Rosetta Stone?**

***What are some discoveries that you know about that were made in our county? State? Nation?**

***What world discoveries do you know that have been made?**

Explore - In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.

LISTING

Next students will read a journal article from live science.com about the Rosetta Stone.

<https://www.livescience.com/59858-rosetta-stone-turns-218.html>

This article includes information about the Rosetta Stone, its origin, who discovered the stone, what was on the stone, the three forms of writing found on the stone, what the information on the stone means, and what happened to the stone. As students are reading, they are highlighting or underlining all people, places, or things that relate to the word discover.

After each student has read the article, the teacher will ask for a response from, "Name all the people, places, and things in this article that relate to the word discovery." The teacher will list all the answers on the white board so that all students may see them.

Explain - Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.

GROUPING AND LABELING

Students will now be divided into two groups of five.

Students will create smaller word lists based on similarities from the list on the white board. They will make at least four groups based on a key concept that relate to their words using at least twenty total words.

As students work through creating their different groups, the teacher will simply be observing their rationale for how and why they have created their groups in the manner of which they have chosen. The teacher may answer questions if they so should arise, but not lead the students in one direction or another.

Once the students have created their groups of four or more, they must now label each group based on the similarity in which they were grouped.

Students will share their labels and the words listed in each category. Students will explain why they used the words they did and why they grouped them as such.

Elaborate —Allow students to use their new knowledge and continue to explore its implications. At this stage students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them in new ways

The teacher will ask during lesson questions:

- * What inferences can you make about the text?**
- *What kinds of connections are you making with this text and what you already knew about the Rosetta Stone?**
- *What evidences are being shown in this text that would allow you to believe that the discovery of the stone had a huge world impact?**
- *Where are you seeing curiosity in relation to the Rosetta Stone?**
- *What words within the text did you discover their meaning based on context clues?**

SUBSUMING, REGROUPING, RENAMING

Students will use this time to regroup items. This will be a challenge as they must use the same words previously used, but the categories will be new (new labels). There can only be three categories with at least four words each in them. They may choose to use all of the words.

As in the grouping part of the lesson, the teacher will observe the students, but they are only going to be a sounding board and not a guide to an answer. Upon completion of all groups, the teacher will ask each group what new labels they used, what words fell under each label, and the justification of the new label and items contained within each label.

Evaluate: *This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.*

The teacher will ask post lesson questions which include:

- *What were the discoveries made within this article?**
- *How did the discovery by Bouchard lead to the curiosity of others.**
- *What was the impact that the discovery of the Rosetta Stone had on man's curiosity to know more about the writings contained on the stone?**
- *In what ways would the world be different today if not for the discovery of the Rosetta Stone?**
- *In what ways does discovery impact curiosity?**

The teacher will end this part of the lesson by allowing students to answer this question, based on this article, "How does curiosity impact discovery?" Students will be able to jot down their answer before sharing their responses with the class.

Activity: Students will first discuss the answer to the above question about how curiosity impacts discovery and how the curious nature of others led to the Rosetta Stone and if that had not happened, it is highly likely that they hieroglyphs would have never been translated. Students will use their resources (technology, books, etc.) to create their own hieroglyphic alphabet and assign a hieroglyph to each of the English alphabet letters. Next, they will use their new alphabet they created to write their name in their new hieroglyphics. Students will need to be able to explain why they chose each hieroglyph to coordinate with their letter and be able to share with the class.

Next, students will pick up where they left off yesterday on their performance task. They will on starting their photograph album as most of yesterday's tasks were to do research and start working on their product.

The town of Elkhville has just opened a new wing in their museum. The Elkhville Museum Curator is looking for artifacts to be placed in the new wing of the museum. The new wing will be titled, "Can You Dig It?" As a historian, who is innately curious and has studied the importance of other cultures, you have been

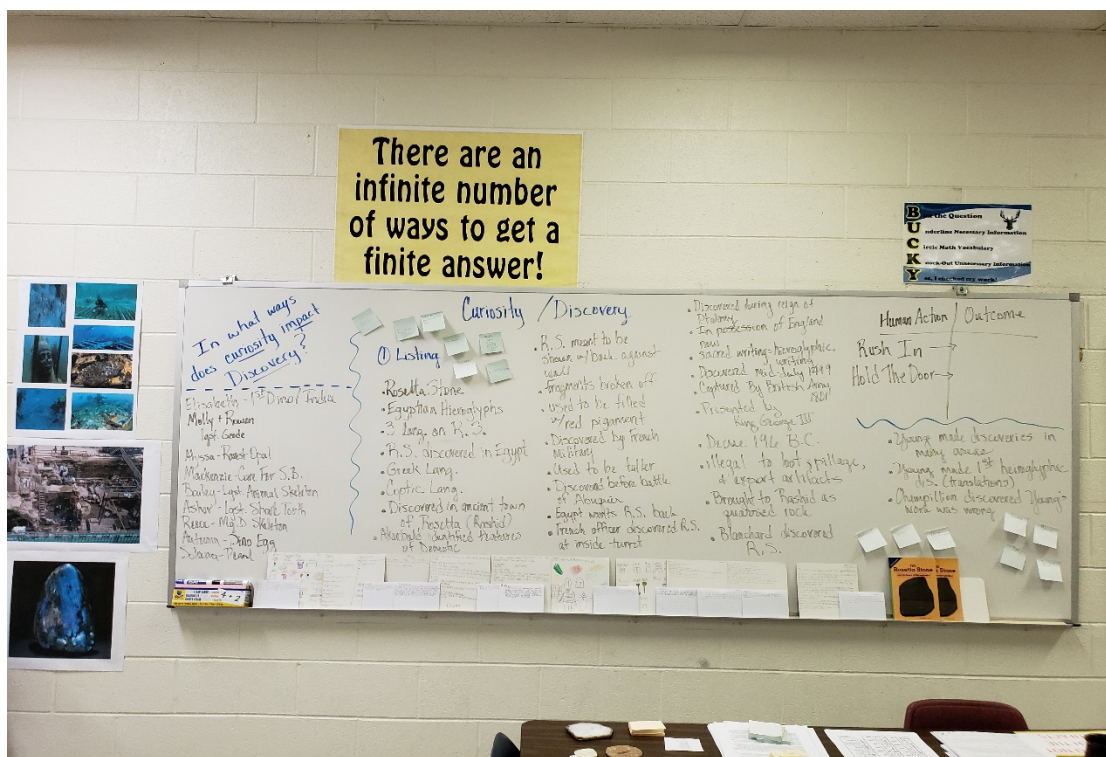
chosen to nominate several artifacts to be housed in the museum. Through research, you will discover a treasure trove of archeological finds.

