

Unit 1 Lesson 1 Plan

Days - a really vague guess of how long it would take a quick to average student to complete, for those who finish early we need to think about a long term assignment for them to work on, this will be a student directed project that can continue as long as needed.

Optional - extra material that we may want to include if it seems like it is needed

Intro: 2 days

- Option 1: [Discuss how Jupiter helps protect Earth from Asteroids](#)
- Option 2: [Alvarez article from UC Berkeley on Actively Learn](#)

Essential Question: "How have asteroid collisions influenced the evolution of life on Earth and Earth's history? How might a modern day impact have an effect on life on Earth?" This will be the guiding question for the class QFT. ([Possible slide show for QFT](#))

Students will work in groups to generate question and in the end there will be a class document with all the questions. Students can pick from questions of their own, those of the group, or those of the whole class for their final project.

Part 1: 2 days including discussion (through part 1 of the project we will all be working together as a class, past part 1 they will work at their own pace)

[Fossil record key concepts worksheet](#). Worksheet where students use resources to answer questions about geologic history and fossils.

- After a discussion with a chance to correct answers.
- Optional: Rock collaboration worksheet to look at how we can look at rock layers in multiple areas to piece together a history. (I have this as a print out, not digitally)

Part 2: 4 days

Students research fossil record. Students pick a question from the QFT or other question related to the fossil record, asteroids, or mass extinctions.

- They need to get the question approved by the teacher, partly to make sure the question makes sense and partly to make sure there is variety in the class.
- Students collect research, either in their own words citing the source or by directly quoting the source. They will turn in the research and sites as the assignment.
- Optional: [Rock correlation worksheet](#)
- Optional: [Teach EEI on extinctions](#).

Part 3: 2 days

Students work on organizing their writing. They will be looking for patterns of cause and effect, sequencing, and classifying to organize data and pick the best thinking map for each section. (Give them the types of thinking maps to help them decide.)

- They will make a thinking map for each paragraph.

Part 4: 3 days not including scheduling of presentations

Students will use their map to write their paper and then present the most important part to the class as a slide show/video/or other approach.

- 1) Consult thinking map
- 2) Write by paragraph (start with body and then intro and conclusion)
- 3) Students edit (suggestion read aloud to a partner or even to yourself to help you edit it)

So, the quickest I see this take is two weeks from start to finish. We will probably need to allow more time, but at a point if the student is not done writing it will need to be completed at home.