OVERVIEW

This investigation was designed to be completed in order from Level 1-Level 5, however, each level can be adapted to serve as a standalone activity depending on your learning objectives - turn-key lesson vs. teaching tool. As students complete each level they collect tools to complete their digital, paleontologist toolkit and earn a code to unlock the next level. When students complete all 5 levels they receive their NHMU Junior Assistant Paleontologist Certificate. We recommend students work with a research partner (supports deeper learning), though, they can also work on their own.

What students will do: They will analyze and interpret data from the fossil record that documents the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past. (Utah SEEd Standard 7.5.2 & NGSS Standard MS-LS4-1) They will use this work to answer their research question: How did *Triceratops* evolve?

What students will figure out: *Triceratops* are one of the last species of ceratopsia to have survived until the mass extinction event in 66 Ma. They are a part of a family of dinosaurs called Chasmosaurinae who lived at the same time as their cousins, the Centrosaurinae, which are both part of a bigger family called Ceratopsidae. The Chasmosaurinae were not only the last group of ceratopsians left at 66 Ma, they experienced a rapid evolution that happened over time. Ceratopsidae have only been found in the Northern Hemisphere. And, their relatively rapid evolution happened over a relatively short period of time while they were on the island of Laramidia in what makes up Western North America today.

CENTRAL QUESTION: HOW DID *TRICERATOPS* EVOLVE?

TIME: 2.5-4 HOURS

LAB LEVEL 1: SORT (30-45 MINUTES)
- Who's got that trait?

LAB LEVEL 2: SELECT (20-30 MINUTES)
- Who is related to whom?

LAB LEVEL 3: CHART (30-45 MINUTES)
- How are they related?

LAB LEVEL 4: CONNECT (30-60 MINUTES)
- Where did they live?

LAB LEVEL 5: SHARE (40-60 MINUTES)
- How did *Triceratops* evolve?

MATERIALS:

- One computer per two students
- One computer with the ability to broadcast material onto a screen visible by the entire class
- Printed or digital ***Research Assistant Notebooks*** for students to record notes
- Whiteboard or other surface for teacher to use while facilitating class discussions
- Additional resources:
    - *Student Learning Assessment Tool*
    - *Student Rubric for Presenting Arguments*
    - *Student Rubric for Assessing Learning Outcomes*

GETTING STARTED

This investigation provides support for teaching the content standards, along with the nature of science/how science is done, developing claims, working with evidence, and using reasoning skills. (Hint: Review the *Student Learning Assessment Tool* for opportunities to foster and assess learning with your students.)

BEFORE CLASS

- **Review this instructional guide** and determine your student learning goals, which sections you want students to work on for each class period you are using the investigation, and the areas which your students will need guided instruction.
- **Review the following** recommended strategies for optimizing student learning outcomes.
    - Working in pairs ensures that every student has the opportunity to share their ideas. As students progress though the investigation, you may want to combine pairs of students into small groups to provide more practice sharing and responding to the ideas of their peers.
    - Build a shared vocabulary for the learning tasks by identifying key vocabulary beforehand and encouraging students to use these words often. Model correct usage, if needed. *(Vocabulary can be found within the Toolkit at each level of this investigation. A PDF can be found under Support Materials for this investigation.)*
    - Think about places you can activate prior knowledge by prompting students to relate new concepts to a familiar context.
    - Think about how to integrate the Research Quest investigation with other curriculum-aligned activities.
    - Create and engage student interest in the investigation by expressing your enthusiasm and/or describing your personal interest in this investigation. You may also want to emphasize that students will be working with authentic materials on research questions that scientists actually address in their work.
    - Introduce students to sentence stems that reinforce flexible thinking and help students verbalize their thought processes:
        - "I see..."
        - "I think..."
        - "I wonder..."

