**Backman Elementary SLCSD – NGS Geo-Inquiry Unit Final Template**

1. **Geo – Inquiry Questions:**

* What are the differences in adaptations in animals from Lake Stansbury to today?
* How have the amount of resources decreased for Paiute tribes since being displaced to reservations?
* How were 1934 people affected by their earthquake? How did they respond and how does that affect us today?
* How have bird populations changed from Lake Stansbury to the current Great Salt Lake?
* What would happen to the economy of Utah if the Brine Shrimp disappeared?
* If the Causeway was taken down or moved, how could it affect the people around the Great Salt Lake?
* How much money would the government of Utah lose if the Great Salt Lake was to dry up?
* What would happen to the people of Utah if the Great Salt Lake dried up?
* How much will it cost the salt industry if the Great Salt Lake dried up?
* How is the Tundra Swan’s migratory, breeding, and feeding patterns important to the Great Salt Lake ecosystem?
* How do brine shrimp affect plants, animals, and people in the GSL community?
* How does landfill pollution affect the Great Salt Lake plant and animal life?
* What are the positive and negative effects of salt water on brine shrimp in the GSL?
* How does the Great Salt Lake affect the surrounding environment?
* How would the environment change if the lake dried out?
* How does air pollution affect the plants, animals, and rocks around the lake?
* Does the amount of salt in specific places affect the animals and life surrounding it?
* Is it possible to remove all the salt from the Great Salt Lake and how would/does that affect the environment?

1. **Description:** In this unit students will become more locally, regionally, and globally aware of or connected to issues. Students will explore the lenses of the geo-inquiry cycle. They will conduct research, collect data, and create a call to action. Students will understand the interactions between living and non-living things where they will become more connected to our impact on society and ecosystems. Students will do this in an experiential education setting.
2. **Standards:**

* Science – 6.4
* Social Studies – 4.1, 4.2, 4.3
* Language Arts – RI.6.7, W.6.2, W.6.7, W.6.8, W.6.9, SL.6.3
* Math – SP.2, SP.4, RP.3b, RP.3c

1. **Content Area Focus:** Ecosystems – interactions as well as stability and change in ecosystem. Statistics and probability – creating and analyzing graphs and data. Understanding current global issues while creating potential solutions to determine human rights and responsibilities.
2. **Describe the process:** As a grade level team, we introduced the topic using a shared field trip experience from earlier this school year. We looked at all the lenses and discussed how we could apply this work for each step of the geo-inquiry process. We then introduced the Great Salt Lake to students and had them start thinking about the lenses to ask their geo-inquiry questions. We also used our example of Silver Lake (the previous field trip) to practice creating and evaluating geo-inquiry questions. This work all happened before we started the ASK phase.

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| **Phase** | Outline Steps During Phase (include frontloading and differentiation, use of specific strategies, etc.) | Resource links to organizations, visual or audio media, or other resources | Tips for teachers: What do teachers need to know that you now know after your first run with this GI unit? |
| **ASK** | Step 1 – after frontloading about the Great Salt Lake with pictures and a little bit of information, we had kids write down all and any questions they had.  Students picked their favorite question they had come up with.  We then worked as a 6th grade team to group students into small groups. These groups were organized based around the lenses and the questions they chose.  Students then used the flow chart to build a geo-inquiry question from their question. | The PowerPoint we created. (Attached copy).  The geo-inquiry flow chart. | Use the tips we have included in our PowerPoint.  Leave the pictures up and let students ask questions.  Give students enough info to find interest, but not too much info. They will raise their hand and ask questions. Encourage them to write those questions down. Do not answer them yet. |
| **COLLECT** | For a little over a week, students researched their topics. They found information they could use for their field trip experience. Students also asked qualifying questions about their research topic and found those answers.  Students then wrote emails, letters, interview questions and surveys to use on the field trip.  Students wrote emails to experts in the field, local community members, and teachers. | Students used laptops, notebooks, and worksheets 5, 6, 7, 10, 11, 12, and 13.  University of Utah directory link for local experts.  Friend of The Great Salt Lake pamphlets.  Westminster College – Great Salt Lake Institute  Frequently Asked Questions about The Great Salt Lake book - https://geology.utah.gov/popular/general-geology/great-salt-lake/commonly-asked-questions-about-utahs-great-salt-lake-lake-bonneville/ | We went up to the Great Salt Lake as a team to plan out where students could go, who students could talk to, and what they could ask during a pre-trip plan.  Each student had a computer, which made research a lot easier.  Be flexible and open to change. If students are excited about it and answering their geo-inquiry question, let them flow through the work. |
| **CREATE** | Students are creating PowerPoints, overlay maps, and migratory maps. They are also looking up pictures they can use either in a poster or PowerPoint presentation. | Computers, poster boards, and black and white maps.  https://www.nationalgeographic.org/education/classroom-resources/mapping/ | This step seemed to take more guidance. Most of our students do not use these resources as often, so we needed to frontload and guide more in this process.  We previously worked on a country project. Students had to create maps and graphs with this project. This was a huge help for our students. |
| **VISUALIZE** | Students will take the work they came up with in the create stage and put it into a final presentation. We are allowing posters, PowerPoints, and movies. | Computers  IMovie  Tri-fold posters  PowerPoint  Createagraph.com | Students have an advisory course where many of the have learned technology like IMovie and PowerPoint. Students in library also create PowerPoints. Having this integration of technology though school makes a big difference. We have also done a lot of graphing projects in math and science. Again, this is very helpful pre-work. |
| **ACT** | Our plan is to have students present their work to their parents, families and other community members during our 6th grade promotion on June 4th. Students will present their work to the other students of Backman Elementary on June 3rd to practice for their promotion. | Gym space to present  Computers with presentations  Posters  Phone calls and flyers sent home  3x5 notecards | Doing a mock practice the day before they present to the school. Students can present in front of their classes to feel comfortable on step at a time.  Students will create talking points on notecards for their mock practices and day of presentations.  One third grade class is also working on a geo-inquiry project. They will present to those third graders as well. |

1. **School and district support:** District support and our Geo-Inquiry cohort with the binder, all day PD with Chris Hines from National Geographic, and the financial support the Nat Geo grant gave us for supplies to make this field trip happen. Admin support at Backman Elementary to allow us to pursue our goals and big ideas with this project. Our school’s family and school support team for phone calls home and family contact. Class Dojo was helpful for school-wide stories and newsletters home.
2. **Description of how our cross-curricular team worked together:** We are lucky enough to have a full time science teacher on our team. She was helpful in bringing science material and standards to meetings. We also worked together as a team to build PowerPoints (on Google slides). We freely added to that document when we saw the need. Each teacher had a team they were responsible for and took care of those kids’ learning projects. Students were put into small groups (3-5 kids) that were mixed with the whole sixth grade. We pre-trip planned by going to the location of the field trip and creating a game plan. Our team is open and willing to discuss issues and worries, and problem solve together. We met on 4 scheduled professional development days where we worked through most of the planning. We also met weekly in our PLC meetings and discussed needs, worries, and plans. #dreamteam