Your task is to create a photo album of artifacts that were discovered from archeological digs in the United States. Be sure to include a description of the artifacts and why they should be included in the new wing. Your job also includes taking your photo album to the museum to present it to the curator and the Board of Directors explaining why these artifacts need to be a part of the new wing.

Before going on their “dig,” students will have an informal end of class conversation about things they are curious about and how their curiosities would lead to a specific discovery.

For the remaining time of the lesson, students will be going outside to “dig” through buckets of dirt to find and identify various stones. They will get to keep what they find.

TABA STUDENT LIST



Handout on Rosetta Stone

The "Rosetta Stone" — which was discovered in mid July 1799 during construction of a fort by a French military expedition at the town of Rashid (ancient Rosetta) — contains text written in Egyptian hieroglyphs, Demotic (a written script used by the Egyptians between the seventh century B.C. and the fifth century) and ancient Greek.

Because ancient Greek had been deciphered at the time of the Rosetta Stone's discovery, scientists were eventually able to decipher the other two unknown scripts, which contained the same text. It was discovered that the writing on the stone was a decree written in the year 196 B.C., during the reign of pharaoh Ptolemy V.

The [decipherment](#) of the two Egyptian scripts — hieroglyphs and Demotic — allowed other texts written by the ancient Egyptians to be translated and understood."

After the French surrendered to an army from the British Empire and Ottoman Empire, the stone was taken to Britain and is now in the British Museum. The left side of the [Rosetta Stone](#) has the words "captured in [Egypt](#) by the British Army in 1801," while the right side has the words "presented by King George III." Egypt has asked the British government to return the stone to Egypt.

The Rosetta Stone is 44 inches (112 centimeters) high, 30 inches (76 cm) wide, weighs about 1,680 lbs. (762 kilograms) and has a rough, unpolished backside, which suggests that the stone was meant to be shown with its back against a wall. The stone itself "is a granodiorite, similar in composition to the so-called 'black granite' from Aswan but somewhat finer-grained than most examples of that rock," wrote geologists Andrew Middleton and Dietrich Klemm in a paper published in 2003 in the Journal of Egyptian Archaeology. "It is most probable that the slab of rock used for the Rosetta Stone was obtained from the Ptolemaic quarrying sites to the south of Aswan," wrote Middleton and Klemm.

"What it records is a decree, the text of an agreement issued jointly by a king and a synod of ancient Egyptian clergy," wrote John Ray, a professor of Egyptology at Cambridge University in his book "The Rosetta Stone and the Rebirth of Ancient Egypt" (Profile Books, 2007).

The text on the stone says that a group of Egyptian priests agreed to crown Ptolemy V pharaoh of Egypt, and declare him a god, in exchange for tax breaks for temples and clergy. This "decree should be written on a stela of hard stone, in sacred writing, document writing, and Greek writing," the stone reads (translation by R. S. Simpson), and it should be set up "next to the statue of the king" in temples all over Egypt.

The phrase "sacred writing" meant hieroglyphic writing, and by 196 B.C. this script was used only by a small number of priests. "Hieroglyphs had been used for over 3,000 years and were now understood only by specialist priests: the archaic language written in them had been dead for many centuries," wrote Richard Parkinson, a curator at the British Museum in his book "The Rosetta Stone" (British Museum Press, 2005).

Demotic was an Egyptian script that was more commonly used by the Egyptians by 196 B.C., while the Greek language was brought over from Greece by the rulers of the Ptolemaic dynasty and was gradually becoming more widely used in Egypt. The kings of the Ptolemaic dynasty are descended from Ptolemy I Soter, a Macedonian who was one of [Alexander the Great's](#) generals. Alexander conquered Egypt in 332 B.C. and incorporated it into his empire. After Alexander died in 323 B.C., his empire quickly fell apart, and troops commanded by Ptolemy I Soter took control of Egypt.

"From surviving traces it seems possible that the signs [on the Rosetta Stone] were originally filled with a light red pigment," wrote Parkinson. "The incised signs were filled with white chalk early in its museum history, a procedure that was designed to make the

text more legible, and carnauba wax was applied to the surface to help protect it," wrote Parkinson.

Fragment of a much larger stela

The Rosetta Stone was not originally located at Rashid (ancient Rosetta) and is actually a fragment of a much larger stela that was originally displayed at a temple, possibly at the ancient Egyptian city of Sais.

"The original stone was considerably taller than it is today," Ray wrote in his book. "Its uppermost register would have been decorated with figures of the king and the gods of the temple where it stood. These are long gone," wrote Ray. "Of the hieroglyphic text which formed its second register, only a third is left." Fragments of the Demotic and Greek texts are also broken off and are gone. Parkinson estimates that when the Rosetta Stone was first created, it was about 59 inches (149 cm) in height.

The town of Rashid (ancient Rosetta) is located by the sea, and the Rosetta Stone would not have originally been placed there, wrote Parkinson. "The land on which that seaside town was built did not exist at the time of its carving, being the result of later sedimentation."

"The stela was probably erected at a more ancient site than Rashid, further inland," possibly the ancient city of Sais, which is fairly close by, wrote Parkinson. "The Rosetta Stone probably stood in the temple precincts of Sais for several centuries."

The temple that once held the stone may have been quarried centuries after the Rosetta Stone was created, and the stone may have been brought to Rashid as quarried rock.

Discovery and British capture

The use of Egyptian hieroglyphs and Demotic died out during the fifth century. The last known inscriptions were written on Philae, an island near the southern border of Egypt that has a temple complex.

Scholars have noted that the use of the two ancient texts declined as Christianity and Greco-Roman culture spread in Egypt. Greek and Coptic (an Egyptian language that uses the Greek alphabet) supplanted Egyptian hieroglyphs and Demotic.

The Rosetta Stone was found by a French military expedition during construction of Fort St. Julien. "The exact spot of discovery was apparently inside the outer wall, under what is now an internal turret," wrote Parkinson. A 23-year-old French engineering officer named Pierre Francois Xavier Bouchard (1771-1822) apparently made the discovery. "Bouchard immediately realized that it was part of a stela inscribed in three scripts," wrote Parkinson.