- **Key Vocabulary:** audience, absolute dating, biogeography, ceratopsia, ceratopsians, Ceratopsidae, Chasmosaurinae, clade, diversity, elevator pitch, fossil record, frill, geologic column, Laramidia, morphology, node, ornate, paleogeography, paleontologist, phylogenetic tree, radiocarbon dating, relative dating, rock layers, species diversity, stems, storyline, strata, stratum, taxonomy, topographical, traits

GETTING STARTED

(CONTINUED)

SET UP

- Make copies of the *Research Assistant Notebook* (RAN) for each of your students, or use the editable PDF or Google Doc versions with your desired digital classroom platform (ie. Google Classroom, Canvas, etc).
    - The RAN is provided as a tool to help students track their thinking and to refer back to when they communicate their research. This is an important strategy that helps make critical thinking visible for students.
- Navigate to www.researchquest.org and login using the email address and password you used to create your Research Quest account. Then, click on the "My Account" tab at the far right of the navigation bar. You will find your Student Access Code.
- Have your unique Student Access Code and URL link [www.researchquest.org/student/] ready for students. It is important you have students use this particular URL and access code to get into the investigations for FERPA & COPPA compliance.

IN CLASS

- Provide a brief overview of the investigation and introduce the daily objectives to the class. These can be drawn from the section overviews.
- Provide each student with a copy (printed or digital) of the *Research Assistant Notebook* (RAN).
- Arrange students into pairs, one pair per computer. Instruct them to navigate to the URL [www.researchquest.org/student/] and enter your unique Student Access Code.
- Students will be directed to a landing page with several investigations to choose from. They should choose: *Triceratops* Traits.
- Once logged in, students will be on the introduction page for this investigation. They can read the overview and start at your direction.

STANDARDS ALIGNMENT:

Utah SEEd Standard

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

NGSS Science and Engineering Practices, Disciplinary Core Ideas, Crosscutting Concepts

- **Analyzing and Interpreting Data:** Analyze displays of data to identify linear and nonlinear relationships. (MS-LS4-3)
- **Patterns:** Patterns can be used to identify cause and effect relationships. (MS-LS4-2) Graphs, charts, and images can be used to identify patterns in data. (MS-LS4-1),(MS-LS4-3)
- **LS4.C: Adaptation:** Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes. (MS-LS4-6)

ELA Standards

- **Writing Standard 2:** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
- **Speaking and Listening Standard 4:** Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation
- **Speaking and Listening Standard 5:** Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

HOME

(10 MINUTES)

OVERVIEW

Students meet the team and are introduced to the ceratopsian family fossil record they'll be working with throughout the investigation.

ASSESSMENT

In this section, the instructor may find it useful to focus on the following critical thinking skills, defined in more detail in the *Student Learning Assessment Tool* located in the Support Materials page for this investigation.

- **Flexible Thinking:** Be prepared to use the evidence collected to generate possible answers to the central question.
- **Consider having students complete a self-evaluation** before they start the investigation. Then, at the end, they can do a post-investigation self-evaluation to see how their thinking and perceptions shifted. You can use *Student Rubric for Assessing Learning Outcomes* found on the Support Materials page for this investigation.

	STUDENT ACTION	TEACHER ACTION
LANDING PAGE	Watch the video (2:27 minutes)	• Direct students' attention to the following before beginning the video: *In this video you'll be introduced to University of Utah Paleontology student Savhannah Carpenter and Dr. Mark Loewen, world renowned paleontologist at the Natural Museum of Utah and the University of Utah. They will talk about the fossil record and why it's important for understanding our past. They'll also explain that Triceratops belongs to the ceratopsian family, which are the central focus of this investigation. You'll learn about how to collect your digital, paleontology field kit and earn your Natural History Museum of Utah Junior Assistant Paleontologist certificate.* **Available Bonus Content:** • Meet the Team: Meet Savhannah and Dr. Mark Loewen • In the Field: Learn how field teams prep for their field work

MAIN MENU

	STUDENT ACTION	TEACHER ACTION
LANDING PAGE	Select Lab Level 1 to begin or whatever level you left off to continue your investigation.	• If this is the first visit to the investigation direct students to select Lab Level 1 - Sort: Who's got that trait? • If they're returning to the investigation, have students select the next Lab Level they need to complete. • **NOTE:** Lab Levels 2-5 require a password to continue. The password is revealed when the previous level is completed. Level 2: traits, Level 3: family tree, Level 4: relative dating, Level 5: geography

LAB LEVEL 1: SORT

Who's got that trait?
(30-45 MINUTES)

OVERVIEW

In this level students gather data by making detailed observations of five common ceratopsian traits. The purpose of this level is to provide students with baseline knowledge of ceratopsian traits and how traits provide evidence for of the ways organisms are related.

