

LESSON OVERVIEW

Name: Alyssa Park **Grade:** 4 **Subject:** Science/Social Studies, leading to ELA **Location:** Gardnerville, NV

Context & Purpose:

This lesson came halfway through a science unit ("Nevada's Past, Present and Future") focusing on earth and physical sciences that includes several Nevada social studies standards (history and geography). The QFT lesson itself was intended to give students an opportunity to learn more about Hoover Dam and its impact on Nevada's geography, as well as an opportunity to learn more about its construction and functions (flood control and providing hydroelectricity).

Lesson Procedure:

This lesson was spaced out more than normal to adapt to doing it completely asynchronously due to school closures.

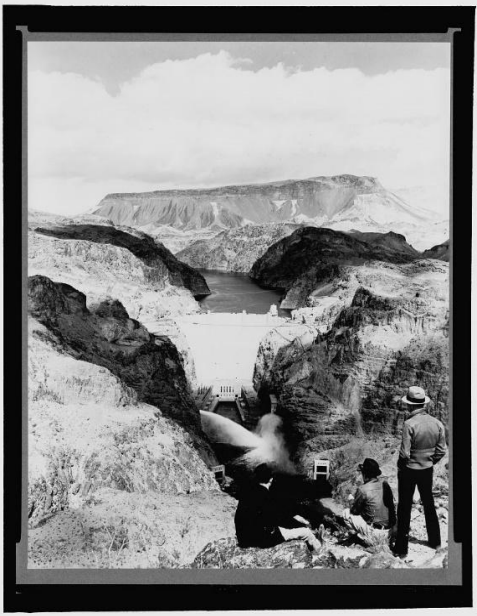
1. (1 day) Students will individually **produce questions** and submit to a google form.
2. (2 days) Students will **improve questions** in small groups using [google sheets](#).
3. (2 days) Students will **answer 3 closed ended questions** and share with the class via [google slides](#) to build collective background knowledge. Students will use a selection of books on [Epic!](#) to research these answers.
4. (1 day) Students will **prioritize questions** using two sets of instructions.
5. (~2 weeks) **Next Steps**
6. (1 day) Students will **reflect on their learning**

Next Steps (i.e. how student questions will be used after the QFT):

- When prioritizing their questions students will choose between two options: questions that would help them write a historical fiction story, or questions that would help them write an informational article about the Hoover Dam.
- Students will research their priority questions using [a playlist of resources](#) I curated and the class slides.
- Students will use research as the content and priority questions as the structure of a final (narrative or informative—according to how they prioritized) writing piece. [Here are all their final products!](#)

LESSON OUTCOME

Question Focus:



[Boulder Dam, between Arizona and Nevada, Apr. 1938. Power plant discharge from two 84-inch needle valves as seen from the high mountain downstream from the dam. Fortification mountain is in the background](#)

<https://www.loc.gov/item/2017700864/>

Student Questions: Bolded= priority

- **Where is this?**
- **When was the dam built?**
- **How was this built?**
- **How did they build buildings in the water?**
- Can people visit the building?
- **When was the dam built?**
- Is there a basin?
- What year was this photo taken?
- Do people live in that building?
- What are the people doing?
- Who built the dam?
- How much water does the dam hold?
- **How many gallons of water does the dam let out?**
- Why is there no color?
- **Is that the Hoover Dam?**
- Is it still there?
- If the dam breaks will it hurt any people?
- Is it near the Grand Canyon?
- Are those guys working?
- **Why is this dam created?**
- Why is the water coming out of the rocks?
- What if there are fossils under there?
- If this was an old picture from a long time ago, then how did they take the picture?
- **What if the water rises will the dam break?**
- Will the dam still be there in a hundred years?
- When would the earth move to make that place separated?
- What if there was a bridge instead of a dam?

TEACHER REFLECTIONS

Reflect on your QFocus. This might include the process through which you decided, or it might speak to how students responded.

In the very early planning stages of this project, I thought I would create a QFocus on the town of St. Thomas, NV, which was flooded by the Lake Mead reservoir several years after Hoover Dam was completed. I thought about having students create an argument for or against the construction of Hoover Dam, using a claim-evidence-reasoning structure. I abandoned this idea once I reconsidered the standards I wanted to cover through the QFT and its next steps; this QFocus wouldn't create curiosity around the science and social studies standards I was planning for. After dropping the St. Thomas idea, I first looked at the Selected Library of Congress Resources for [Nevada Primary Source Set](#), specifically the ["See Boulder Dam"](#) primary source. I personally liked the art style of the image, but upon further consideration, I thought that students might focus questions around the "Union Pacific Railroad" phrase on the poster, which would detract from the purpose of the lesson.

I am indebted to Connie Williams, a teacher-librarian I worked with, for helping me to navigate the Library of Congress website and search engine. She sent me a collection of images and written primary sources. I really like [the QFocus image I used](#) because it shows the enormity of the dam, the massive manmade reservoir behind it, water discharging from the needle valves after passing through the turbines, and people in the foreground. Using the highest resolution file available allowed me to create a [Prezi](#) so that students could zoom in on the smaller details of the source: the power lines, the road leading to the dam, the cars on top of the dam, and the water discharging from the needle valves. I loved the dynamic format of the Prezi and how students could navigate between the full image and the zoom in images at will, and am excited to use Prezi in the future to share the QFocus.

I practiced asking questions about the photograph, imagining myself as a 4th grader who had never seen the Hoover Dam and who lacked any knowledge about it, a student who might have been to Hoover Dam or have seen it (or other structures like it), etc. in order to guess at the questions students would produce. I was satisfied with the questions I thought of and anticipated students asking those questions, as well as questions that I hadn't asked.

Which student questions stood out to you? Why?

I was impressed at the quantity of questions that students asked (approximately 275!) [Here is the spreadsheet with all the questions students asked](#). Students asked questions that focused on the big picture, as well as the zoomed in pictures. They asked questions about what they could see and also about what they *couldn't* see. Who built it? Where does the water come from? Some questions that stood out to me were questions about the age of the photograph- How old is this picture? When was this picture taken? Was it in the 1900s? If this was an old picture from a long time ago then how did they take the picture? I am glad students asked about the age of the photograph. I wanted them to be curious about the timeline of the construction of the dam.

How did you tailor the standard QFT process, if at all? Describe.

I modified the QFT process in two ways:

- 1) I included an extra step in between improving and prioritizing questions in which students answered 3 of their closed-ended questions. In my experience, when students are in person, at least a few students have some basic knowledge about the content of the QFocus, which they discuss with their group when they go about classifying and prioritizing questions. I wanted my students to have an opportunity to build a little background knowledge about Hoover Dam prior to the actual prioritization step so that they could choose questions to research that would help them accomplish the writing project they selected. This step would be a substitute for the conversations I typically overhear in class.
- 2) For the prioritization step, I tried something new- I gave two sets of prioritization directions. I wanted to give students a choice between the two types of writing because student choice is an important part of our culture.

OPTION 1: You are an author writing a **historical fiction story** about the construction of Hoover Dam. You have to do some research so your story is realistic. Choose the 3 questions that, once you have answered them, will help you get the information that you need to write a story about the construction of Hoover Dam from the perspective of someone whose life was affected by it.

OPTION 2: You are a historian writing an **informational article** for students about the construction of the Hoover Dam. You have to do some research so your article is accurate. Choose the 3 questions that, once you have answered them, will help you get the information that you need to write an article that will teach students about how Hoover Dam was built.