The exact date of discovery is uncertain, scholars have found. "The discovery of the Rosetta Stone seems to have been made in mid-July 1799, shortly before the land battle of Abuqir [sometimes spelled Abukir] on 25 July," wrote Parkinson.

The French force that Napoleon led to Egypt included a group of scientists, scholars and artists who studied and documented the country's human and natural history. "Their work culminated in the magnificent 'Description de l'Égypte,' whose volumes included antiquities, the modern state of the country and its natural history, and which were published in the years after the French withdrawal," wrote Parkinson. He noted that word spread quickly of the discovery of the Rosetta Stone, and copies of the inscriptions were sent to Paris.

By 1801, the French force was on the defensive, and the Rosetta Stone had been taken to Alexandria, one of the last remaining Egyptian cities under French control. By Aug. 31, this force had surrendered, and the British captured the stone and took it to the British Museum.

Parkinson noted that Col. Tomkyns Hilgrove Turner, who took the Rosetta Stone back to Britain aboard a captured French frigate, called the stone a "proud trophy of the arms of Britain — not plundered from defenseless inhabitants, but honorably acquired by the fortune of war." Over the past decade, Egypt has been requesting that the Rosetta Stone be returned to Egypt.

Modern-day military conventions and international agreements [prohibit](#) pillaging and looting during war, and the Egyptian government has long since made the looting and export of artifacts illegal. However, in 1801, when the Rosetta Stone was taken, these conventions, agreements and laws did not exist, and museums in Europe and North America now contain many artifacts that were looted or stolen in the 19th century or earlier.

Deciphering the stone

"In 1802 the Swedish diplomat J.H. Akerblad (1763-1819) published his identification of several important features of the Demotic, including the third-person pronouns, and correlated them with their Coptic equivalents, as well as isolating the Demotic equivalents of 'Egypt,' 'the temples,' 'many,' 'the king,' and 'Greek,'" wrote Parkinson. Coptic was still understood in the 19th century, and Akerblad and other scholars knew that Coptic was an Egyptian language with words whose meanings were similar to those in the Demotic script.

While Akerblad made important discoveries about the Rosetta Stone as early as 1802, the credit for the decipherment of the Demotic and Egyptian hieroglyphic texts goes to two scholars: Thomas Young and Jean-François Champollion.

Young was a polymath who made discoveries in mechanics, optics, anatomy, acoustics, physics, navigation and languages, wrote Ray. By the time the Rosetta Stone was discovered, Young was an established scientist with many patents and a well-known reputation. Champollion, in comparison, was a young, upstart Egyptologist who was struggling to become established in his field, wrote Ray.

Young focused his efforts on understanding the Demotic script — the cursive form of Egyptian hieroglyphs, wrote Ray. Scholars knew that the Demotic text represented letters and sounds that had the makings of an alphabet, but many scholars thought that hieroglyphs were more symbolic.

Young was able to decipher the hieroglyphic word for "Ptolemy" and determine that the hieroglyphic signs represented sounds and letters — the makings of an alphabet. "In 1819 he [Young] published in the Encyclopaedia Britannica an article which we can call state of the art, in which he offered equivalents for 218 Demotic words, as well as 200 hieroglyphic groups," wrote Ray, who noted that Young still believed that hieroglyphs only represented an alphabet when Greek or foreign words were used, and that the hieroglyphs were largely symbolic when they discussed Egyptian topics.

"He [Young] could not overcome his suspicion that the alphabetic elements that he had discovered were used only for foreign names and that the rest of the hieroglyphs could not be explained along those lines," wrote Ray.

When Champollion learned of Young's work, he realized that Young was wrong, and that hieroglyphs represented an alphabet that could be deciphered and understood. Champollion went to work matching the hieroglyphic text on the Rosetta Stone with the same words in Demotic and Greek, gradually revealing the hieroglyphic alphabet. He used his knowledge of Coptic to help with this task.

Champollion got copies of additional Egyptian inscriptions from other sites in Egypt and was able to read the name "Ramesses," a name used by several pharaohs. He was also able to read the name of the god Thoth, noted Parkinson in his book.

On Sept. 27, 1822, Champollion presented his findings at the Académie des Inscriptions et Belles-Lettres. "In this report Champollion described the alphabet that was used to write non-Egyptian names, and in the concluding pages he tentatively announced that he was certain that the phonetic signs were an integral part of 'pure hieroglyphic writing,'" wrote Parkinson in his book. In other words, the hieroglyphs represented a language with an alphabet, which Champollion had deciphered. In the upcoming decades, the findings in this report allowed ancient Egyptian texts to be translated and [Egyptian history](#) to be better understood.

Young was in the audience during the presentation and wrote a letter to Champollion congratulating him on his discoveries. While historians sometimes suggest that there was conflict between Young and Champollion, the letters that Young wrote show little evidence of it. The two scholars corresponded before Champollion's paper was presented in 1822 and for some time afterward. Ray noted in his book that Young had already made many discoveries in a variety of fields, and his place in scientific history was already assured. Young died in 1829 at the age of 56, while Champollion died in 1832 at the age of 41.