ASSESSMENT

In this section, the instructor may find it useful to focus on the following critical thinking skills:

- **Observations:** Collect data to classify trait characteristics of fossils.
- **Connections:** Identify patterns in the data that demonstrate shared traits.
- **Interpretations:** Use observations and data to predict how different ceratopsians may be related.

Suggested Warm-up Activity: Model for students how to make detailed observations by selecting classroom objects to compare. You can do this as a guided group warm-up. Example: Compare a pencil with a pen by describing the shape, color, ends or any features of your choice.

	STUDENT ACTION	TEACHER ACTION
LANDING PAGE	Watch the video (1:05 minutes) Listen for the traits you'll be examining and collecting data about.	• Direct students' attention to the following before beginning the video: *In this video Savhannah and Dr. Mark will talk about the physical traits of the fossils they find and how they help paleontologists learn more about these dinosaurs. You'll learn about the traits you'll be examining and collecting observational data for the Lab Level 1 activity.* **Available Bonus Content:** • Paleo Prep: Examine the traits and relationships of animals found in a pet-shop to create a phylogenetic tree. • In the Field: Our investigation host, Savhannah Carpenter, shares parts of her expedition with a paleontology team. • Field Kit: Level 2 earns a GPS and a rock hammer.

LAB LEVEL 1: SORT

Who's got that trait?
(CONTINUED)

	STUDENT ACTION	TEACHER ACTION
ACTIVITY	Make detailed observations of each dinosaur fossil to classify five key traits for each ceratopsian species provided. You'll examine 5 traits: ▪ Nose shape ▪ Nose horn ▪ Eye horn ▪ Frill length ▪ Frill style Use the color coded buttons to make your selection. Submit your observations when you finish classifying each trait. Download your trait data. If you won't be able to download and save your work you may choose to use this version of the Traits Observation Chart.	Some of the features will be similar or require close examination, so encourage students to use the pop-up images and on-screen tips to make detailed observations of each ceratopsian in order to distinguish the differences between traits. Students should collaborate with a research partner to talk about their observations and discuss how to classify the traits. This is a great opportunity to practice scientific discourse by having students share their findings and reasoning for traits with mixed results from the class. Then have a class vote on which trait is most likely based on their evidence. **NOTE:** The five basic traits selected for this activity are narrowed down from hundreds of traits that paleontologists look for when making these trait observations. This allows students to engage in real world processes without getting bogged down in data processing. *Function tips: See Appendix 1 ▪ The chart screen is locked until students submit all 5 traits. ▪ Shortcut to chart screen change the last word: </chart.php> ▪ Optional fillable "Traits Observation Chart"
REFLECTION	Based on the traits you analyzed, which ones seem to show a relationship between these dinosaurs? How might individual traits help you to see sub-groups within these ceratopsians? (Optional: Sketch your thoughts) **NOTE**: The code to unlock Level 2 is "**traits**".	Encourage students to select one trait as a comparison with other traits: If a ceratopsian has a [Selected Trait] are they more likely or less likely to have a [Comparison Trait]? Repeat with the other traits. The goal is to have students examining their data for patterns that can help show relationship between species based on shared traits. Have students discuss their reflection question with a partner whether they're working independently or with a research partner. **NOTE:** Students should be able to find at least one pattern in their trait observations. There are three whose close relationship is easily identified because they actually share all five traits. Ceratopsians #3, #5, #11 all have the same trait classification: 1-R, 2-L, 3-S, 4-S, 5-M. *Level 1 Teacher Key is found in *Support Materials*

LAB LEVEL 2: SELECT

Who's related to whom?
(20-30 MINUTES)

OVERVIEW

Students use the principles of Occam's Razor to select the phylogenetic tree that provides the simplest explanation for how these dinosaurs are related based on shared traits. Students will assess and compare possible phylogenetic trees (based on their observations from Level 1). By the end of this level students will be able to identify the phylogenetic tree that offers the simplest explanation.

ASSESSMENT

In this section, the instructor may find it useful to focus on the following critical thinking skills:

- **Comparisons:** Identify patterns in the data to discriminate between different phylogenetic trees.
- **Interpretations:** Use observations and data to determine which phylogenetic tree provides the simplest explanation for how these ceratopsians are related.

