Surface Water Landforms Google Earth Scavenger Hunt Teacher Reflection and Suggestions

1. Materials needed.

- a. Computers, Google Earth, Access to decent internet speed.
- 2. Prerequisites
 - a. Before I give them this assignment, students have already used Google Earth before.
 - I have already gone over the vocab words: meander, oxbow, sediment, young/old/mature rivers, delta, deposition, erosion, alluvial fan, flood plain. Students have read and we have discussed section 1 on my website. <u>http://earthscience.xyz/WaterErosion</u>
 - c. Students should also understand how rivers cut into the land. The outside of the river's bend gets eroded quicker than the inside and deposition tends to occur mostly on the inside of a river's bend.
- 3. This is a great activity for students to learn how to use Google Earth. If your computers don't have Google Earth Loaded on them then you can just use the browser version. I like the program better and have had it installed on all my machines. The new online version shows promise. Works best in Google Chrome.
- 4. Students can struggle typing the coordinates correctly into the Google Search. If they do it correctly and then zoom out to the altitude suggested in the question, then this assignment will go well. It can be frustrating for both the teacher and the student if they cannot get to the right coordinates. Therefore, I suggest letting them go to the digital version of this assignment where they can just highlight, copy and then paste the coordinates. This was much better for me.
 - a. Digital Copy: Link will be available upon purchase.
 - b. Just let them have this URL and I think the assignment goes better.
- 5. I have done this Scavenger Hunt three different ways.
 - a. Printout: I give them all a printout of the document, they follow the instructions and then when they find the landform, I have them raise their hand. I go over and mark it off as having found it. I also get a chance to answer any clarifying questions. This takes a full hour because it takes time to check them all off.
 - b. Printout and Phone: I give them the handout and then when they find the location, they take a picture of it on their phone. When they are all done, they raise their hand, they show me the seven pictures, and then I mark it off as having completed it. This also allows me to answer any clarifying questions. This method takes about 45 minutes. If they copy and paste the coordinates it takes slightly less time. I had some kids finish in just over 20 minutes, but they were very quick with the mouse and keyboard. Use this URL to have your students make a copy automatically into their Gdocs. Link will be available upon purchase.
 - c. Digital copy all the way. I teach them how to take a screenshot of the landform, they copy and paste the image just like the answer key below shows. Then they share their copy of the document with me. This worked great for the time I had a substitute. I couldn't however answer specific questions that they had at the time. I just went over the whole thing with them the next day. This method takes about 45 to 55 minutes. Use this URL to have your students make a copy automatically into their Gdocs. Link will be available upon purchase.
 - d. My favorite method in terms of ease was number 3. The more fun method was number 2 because it allowed me to probe deeper into their understanding of the topic.
- 6. The last question talks about a future shape a river might make given enough time. The answer is "a heart." I let them know that this was nature's way of telling the student how much he/she is loved.
- 7. The default for Google Earth is to start out in Standard units instead of Metric Units. To change that, they need to go to "Tools", and then select the "Options" option, and dead center in the box is "Units of Measure."

Name:

Surface Water Landforms Google Earth Scavenger Hunt

First click on "Tools", and then select the "Options" option, and dead center in the box is "Units of Measure. meter/kilometers option.

- 1. What depositional feature is found at 29°09'N, 89°18'W at an eye altitude of about 118
- 2. What river feature is found at **31°15'31.74"N**, **91°38'55.32"W** at an eye altitude of 18 km, being for a bend in the river.
- 3. At the same coordinates as number two, look for the light tan colored feature in the atended bescribe what and how this feature is formed.
- 4. What type of feature is found at 32°30'11.16"N, 91° 3'5.59"W at an altitute Caller Describe its formation.
- 5. Now navigate to **30°18'50.04"N**, **91°33'5.37"W** at an altitude of about **27km**. This is a large very low elevation area between to parts of the Mississippi River. This area would be considered the river's what? Think about times of the rivers might flow over their banks and deposit nutrient rich sediment.
- 6. Now navigate to **36°35'51.89"N,117° 7'10.36"W** at an altitude of 4km. hat type of depositional feature is this?
- 7. Navigate to 36° 6'4.09"N, 112° 6'20.76"W at an altitude of 2kp rathis a young or old river? How can you tell?
- 8. Navigate to **45° 9'40.77"N,112° 8'58.63"W** at an altitude of 2km. If given a little more time, years, what awesome shape might this part of the river take and why? Is this a your old iver?

Name: _____

Surface Water Land rms Soogle Earth Scavenger Hunt

First click on "Tools", and then select the "Options" tion, dead center in the box is "Units of Measure." Select meter/kilometers option.

- 1. What depositional feature is found at **1 a b w**, **b g 18'W** at an eye altitude of about 118 km? Describe how it is formed.
- 2. What river feature is found at **31°CCIII. W**, **91°38'55.32''W** at an eye altitude of 18 km? Looking for a bend in the river.
- 3. At the same coordinates sources two, look for the light tan colored feature in the water. Describe what and how this feature is formed.
- 4. What type of feature is our 232°30'11.16"N, 91° 3'5.59"W at an altitude of 26km? Describe its formation.
- 5. Now navigate to 3 °18'5° 04 'N, 91°33'5.37''W at an altitude of about 107km. This is a large very low elevation area between to parts on the Miscissippi River. This area would be considered the river's what? Think about times of the rivers might flow one their banks and deposit nutrient rich sediment.
- 6. Now naving the to 51.89"N,117° 7'10.36"W at an altitude of 4km. What type of depositional feature is this?
- 7. Na gate 36° 4.09"N, 112° 6'20.76"W at an altitude of 2km. Is this a young or old river? How can you tell?
- 8. avigue to **9° 9'40.77"N,112° 8'58.63"W** at an altitude of 2km. If given a little more time, years, what awesome shape might bis put of the river take and why? Is this a young or old river?

Answer Key Surface Water Landforms Google Earth Scavenger Hunt

- 1. What depositional feature is found at 29°09'N, 89°18'W at an eye altitude of about 118 km? Dev
 - a. Delta, Formed at the mouth/end of a river, where large amounts of sediment gets de osite



- 2. What river feature is found at 31°15'31.74"N, 91°38'55.32"W at an eye witude or ro km? Looking for a bend in the river.
 - a. A meander

b.

b.



- 3. At the same coordinates as number two, lot for the light tan colored feature in the water. Describe what and how this feature is formed.
 - a. This is sediment that gets deposition the side of a river's curve.
- 4. What type of feature is found at 32°30416 3'5.59"W at an altitude of 26km? Describe its formation.
 - a. Oxbow lake. This was once measure that has been cut off by the river's natural straightening system.



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is formed.

- 5. Now navigate to 30°18'50.04"N, 91°33'5.37"W at an altitude of about 107km. This is a large very low elevation area between to parts of the Mississippi River. This area would be considered the river's what? Think about times of the rivers might flow over their banks and deposit nutrient rich sediment.
 - a. Flood Plain



- b.
- 6. Now navigate to 36°35'51.89"N, 117° 7'10.36"W at an altitude of 4km. What
 - a. Alluvial Fan



b.

b.

7. Navigate to 36° 6'4.09"N,112° 6'20.76"W at a lititude of 2km. Is this a young or old river? How can you tell?
a. Young, steep canyon walls, v-shapeo, so s



- 8. Navigate to 45° 9'40.77 12° 8.63"W at an altitude of 2km. If given a little more time, years, what awesome shape might this part of the river take advany? Is this a young or old river?
 - a. Heart, Old river



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