TEACHER NAME		Lesson #
HOLLY SIMMONS		4
MODEL	CONTENT AREA	GRADE LEVEL
Problem Based Learning	Social Studies Technology and Information	4-6
CONCEPTUAL LENS		LESSON TOPIC
DISCOVERY		Breakout Discovery
LEARNING OBJECTIVES <i>(from State/Local Curriculum)</i>		
Technology and Information: SI: Sources of Information IN: Informational Text 4.RP.1/5.RP.1/6.RP.1 Apply a research process as part of collaborative research. 4.SI.1/5.SI.1/6.SI.1 Apply criteria to determine appropriate information resources for specific topics and purposes. 4.IN.1/5.IN.1/6.IN.1 Analyze appropriate strategies when reading for enjoyment and for information. Social Studies: 6.G.1.2 Explain the factors that influenced the movement of people, goods and ideas and the effects of that movement on societies and regions over time (e.g., scarcity of resources, conquests, desire for wealth, disease and trade). English Language Arts: RL.4.4/5.4/6.4 Determine the meaning of words and phrases as they are used in a text, recognizing specific word choices that contribute to meaning and tone. RL.5.10 By the end of grade 5, read and understand literature at the high end of the 4-5 text complexity band proficiently and independently for sustained periods of time. Connect prior knowledge and experiences to text. RI.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. RI.4.2 Determine the main idea of a text and explain how it is supported by key details; summarize the text. RI.4.3 Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text. RI.6.4 Determine the meaning of words and phrases as they are used in a text; analyze the impact of a specific word choice on meaning RI.4.5 Describe the overall structure of events, ideas, concepts, or information in a text or part of a text RI.4.7 Interpret information presented visually, orally, or quantitatively and explain how the information contributes to an understanding of the text in which it appears. RI.5.10 By the end of grade 5, read and understand informational texts at the high end of the 4-5 text complexity band proficiently and independently for sustained periods of time. Connect prior knowledge and experiences to text MATH: Standards for Mathematical Practice 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. Apply and extend previous understandings of arithmetic to algebraic expressions. NC.6.EE.1 Write and evaluate numerical expressions, with and without grouping symbols, involving whole-number exponents		
THE ESSENTIAL UNDERSTANDING <i>(What is the overarching idea students will understand as a result of this lesson?)</i>		THE ESSENTIAL QUESTION <i>(What question will be asked to lead students to "uncover" the Essential Understanding)</i>
Curiosity Impacts Discovery		In what ways does curiosity impact discovery?
CONTENT KNOWLEDGE <i>(What factual information will students learn in this lesson?)</i>		PROCESS SKILLS <i>(What will students be able to do as a result of this lesson?)</i>

- When, where and how the Hope Diamond was discovered. (Kollur Mine, India, circa 1666)
- Why the gold rush of California happened. (in 1848, James Wilson Marshall was working on a sawmill when he found gold flakes and ultimately word got out and the gold rush began.)
- Who Piri Reis was and what he contributed to the world as a whole. (Created the first world map in 1513 and discovered in 1929.)
- The discovery of the new world may really not have been Christopher Columbus, but actually Leif Erikson.
- What the shipwreck Atocha was, who discovered it, and what it was carrying.
- Who the Wright Brothers were and what they contributed to aviation.
- When, where, how, and why King Tut's tomb was discovered.
- How Machu Picchu was discovered, when, and its significance.
- What the Dead Sea Scrolls are, when they were discovered, who discovered them, and why they were discovered by accident.
- Who Lucy was. Where, how and why was she discovered.
- How to solve problems using order of operations.

- Develop a relationship with peers in order to collaboratively and effectively with others in a group setting.
- Problem solve using research, prior knowledge, and group members abilities
- Modify process for problem solving when what is being done is not working.
- Identify when other's thought and theories are working instead of one's self theories.
- Problem solve using tools given in a thoughtful and productive way.
- Identify the problem solving skills utilized to solve the problem.

GUIDING QUESTIONS

What questions will be asked to support instruction?

Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding

Pre-Lesson Questions:

During Lesson Questions:

Post Lesson Questions:

• What is a vault? • What is a breakout? • What is Problem Based Learning? • What is curiosity? • What is discovery? • What is something you have been curious about and how to investigate to find the answer? • What is something you have discovered because you were curious? • In what ways does curiosity impact discovery? • What information to you obtain about a PBL? • What do you need to know in order to solve a problem? • What resources do you know you will have access to in order to solve the problem? • What duties do you foresee that there will be for each of you?	• What have you discovered so far? • Is this harder or easier than you had imagined prior to beginning this problem? • What tools are you utilizing? • What prior knowledge are you using? • What has been the hardest part of this process thus far? • What have you done to contribute to the process thus far? • In what ways have you worked collaboratively thus far?	• What problem solving strategies did you use to break out of the vault? • In what ways was the overall breakout easy for you as an individual and as a group? • In what ways was the overall breakout difficult for you as an individual and as a group? • How would you justify how you solved the problems of the breakout? • What tools did you use to solve the breakout? And how did you use them? • In what ways does curiosity impact discovery? • In what ways could you have done things differently in the beginning stages of the breakout and how they would have affected the outcome?
---	--	--

DIFFERENTIATION

(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.

Content	Process	Product	Learning Environment
The content spans fourth grade and above. Many students will have never been exposed to the information they will gain through problem solving, research, prior knowledge, and the prior knowledge of others in the group. The math standard is above grade level for all students as none of them have had sixth grade math.	The teacher plays an extremely limited role as simply a facilitator. The teacher should answer no questions during the breakout session part of the lesson. Students have never done a breakout in the classroom. This will be a new challenging process, which will cause students to step out of their comfort zone. AIG students will have to use their problem solving skills and also depend on each other to be successful.		

PLANNED LEARNING EXPERIENCES

(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)

Engage and Connect - This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.

This lesson will begin by showing a portion of a video on a breakout, what it is, and how to work through some of the breakout. Students will watch with intent about the process and materials used to solve the problems and ultimately, to be able to open the lock box. This video should pique the interest of the students and give them a little sample of what they may see as they go through the problem solving stages.

The video link is:

<https://www.youtube.com/watch?v=COSUvkpgJqo>

Upon completion of the video, the teacher will ask some of the pre lesson questions such as:

- **What is curiosity?**
- **What is discovery?**
- **What is something you have been curious about and how to investigate to find the answer?**
- **What is something you have discovered because you were curious?**
- **In what ways does curiosity impact discovery?**

The teacher will then begin with **step one** of Problem-Based Learning.

Step One: Problem Engagement-

The teacher will introduce the problem of the PBL/Breakout and discuss all the significant parts of solving the problem.

Students will take a few minutes to write down on an index card what challenges they think they will face with this activity after hearing the instructions and watching the video and whether they feel that they will be successful in their task set forth for them. They will need to include what they are curious about and what they think they will discover when they open the lockbox and break out of the vault. They will put this away for later use.

The teacher will ask pre lesson questions, such as:

What do you already know about to solve a problem?

What do you need to know in order to solve a problem?

What resources do you know you will have access to in order to solve the problem?

What duties do you foresee that there will be for each of you?

Step Two: Inquiry and Investigation-

The teacher will explain the rules of the PBL and how this particular one will work. The teacher will give the students limitations as to where in the school and classroom the two groups may search for the parts and pieces that will lead them to opening the lockbox. The teacher will also explain that their participation will be limited to handing them their next step in the PBL and going with them as they do their PBL as an observer.

Explore - In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.