	STUDENT ACTION	TEACHER ACTION
LANDING PAGE	Watch the video (1:37 minutes) Listen for the methods and strategies paleontologists use to analyze their observation data.	▪ Direct students' attention to the following before beginning the video: *In this video Savhannah takes you inside the NHMU paleontology lab where she shares strategies of computational thinking and using the principles of Occam's Razor which paleontologists use to visualize their observation data as phylogenetic trees.* **Available Bonus Content:** ▪ Paleo Prep: Examine the traits and relationships of animals found in a pet-shop to create a phylogenetic tree. ▪ In the Field: Our investigation host, Savhannah Carpenter, shares parts of her expedition with a paleontology team. ▪ Field Kit: Level 2 earns a GPS and a rock hammer.
ACTIVITY	There are 4 computer generated phylogenetic trees to choose from. Use your traits observation data and the strategies provided in the video to select the tree that offers the simplest explanation for which tree represents the most likely relationship between ceratopsian species.	To support students thinking about how these ceratopsians could be related, have students review their notes. What grouping of traits provides a clear pattern? Do you notice a pattern in the branching? Students should collaborate with their research partner to talk about their observations and determine which phylogenetic tree is most likely. For students who need additional support/scaffolding use the *Ceratopsian Profile Cards*, found in *Support Materials*. They can be printed and students can use them as a tangible resource to evaluate proposed groupings of ceratopsians. **NOTE:** The *Ceratopsian Profile Cards* act as a key for the rest of the investigation and are only recommended for students who need additional support. Using these cards may remove some of the mystery and rigor from the rest of the investigation. *Level 2 Teacher Key is found in *Support Materials*

LAB LEVEL 2: SELECT

Who's related to whom?
(CONTINUED)

	STUDENT ACTION	TEACHER ACTION
RECAP VIDEO	Watch the post-activity video of Lab Level 2. (0:42 min.) Listen for how you paleontologists analyze phylogenetic trees and to make their predictions.	Direct students' attention to the following before beginning the video: *In this video Savhannah will provide a guide for how you should analyze your phylogenetic tree. She will give directions for the predictions you should make as you reflect on what you've learned so far.*
REFLECTION	Take a close look at your phylogenetic tree. What patterns do you notice in the evolution of ceratopsian traits? What factors do you think drove those changes? Explain your reasoning. **NOTE**: The code to unlock Level 3 is "**family tree**".	As students reflect they will make inferences based on what they've learned about traits and phylogenetic trees. Have students discuss their reflection question with a partner whether they're working independently or with a research partner. **RAN Tip:** As students complete the Observation Analysis, encourage students to discuss or record which shared traits are driving the way these dinosaurs are grouped - across all species and within discrete branches.

LAB LEVEL 3: CHART

How are they related?
(20-30 MINUTES)

OVERVIEW

Students analyze a phylogenetic tree with radiocarbon generated dates added in order to support student analysis of the diversity of the ceratopsian family. They will make observations, describe the number of various ceratopsian species that lived at different times, and look for patterns that show how ceratopsians were changing over time. By the end of this level students will have created a graph that visually displays ceratopsian diversity and identified patterns that may explain how *Triceratops* evolved.

ASSESSMENT

In this section, the instructor may find it useful to focus on the following critical thinking skills:

- **Interpretations:** Create a graph to visualize ceratopsian species variation. Use the graph to discern the trends in population traits.
- **Connections:** Make connections between different data points and patterns of change.

	STUDENT ACTION	TEACHER ACTION
LANDING PAGE	Watch the video (1:52 minutes). Listen for clues to determine the age of a fossil and strategies for analyzing change over time.	▪ Direct students' attention to the following before beginning the video: *In this video Dr. Mark explains how paleontologists determine the age of a fossil. He will share strategies for analyzing change over time. Then Savhannah will explain your next lab activity where you will identify patterns that can help you explain how ceratopsian traits and the diversity of their family changed overtime.* **Available Bonus Content:** ▪ Dig Deeper: Learn more about relative dating through a short graphic comic. ▪ In the Field: Join Dr. Randy Irmis, NHMU Chief Curator and Curator of Paleontology, shares photos from an expedition where they uncovered a Tyrannosaurus Rex, which lived alongside Triceratops. ▪ Field Kit: Level 3 earns probes, chisels and brushes.

