

**Unit Topic: Landforms**

**Overall lesson topic/title: Exploring Landforms with Google Earth**

**GLCEs for this lesson:**

- **S.IA.02.14** Develop strategies and skills by gathering information about the features of the earth (e.g. books, Internet, ask an expert, observation, investigation, technology tools)
- **S.RS.02.16** Identify technology used in the exploration of the earth's surface
- **S.RS.02.11** Demonstrate how the earth's surface features can be represented through various illustrations, performances, models, and exhibits

**Rationale:**

- This activity is in our Explore Patterns with Technology. This explore lesson fits between two lessons where students will be explaining what they have seen and formulated patterns. Students will be using technology (iPads and computers) to explore Google Earth to deepen their understanding of landforms by searching and looking at landforms from around the world.

**Connection:**

- The previous lesson is about forming patterns after being given books that talk about landforms. Having students look at landforms using technology will be one further challenge to their patterns to make sure that these other landforms around the world fit into their pattern. After this lesson, we will share and compare, as a whole group, our patterns that we have devised during the activity. This lesson is another step to make sure patterns are correct by providing more examples to challenge their prior pattern.

**Materials & supplies needed:**

- computers
- iPads
- worksheet with landforms

**Formative Assessment:**

- Students will be completing a worksheet when looking at these landforms, they will be used for formative assessment. The worksheet contains an area for observations and data taken and the expectations for the level of notes taken will be explained before they begin. I will look for complete sentences and complete ideas taken. Specifics and details will be expected at a second grade level.

**Connections with Funds of Knowledge:**

- My pre-assessment funds of knowledge revealed that my students have little to no real world experiences of landforms. There is hardly any travel with students and they have no experiences seeing these landforms. This lesson will help students have an opportunity to see landforms from around the world best they can without actually traveling there.

**Academic, Social, and Linguistic Support during assessment:**

- Adaptations will be made for students that need additional academic support. There are a select few students that will get additional individualized instruction, explicit directions will be given to whole group and lots of modeling will be done to support students. In the worksheet, the complete thoughts will be encouraged but they will receive help in putting pieces together.

Opportunities for Enrichment:

- *For students that are high achieving, the expectations of the amount of details recorded will be higher set. I will also have a list of additional landforms for students to look at which will be additional challenges to their prior patterns they have formulated in their heads. I will encourage these students to use Google Earth to find landforms as well that were not given to them and record information on those.*

***Procedures and approximate time allocated for each event***

- ***Introduction to the lesson*** (10 minutes)
  - *In the previous lesson students will have explored landforms through books and will have started formally forming patterns in their science notebooks. This lesson is about learning landforms using technology, specifically Google Earth. Students will be using Google Earth to look up designated landforms and will be recording observations.*
- ***OUTLINE of activities during the lesson*** (20 minutes)
  - *Students will be reminded that they have started forming patterns in their notebooks. Then how to use Google Earth will be demonstrated on the iPad in front of the class. Students are already fluent with this technology so they will only require a little instruction. Students will receive a worksheet which contains the landforms they will be researching. The teacher will explain that we are using Google Earth because we can't travel around the world in a day, so this is the next best way to explore the world. Expectations for iPad use will be reminded, and students will then go to the iPads and begin their explorations. Students will be recording observations on each landform as they find it on Google Earth. They will also include a diagram with each landform.*
- ***Closing summary for the lesson*** (5 minutes)
  - *The whole group will come together after allotted time for exploration. We will discuss what we found and what we have recorded in our science notebooks. Students will be encouraged to reflect on their observations in order to prepare for official pattern making about landforms in future lessons. We will then collect their worksheets and their notebooks to take a look at their observations as a formative assessment and feedback.*