The teacher will give students their backpack. It will have the following items in it:

Black Light
Laptop
Compass
Clip Board

In this phase students will have the opportunity to look through the back pack observing its contents. Students will need to talk about the duties and assign a person/s to each duty. EG: Backpack carrier, writer/recorder, compass user, laptop user, etc.

STEP THREE-Problem Definition:

Students will need to use this time to restate the problem presented in their own words (Rephrase the problem in the form of a question using their own words). The problem being getting out of the vault.

Students will use this time to form strategies about the process in which they think they will take with the tasks ahead. Students will need to be mindful of each other's strengths and weaknesses. The students will have large post it notes to write down their roles and why they were chosen based on strengths and weaknesses.

Explain - *Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.*

In this phase, students will participate in a breakout. They will be "locked" in a large vault. Students will have specific instructions on how to work their way through the stages of the breakout. Even if they see clues for example that go to another stage, they will not be allowed to "skip" clues. They must stay in the correct order. The breakout will likely last 45 minutes to an hour, depending on how difficult or easy they find the steps to be. For earlier finishers, those students will work on their presentation for the later part of the class period.

After about thirty minutes, students will stop and we will have a short intermission of sorts where the during lesson questions will be asked. They are:

- **What have you discovered so far?**
- **Is this harder or easier than you had imagined prior to beginning this problem?**
- **What tools are you utilizing?**
- **What prior knowledge are you using?**
- **What has been the hardest part of this process thus far?**
- **What have you done to contribute to the process thus far?**
- **In what ways have you worked collaboratively thus far?**

Elaborate —*Allow students to use their new knowledge and continue to explore its implications. At this stage students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them in new ways*

Students will continue to explore and work through the breakout to completion.

STEP FOUR-Problem Resolution:

Once both teams are complete and have “broken out of the vault,” they will present their problem resolution to the class. (There is one vault and both teams will be trapped there.) They will take turns explaining what happened during their discovery process. They will need to include what they were originally curious about and what they discovered through their curiosity. They should include what roles each person played and how they contributed as an individual and as a cohesive group.

Evaluate: *This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.*

STEP FIVE-Problem Debriefing:

Students will reflect on their learning. They should express what challenges they faced and how they faced these challenges as an individual and as a group. Students should also express what they would have done differently next time and how this lesson will help them in the future.

The post lesson questions will then be asked. They are:

- **What problem solving strategies did you use to break out of the vault?**
- **In what ways was the overall breakout easy for you as an individual and as a group?**
- **In what ways was the overall breakout difficult for you as an individual and as a group?**
- **What problems did you face as a team and how did you solve them?**
- **What tools did you use to solve the breakout?**
- **What could you have done differently in the beginning stages of the breakout and how they would have affected the outcome?**

Students will be assessed through a writing assignment. Students will retrieve their index card from the very first stages of the lesson. Students will need to write and reflect on if their initial thoughts as an individual and what they were curious about came to fruition. They will need to reflect and write whether what was in the lockbox was actually in there, or if it was something else based on their initial thoughts. Last, they will need to reflect and write about *“How did our curiosity impact our discovery?”*

For the duration of the class, students who did not present their performance task yesterday will need to do this today. Then, students may return outside to find sharks teeth, fossils, and gems.

Power Point of Breakout



Oops, someone left the door to the vault open. Amazing WORLD DISCOVERIES are gone! You must go into the multi-room vault to assess what jewels, artifacts, and treasures are missing and "BOOM" the door to the vault slams shut. You must make your way out of here and find the artifacts! Your only way out is to use your critical thinking skills and curious nature, which will help you find the special keywords that will open the door and set you free. Remember, the vault is made up of many rooms. Are you ready? Follow the clues to find the secret words that will allow you into the lock box to get the key to escape... Get out of here quick, so you may find and return the WORLD DISCOVERIES to their rightful owners before they are lost forever.

LIST OF ITEMS FOR EACH GROUP.

Students will need:

- Black Light
- Laptop
- Backpack
- Compass
- Answer Sheet
- Scissors
- Clipboards (5 per group)
- Pens/Pencils
- Tape

A-MAZE-ing

[FILE:///ECSFS1/DOWNLOADSSTAFF\\$/SIMMONSH/DOWNLOADS/MAZE%20\(1\).PDF](FILE:///ECSFS1/DOWNLOADSSTAFF$/SIMMONSH/DOWNLOADS/MAZE%20(1).PDF)

- Students start in the gym with an Egypt picture maze. They work through the maze from the "S" START, to the "X", which is the end. After they complete the maze, they will be given another clue directed by the teacher, which will be located on the back of the picture. The teacher will tell them to turn the paper over when one of the students gets through the maze. On the back of the picture, it will say, "X marks the spot." They must use their critical thinking skills to find the "X" in the room which will be located on a cabinet door in the back of the room. Inside the door, is the next clue.

(This must be in both Mrs. Coley and Mrs. Simmons classroom.)

I'M THE MAP!!!



From the inside of the cabinet, students will get their first clue:

*I'm the first one.

*Approximately one third of me survives.

*It shows the Coasts of Europe and North Africa and the coast of Brazil with reasonable accuracy.

*You use these to travel the *world*.

They will get a paper from the cabinet about Piri Reis along with the clue 1 information sheet.

STUDENT INFORMATION: CLUE 1

- *I'm the first one.
- *Approximately one third of me survives.
- *It shows the Coasts of Europe and North Africa and the coast of Brazil with reasonable accuracy.
- *You use these to travel the *world*.



1 1 2

PIRI REIS AND NEXT CLUE

- Before solving the puzzle, students will read about Piri Reis, an explorer and cartographer who mapped out the coast of South America and Africa as well as the top of Antarctica which would not formally be discovered until some three hundred years later.
- There will also be a puzzle that the teacher must give them when they finish and must be put together where students must locate the "X" and where the next clue is hidden.
- The pieces direct them to Coach Edwards room.

THE GOLDEN MEDALLION

- The next clue is located in the last room on the hall. Students will find the "X." Inside will be a basket with the next task.
- First, students will read about the discovery of an ancient medallion.
- They will then receive a paper about a Jewish Golden Medallion found. They must fill in the blank: JEWISH MEDALLION
- Students will then have to solve the math algorithms. I will have a sheet with the word GEMDAS which explains the order of operations to solving as some students may not have done this in math yet.
- Next, they must put the medallion together. Once complete, students will tape together their medallion.
- Once they complete that, they will turn their paper over as directed by the teacher. When they turn it over, there will be a message written on the back. It will say, "Return from whence you came."