LAB LEVEL 3: CHART

How are they related?
(CONTINUED)

	STUDENT ACTION	TEACHER ACTION
ACTIVITY	Examine the number of species that were living during the age of ceratopsians. Graph this data in the chart provided. If you won't be able to download and save your work you may choose to use this version of the "Ceratopsian Diversity Graph." *Hint: Count the number of ceratopsians that lived during each given time period.*	As students examine their ceratopsian diversity graph, have them look for patterns in the number of different ceratopsians. A question you could ask: What does the graph tell you about ceratopsian diversity? Encourage students to make predictions about why diversity changed. Their diversity exploded and then quickly declined, what natural forces and phenomena may have contributed to this? Students should collaborate with a research partner to talk about their observations. They could work together to develop their prediction and generate new questions. **NOTE:** Students may need some scaffolded support (teacher or peer modeling) to be able to read the phylogenetic tree with radiocarbon dating added. As an added scaffold, students could use the 'Ceratopsian Profile Cards' and put them in order from oldest to youngest. *Level 3 Teacher Key is found in *Support Materials*
RECAP VIDEO	Watch the post-activity video of Lab Level 3. (1:53 min.) Listen for your reflection question.	Direct students' attention to the following before beginning the video: *In this video Dr. Mark reviews three key points to help wrap up this activity. How does his thinking compare with yours? Did you learn something new? Something that impacted your own thinking?*
REFLECTION	Take a close look at your phylogenetic tree and graph. What patterns do you notice in the evolution of ceratopsian traits over time? What phenomena do you think drove those changes? Explain your reasoning.	As students reflect they will make inferences based on what they've learned about traits and phylogenetic trees. Have students discuss their reflection question with their learning partner whether they're working independently or with a research partner. **NOTE**: The code to unlock Level 4 is "**relative dating**".

LAB LEVEL 4: CONNECT

Where did they live?
(30-60 MINUTES)

OVERVIEW

Students compare annotated deep time maps and ceratopsian profiles to interpret biogeographical patterns. They will analyze three different map formats; layers with ceratopsian profiles, thumbnails that provide a snapshot of our changing earth, and an animation showing how the earth changed over time. By the end of this level students should make a connection between trait diversity and the geography of where ceratopsians lived. They should be able to reason about how natural laws drove these changes as they recognize these forces operated in the past as they do today.

ASSESSMENT

In this section, the instructor may find it useful to focus on the following critical thinking skills:

- **Compare:** Make connections between different data points.
- **Interpretations:** Using data from multiple sources, including maps and profiles, to identify biogeographical patterns.

	STUDENT ACTION	TEACHER ACTION
LANDING PAGE	Watch the video (2:01 minutes) Listen for tips to tackle Lab Level 4.	▪ Direct students' attention to the following before beginning the video: *In this video Savhannah and Dr. Mark provide background for the geographical influence of a changing earth. They will explain what you should look for in the Lab Level 4 activity.* **Available Bonus Content:** ▪ Dig Deeper: Learn more about biogeography and forces that impact trait diversity. ▪ In the Field: Randy Johnson, an NHMU volunteer, shares parts of his expedition where he discovered a new dinosaur. ▪ Field Kit: Level 4 earns a Swiss Army knife, Leatherman and paraloid.

LAB LEVEL 4: CONNECT

Where did they live?
(CONTINUED)

