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Lesson Plan: Elements Affecting Climate

**Grade Level:** This lesson is designed to be taught to 9th Grade World Geography Students. The lesson will seek to teach students about the critical elements which impact Climate, including the influence of Latitude, Winds, Elevation, Proximity to Water, and Ocean Currents. It will focusing on helping students to understand a portion of Virginia SOL WG.2a: The student will analyze how selected physical and ecological processes shape the Earth’s surface by identifying regional climatic patterns and weather phenomena and their effects on people and places. Prior to this lesson, students will be introduced to these five elements which impact climate, and will be provided with examples as to how each can impact climate.

**Length:** This lesson will take students approximately 1 90 minute class periods, or alternatively two 55 minute class periods.

**Instructional Model:** This lesson will take advantage of the website Glogster. Using this site, students will create a Glog which demonstrates their knowledge of the impact of latitude, winds, elevation, proximity to water, and ocean currents on the climate of a real life city. They will do this by creating a Glog detailing the climate of a city of their choosing. On their Glog, each student will detail the climate of the city they chose, and explain how the five factors combine to influence the climate of the city.

**Rationale:** This lesson will allow students to creatively demonstrate and put into practice their understanding of the five elements which influence climate. The project will make use of the Glogster program to create an online, multimedia poster. This project will provide an opportunity for students to take advantage of internet resources and the Glogster program to learn and then demonstrate their learning. By using these technologies it allows students to explore a city or region which personally interests them. Additionally, it allows them to express their learning in a way that best suits them, whether it be via text, images, charts, or some other type of media. This will help all students find a way to best be engaged with and learn from the experience. **Need to include the specific terminology here**

**Objectives:** Following this lesson, students will be able to:

1. Show total knowledge and understanding of the five factors that influence climate
2. Use Glogster to create an online poster
3. Conduct Internet Research using appropriate websites
4. Use evidence to support an argument

**Content and Instructional Strategies**

Pre-Class: **I will obtain a laptop cart**, and have it available at the front of the classroom. I will also arrange the desks in the classroom into pairs, so that each student is working with a partner.

Plan for Instruction:

* 1. Upon entering the classroom, I will instruct students to sit down. Then I will instruct one member of each group to get a laptop from the laptop cart.
	2. **Then, I will instruct one student to log into the computer, start up the internet and go to** [**www.glogster.com**](http://www.glogster.com)
	3. I will have my computer hooked up to the SmartBoard in the classroom, and will have my internet at [www.glogster.com](http://www.glogster.com), so that students can see the website
	4. **I will ask one student from each group to sign up for Glogster. I will model the steps to joining Glogster on my computer, allowing students to follow along on the SmartBoard (Knowledge Building—View Images, View Presentation)**
	5. I will then ask students to hit “Create Glog” and then spend a few minutes demonstrating to students how to use the Glog’s features, including adding images, links, and text**. (This should in total take approximately 10 minutes)**
	6. Next students will be instructed to pick a major city of their choice as a group. I will ask the students to research the climate of the city using the internet. **(Knowledge Building—Research)**
	7. I will then asks students to research how the 5 factors that can influence climate impact the city of their choice
	8. Students will then be directed to create a Glog which describes the climate of the city they chose, and how the 5 factors influence the climate **(Product-Oriented Divergent Knowledge Expression—Design an Exhibit)**
	9. I will pull up a sample Glog for them to look at to guide them in designing their own Glog creation
	10. I will move throughout the room to help guide students as they research and create the Glog, as well as to ensure that they are on task. **(Research and creation of the Glog should take approximately 50-60 minutes)**
	11. Once students have finished creating their Glogs, I will ask them to do two things:
		1. First, save the Glog, and write down the Glog’s URL so that I can go online and see it
		2. Write down the websites they used to obtain information about their city’s climate
	12. I will instruct students to hand in the Glog URL and the citation information

**Assessment:** In order to assess student understanding of the objectives, I will evaluate their Glogs to see that they were able to successfully identify the climate of a city and explain how the five factors which affect climate impacted the climate of their city.

**Differentiation:** This lesson will meet the needs of a variety of learners because it allows students to demonstrate their knowledge in a manner that best suits them, and uses a multi-modal approach to display information about how to use the technologies present within the classroom.

**Adaptation:**In order to meet the needs of all learners in this lesson I could adapt the lesson in a variety of ways. For students who may struggle, I can provide them scaffolding for their research including specific websites which will give them useful information. For students that are perhaps more advancement, I could ask them to include in their Glog a section detailing which of the five factors they feel has the greatest impact on the climate of the city they chose with an explanation as to why.

**“Plan B”: In using technology it is always a possibility that the use of technologies might not work properly. In the event that students were unable to use the technology, I would provide students paper and colored pencils, and in groups give them the opportunity to illustrate a made-up city. They could use their knowledge of the five factors which impact climate to create a city and describe the relationship of the city to the five factors. Students could then hypothesize, based on the conditions they created, what the climate of the city might look like.**

Example of Potential Student Work:

An example of a Glog that a student might create can be found at:

<http://jgzachary.glogster.com/sanfranciscoclimate/>

This example provides a discussion of the climate of San Francisco. It utilizes text and images and represents a possible student outcome from the project.

Reflection

1. This lesson attempts to address UDL principles by specifically giving students the opportunity to present information in different ways and by stimulating interest and motivation in learning. By allowing students to pick a city of their choice and demonstrate the knowledge learned during their research by creating a Glog it allows students to take advantage of the tool to creatively express their learning. Additionally, the use of Glogster, coupled with student’s ability to have freedom of choice on topic, will increase student motivation to actively participate and engage in the lesson because they will have a great amount of freedom in what and how they learn. This increases the likelihood that students will internalize the information they have learned and specifically focuses on strategic networks and affective networks in the learning process.
2. Technology and Content are closely linked within this lesson. The use of the technology allows students to broaden their understanding of the five factors which influence climate, which is an extremely important SOL based content objective. The technology provides an opportunity for creative learning and access to a far broader scope of information than could be provided without access to the internet. Additionally, the use of technology allows students to link their learning within the classroom to a real world example, which is a crucial part of any social studies curriculum.
3. This technology fits in perfectly with the pedagogy at play in this lesson. The idea of the lesson is to allow students to demonstrate and broaden their learning of the five factors which influence climate by applying it to a real world or novel situation. Technology greatly increases the opportunity for me as the teacher to teach this lesson and present students not only with a wide variety of real world information to support what they have learned in the classroom, but also a forum for students to demonstrate their learning in a creative way. Increasing opportunities for student creativity and building their interest within the subject are critical to supporting their content knowledge, and the use of technology amplifies the ability of me, as the teacher, to provide these opportunities for my students.
4. Content, Pedagogy, and Technology all fit together well within this lesson as the lesson effectively utilizes a technology in a manner that is easy to use and provides a great wealth of extra opportunity to students to develop content knowledge. Meanwhile the technology allows the lesson type to be more successful and increases my ability as a teacher to build student interest and motivation, critical skills, and content knowledge.
5. While this lesson type could work without technology to allow students to demonstrate content goals, the technology enhances the students ability to do so and the teacher’s ability to provide a rewarding educational experience. Thus the advantage of technology within this lesson is largely in that it provides students with access to greater amounts of information, an interactive and creative way to express knowledge, and a simple way for the teacher to evaluate learning. Ultimately the technology bolsters the lesson’s ability to differentiate and appeal to all students in the classroom.