STUDENT INFORMATION: CLUE 2

- WHAT WAS FOUND AT THE TEMPLE MOUNT?

2

1

JEWISH MEDALLION

JEWISH MEDALLION

Exert from: <https://www.nbcnews.com/sciencemain/jewish-medallion-found-amid-golden-treasures-near-temple-mount-8C11122569>

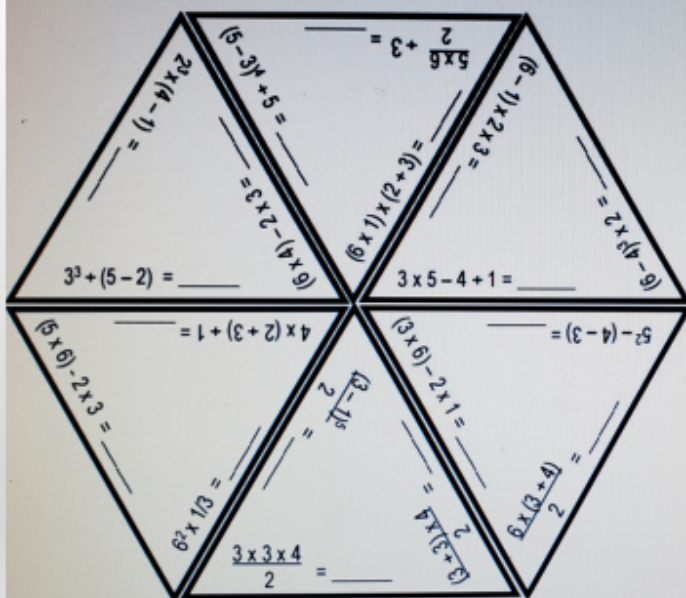
Archaeologists have uncovered a 1,400-year-old hoard of gold coins and jewelry — plus a medallion marked with Jewish religious symbols — at the foot of Jerusalem's Temple Mount, a holy site for three world religions.

"This happens only once in a lifetime," said lead archaeologist Eilat Mazar of the Hebrew University of Jerusalem.

The 4-inch-wide (10-centimeter-wide) medallion is the chief prize: Etched into the golden surface are images of a seven-branched menorah, a ram's horn and a Torah scroll. Thirty-six coins, along with pieces of gold and silver jewelry, also were found at a site just 50 yards (meters) from the southern wall of the Temple Mount.

The artifacts were buried in two places amid the ruins of a public structure from the late Byzantine era, around the year 600. The medallion was found buried in a small depression of the structure's floor.

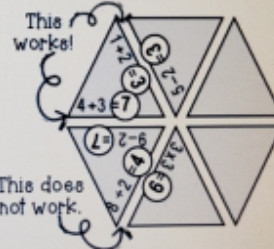
Mazar and her colleagues assembled the pieces of the archaeological puzzle into a story that explained why the treasures were left behind: They surmised that they were abandoned in the wake of the Persian conquest of Jerusalem in the year 614.



© 2017 Darlene Anno © 2017 Pamela Kranz All Rights Reserved

Help Fix the Medallion &
Escape the Mummy's Tomb!

1.  apart.
2. Solve the 18 problems.
3. Build the hexagon so that every shared interior edge has the same answers facing each other.



HINTS ABOUT THIS

- Follow order of operations to solve:
GEMDAS
- Graciously, Excuse, My, Dear, Aunt, Sally
- You must solve in the order of GEMDAS!
- G-grouping, which could be: braces, brackets or parenthesis.
- E-Exponents:
 $5^2 = 5 \times 5 = 25$
- M/D-Multiplication OR Division-
Whichever comes 1st!
- A/S-Addition OR Subtraction-
Whichever comes 1st!



GO WEST YOUNG MAN!

GO WEST YOUNG MAN THE DISCOVERY OF GOLD AND THE GOLD RUSH OF 1848-CALIFORNIA, USA

- Students will receive their next clue after they complete the medallion and return to their first room. The clue is simply, GO WEST Young Man. They will have to find the West wall in the classroom. There will be no sign indicating it is the West wall, but there will be given a compass. There will be a piece of paper on the West wall of the classroom. It will be a blank piece of paper with words written in "invisible ink." Students will have to use a black light to find the secret message. The secret message will tell them to go to go to the bookshelf and find the book on the gold rush. They will read pages 1-2 and fill in clue 3: Gold Rush of 1849.

STUDENT INFORMATION: CLUE 3

_____ 1 _____ 2 _____

If you have this correct, your teacher will give you clue 4!

STUDENT INFORMATION: CLUE 4

- "She is Hope."
- "She was discovered."
- "She is more valuable than gold."
- "She's a lady's best friend."

_____ 2 _____ 2 _____ 2 _____ 2
IS VALUABLEE
2 2

If your teacher says your answer is correct, you may make your way to the gym. Find the "x" for it marks the spot.

STUDENT INFORMATION: CLUE 5

You won't read about him making the discovery. In your history lessons, you will read about a different person. Don't believe everything you read. They say it was old CHRISTOPHER himself, but reality is, it wasn't him. It was our friend from Iceland that likely discovered our stomping ground. Who was he?

Who might have discovered America other than Christopher Columbus?

1

2

If this is correct, go to the next page. Put all the information you have gathered together to solve.

I CAN COME FROM ANYONE CURIOUS ABOUT THE
UNKNOWN. I CAN BE DISCOVERED ACCIDENTALLY,
OR BY WELL THOUGHT PLANS. I COME FROM ALL
OVER THE WORLD. WHAT AM I?