	STUDENT ACTION	TEACHER ACTION
ACTIVITY	Begin by examining the world map. Notice where ceratopsian fossils have been found. Then, examine three different world map formats to identify patterns and make inferences about the forces that influenced *Triceratops*' evolution. After, you'll zoom in on several maps of the Northwestern Hemisphere, where there are a concentration of ceratopsian fossil finds. Look for patterns that can help explain how *Triceratops* evolved. *Hint: Click on the hot spots in the layers map to view profiles for the species that were found. These may help you identify patterns.*	Students will begin exploring world maps then move to maps of the Northwestern Hemisphere where a key land area known as Laramidia existed during the Cretaceous period. As students examine what the world looked like at various time periods, have them take note of what the world looked like in comparison with where ceratopsians lived. Encourage students to look for patterns in the distribution of land, particularly where ceratopsians lived, and their traits. Encourage students to make predictions about why diversity changed. Their diversity exploded and then quickly declined, what could explain this phenomena? What natural forces can trigger these changes in both geography, diversity, and, to go deeper, morphology? Students should collaborate with a research partner to talk about their observations. They could work together to develop their reasoning for how geography influenced ceratopsian evolution. **NOTE:** Students should spend time evaluating the dinosaur profiles that can be found by clicking on the markers on the map. Looking for patterns that emerged over time can help students develop evidenced based reasoning for their research question. These profiles can, also, be downloaded and used for reasoning and communicating findings. *Level 4 Teacher Key is found in *Support Materials*
RECAP VIDEO	Watch the post-activity video of Lab Level 4. (3:31 min.) Listen for tips on how you can make connections about the factors that impacted ceratopsian evolution.	Direct students' attention to the following before beginning the video: *In this video Savhannah and Dr. Mark share their insights about why it matters that ranges changed and what that typically means in the natural world - how these changes can impact evolution, especially traits and diversity. Compare your thinking with theirs. What natural forces were at play that resulted in the changes you observed; to the earth and to ceratopsians?*
REFLECTION	How do you think Earth's changing geography influenced the evolution of ceratopsian dinosaurs? Share your thinking.	Before students complete their reflection consider having a class, small group, or partner discussion: ▪ What connections, if any, did you make between ceratopsian evolution and their changing landscape? ▪ Did you record your ideas? Keep track of your questions? (If not, do so now.) **NOTE**: The code to unlock Level 5 is "**geography**".

LAB LEVEL 5: SHARE

How did *Triceratops* evolve?
(40-60 MINUTES)

OVERVIEW
Students use a modified scientific presentation poster template to communicate their investigation findings.

ASSESSMENT
In this section, the instructor may find it useful to focus on the following critical thinking skills:

- **Evaluate:** Use the evidence collected to make an evidence-based claim that explains how Triceratops evolved.
- **Communicate:** Create a scientific poster to communicate findings.

	STUDENT ACTION	TEACHER ACTION
LANDING PAGE	Watch the video (0:52 minutes) Listen for information about communicating your findings from this investigation.	• Direct students' attention to the following before beginning the video: *In this video Savhannah explains why it's important for scientists to communicate their findings. Listen for instructions for how you'll present your findings from this investigation.* **Available Bonus Content:** • Dig Deeper: Learn more about the process for ways scientists communicate their findings. • In the Field: Our paleontologists head back to the lab for more research and bring their fossils with them. • Field Kit: Level 5 earns markers, baggies and a tape measure.
ACTIVITY	Use one of the provided templates to create your own presentation to teach others about the evolution of *Triceratops* and their larger family, ceratopsia. *Hint: Use the provided graphic elements and your own downloads to engage your audience.*	The templates provide scaffolding for students. Encourage them to use their notes from their printed or digital RAN as they create their presentation. Students should collaborate with a research partner to develop and present their findings. We recommend that they do a peer review to get and provide feedback to one another before they submit their final presentation. Consider using the Utah Portrait of a Graduate Competencies Rubric (p.33) for additional scaffolding in quality communication.
REFLECTION	Reflect on your work. How did your research help you improve your critical thinking, collaboration, and communication skills? Share your thinking.	Consider having students complete a self-evaluation on the work they did throughout the investigation. Additionally, consider conducting a pre-investigation survey for students to do a self-evaluation. Then, compare the pre & post self-evaluations and share the results with students. This can provide opportunities for rich discussion about the skills and content learned throughout the investigation.

WRAP-UP

	STUDENT ACTION	TEACHER ACTION
RECAP VIDEO	Watch the video (1:29 minutes) Listen for how you'll receive your NHMU Junior Assistant Paleontology certificate.	Direct students' attention to the following before beginning the video: *In this video Savhannah and Dr. Mark recap the amazing work that you've accomplished throughout this investigation. They'll explain how you'll receive your NHMU Junior Assistant Paleontology certificate.*
CERTIFICATE	Fill in your Name and click "Download" to receive your NHMU Junior Assistant Paleontology certificate	To take their work further, consider clicking Dig Deeper to explore the extension activities.