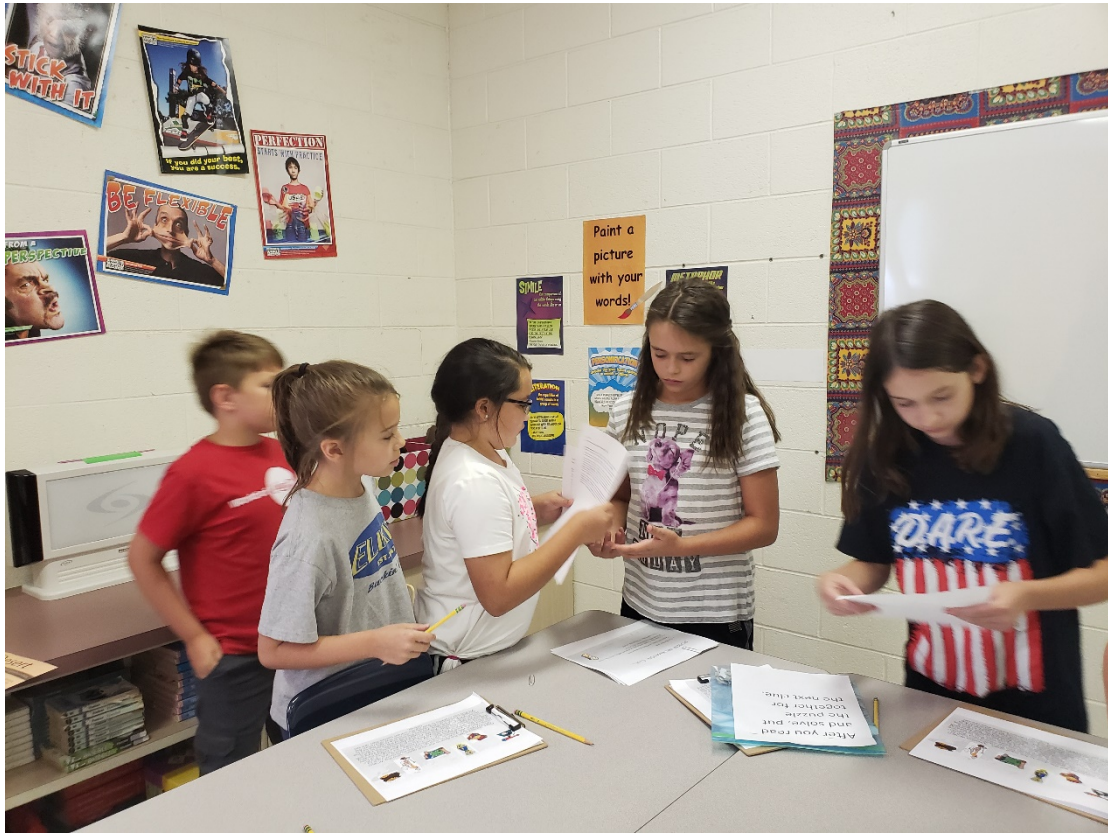
C

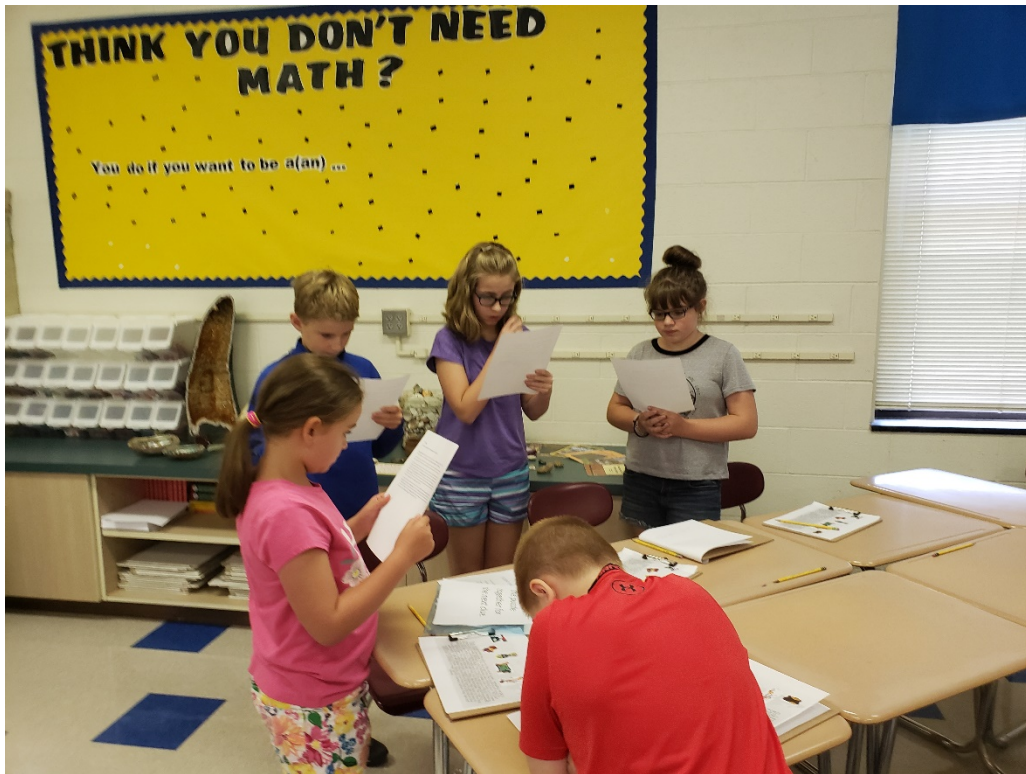
Once you have successfully answered the above words, hustle to the place where music is made. Unlock ONE lock to find your next clue...to unlock, you must.....

multiply nothing times nothing!

Pictures from PBL







Resources

Websites

This website talks about the power of curiosity in all people and how to stay curious as you advance in age.

Tartakovsky, M. (2014). *The Power of Curiosity: 3 Strategies for Staying Curious*. *Psych Central*. Retrieved on February 25, 2018, from <https://psychcentral.com/blog/the-power-of-curiosity-3-strategies-for-staying-curious/>

This is a website that talks about a book written by Mario Livo. Its main purpose is to determine what makes people curious.

Livo, M. (2017, July 11). Why? About the science of curiosity. Retrieved from <https://www.nytimes.com/2017/07/16/books/mario-livio-why-what-makes-us-curious.html>

This website focuses on what drives curiosity in people. It also focuses on the book by Mario Livo, "Why? About the science of curiosity."

Courage, K. H. (2017, July 28). What drives our curiosity? Retrieved from https://www.washingtonpost.com/opinions/what-drives-our-curiosity/2017/07/28/6fb43b94-6568-11e7-8eb5-cbccc2e7bfbf_story.html?noredirect=on&utm_term=.8748da3be4e9

This website is a great place for teachers to start looking for archaeological discoveries. They can be researched elsewhere, but with over 200 discoveries, it is a great starting point.

Wikipedia. (n.d.). Archaeological discoveries by year. Retrieved from https://en.wikipedia.org/wiki/Category:Archaeological_discoveries_by_year

Books

This book is about the gold rush of California and was used for the PBL Breakout.

Holub, J. (2013). *What was the Gold Rush?*. Scholastic.

This book was given to the students to keep and to take home and read. It is about the English and other writing systems.

McFadden, M. (2000). *Alphabets and Other Writing Systems*. Pearson Foresman.

This book was given to the students to keep and to take home and read. It is about the discovery of the Myan civilization.

McClellan, A. (2005). *Meet the Maya*. Pearson Foresman.

This book was given to the students to keep and to take home and read. It is about the discovery of the Rosetta Stone and the secret of hieroglyphics.

Cutler, E. (2005). *The Rosetta Stone and the Secret of Hieroglyphics*. Pearson Foresman.

This book was used to identify rocks and minerals on the daily dig.

Zoehfeld, K. W. (2014). *Rocks and Minerals*. National Geographic.

This book is about Kind Tut and was a good read for students.

Sabuda, R. (2008). *Tutankhamen's Gift*. Harcourt.

Videos

This video is a great opening video when teaching the Rosetta Stone. It has much information about the Rosetta Stone and its significance. It recreates the discovery of the stone in a way students would find appealing. In essence, it brings it to life.

Youtube. (2012, January 7). The Rosetta Stone. Retrieved from <https://www.youtube.com/watch?v=ptXlmZzSVV8>

This video gives detailed information about the Rosetta Stone, showing all the facets of the stone from a tourists perspective.

The Kahn Academy. (n.d.). Rosetta Stone. Retrieved from <https://www.khanacademy.org/humanities/world-history/world-history-beginnings/ancient/v/rosetta-stone-196-b-c-e>

This video is about King Tut. It recreates the discovery of the tomb of King Tut and the finding of his sarcophagus. It also shows historical photographs of the discovery. Students get to see the process of the discovery and what happened after its discovery.

Free School Youtube. (n.d.). King Tut and His Treasures for Kids: Biography of Tutankhamun, Discovery of his Tomb. Retrieved from <https://www.youtube.com/watch?v=dmkDPaHSBzg>

This video is about the workings of a breakout in the classroom. It is used to show students how the breakout works.

Breakout Edu. (2016, May 27). Breakout. Retrieved from <https://www.youtube.com/watch?v=COSUvkpgJqo>

Pictures

This picture shows a great view of an archeological dig. It has so much going on in the photograph and gives students much to think about in terms of digging, curiosity, and discovery.

Brink, C. (n.d.). View of Archaeological Dig Site. Retrieved from https://www.flickr.com/photos/carsten_tb/285048313

Articles

This article is about a Jewish Medallion found at the Temple Mount. It is one of many Jewish Medallions found, but this one has more than one religious undertones, specifically based on where it was found. This article was used for the PBL breakout.

NBC News, A. (2013, September 10). Jewish medallion found amid golden treasures near Temple Mount. Retrieved from <https://www.nbcnews.com/sciencemain/jewish-medallion-found-amid-golden-treasures-near-temple-mount-8C11122569>

This article is about the Hope Diamond, its history, and its significance. It was used for PBL breakout.

Smithsonian. (2012). History of the Hope Diamond. Retrieved from <https://www.si.edu/spotlight/hope-diamond/history>

This article is about Leif Erikson and the beliefs that he reached North America long before Christopher Columbus. This article was used for the PBL Breakout.

Klein/History, C. (2013, October 8). The Viking Explorer Who Beat Columbus to America. Retrieved from <https://www.history.com/news/the-viking-explorer-who-beat-columbus-to-america>

Components	Does Not Meet Standard	Sometimes Meets Standard	Meets Standard	
Introduction (5)	Rationale and population description are not present (0)	Rationale and population description are incomplete (1-2)	Rationale and population are adequately defined (3-4)	R defin
Goals & Outcomes (5)	Goals and Outcomes are not present (0)	Goals and Outcomes are incomplete (1-2)	Goals and Outcomes are adequately presented (3-4)	Goa ar
Assessment Plan (5)	An assessment plan is not included (0)	An evaluation plan is included, but is incomplete. (1-2)	An adequate evaluation plan is included (3-4)	A
Lesson Plans (30)				
General (5)	No lesson plans are included (0)	Lesson plans are included, but are incomplete, do not encompass 10 hours of instruction, do not include all elements, or are not appropriate for the gifted. (1-2)	Lesson plans are included and adequately cover 10 hours of instructional time, include most/all elements, and are adequately differentiated for the gifted. (3-4)	Le: a inst appi
	A concept(s) for the unit is not identified (0)	A concept(s) is identified, but is not adequately connected to the content of the unit. Inconsistent focus throughout lessons. May diverge from original concept. (1-7)	A concept(s) is identified that is appropriately connected to the content of the unit. The concept remains the focus throughout most of the unit. (8-9)	A cc dem ic le: d
Conceptual Lens (10)	Lesson activities do not include a “hook” to engage students. (0)	A few of the lessons include details for engaging and/or “hooking” the students. (1-7)	Many of the lessons include “hooks” to engage students. Lesson activities are student-centered and encourage active participation by students. (8-9)	E “h inco
Student Engagement (10)	No evidence of questioning within plans (0)	A few of the lessons have planned questions, but limited in depth and complexity, are not connected to the conceptual lens, and/or do not require higher level thinking. (1-2)	Many of the lessons include planned questions that are appropriate for gifted learners and help students explore the identified concept(s). (3-4)	Qi pl leve discu
Questioning (5)				
Performance Task (10)	Performance task with rubric is not included (0)	A performance task and rubric are included, but are incomplete. It is unclear how the task will allow students to demonstrate their understanding of identified concept, skills, and knowledge. The rubric may also lack clarity. (1-7)	An adequate performance task with rubric is included. It is evident that the teacher will sufficiently be able to determine students’ understanding of concept, skills, and knowledge through the planned task. (8-9)	A inc dei iden skill is

Unit Resources (5)	References not included (0)	An incomplete list of references is included (1-3)	An adequate list of references is included (4)	A incl
TOTAL				

Total: 60/60 Holly Simmons

Comments: Your unit was designed to arouse curiosity in students. The unit of study was designed to meet the needs of gifted learners and engage them by piquing their imaginations and curiosity. A job well-done!