Anne Stack EDUC 319

Elementary Education **Subject Area:** Science

**Grade Level:** 1st Grade

**Duration of Lesson:** 20-25 minutes

**Lesson Plan Title and Summary:**

Sun Causes Day and Night: Students will do a quick review on what they know about the sun. Then, they will compare and contrast day and night. Afterwards, we will explore the causes of day and night using a globe and flashlight. Children will write a quick paragraph on what they learned about the sun’s role in daytime and nighttime.

**Links to MA Curriculum Frameworks:**

*Earth and Space Science, Grades PreK–2* 5. Identify some events around us that have repeating patterns, including the seasons of the year, day and night.

**Specific Objectives of Lesson:**

Students will be able to explain in a paragraph how the sun causes daytime and nighttime accurately focusing on the rotation of the sun.

**Materials and Technology Needed:**

-Venn Diagram worksheet

-Overhead projector with Venn Diagram sheet and marker

-Globe

-Flashlight

-Lined paper and pencil

-White board and marker

**Vocabulary:**

**-**Sun: the star that the Earth moves around; provides heat and light

-Daytime: time between sunrise and sunset when the Earth is facing the sun

-Nighttime: time between sunset and sunrise when the Earth is facing away from the sun

-Rotation: the turning around on an axis

-Axis: the invisible line through the Earth’s center where Earth rotates around

**Connections Across Curriculum:**

This subject can connect to math because the students can discuss rotation and axis in terms of geometry. This lesson can also apply to English since the students are currently reading “Daytime, Nighttime” by Chris Epp.

**Instructional Sequence:**

* Activator: Students will participate in an educational version of Red Light, Green Light. All students will start at once side of the room and walk across to the other side during “green light.” When the teacher says, “red light” children must stop where they are walking and the teacher will call on one students to answer a question. The teacher will ask questions regarding what they already know about the sun in order to review their knowledge. If the student answers correctly then the teacher will say, “green light” and the game will continue. However, if the student answers incorrectly they have to go back to the starting line and another student will be called upon to answer that question. Whoever gets to the other side of the room “wins” and will be asked to make a prediction about how the sun affects daytime and nighttime. (approximately 8 minutes)
* Development: After completing the activator, students will go back to their seats and they will be handed a Venn Diagram with one side labeled as “Daytime” and the other side labeled as “Nighttime.” The students will be asked, as a class, to compare and contrast daytime and nighttime. The teacher will call on students one by one to tell them a fact about daytime, nighttime, or both. The teacher will write in the students’ answer onto the overhead projector sheet while the students write it in their own Venn Diagram sheet. The teacher should aim for at least 3 facts in each section. (approximately 6 minutes) Next, the teacher will have all the students stand up and do a quick stretch, reaching all the way and then reaching all the way down in a ten count. (approximately 1 minute) After this, students will be asked to come to the rug and take a seat. The teacher will go over the vocabulary words, rotation and axis. The teacher will demonstrate how the Earth rotates around its axis using the globe. Then, the teacher will ask for one volunteer who will hold a flashlight facing the globe. The teacher will slowing rotate the globe demonstrating that as the Earth turns, one side will face away from the Sun while the other faces towards the sun. The teacher will explain that the Earth rotates one time in 24 hours and that when we are facing away from the sun it is nighttime since we do not receive as much light or heat. Then, the teacher will ask and answer any questions the students may have about this process. (approximately 5 minutes)
* Summarizer: To conclude the lesson, students will write a short paragraph explaining how the sun causes daytime and nighttime. In order to receive full credit, students must include the vocabulary words, sun, daytime, nighttime, rotation, and axis. The teacher will write these words on the board and explain to the children that they must include all of them in their paragraph. When the students are done they will turn in their paragraph as a “ticket to leave.” (approximately 4 minutes)

**Assessment:**

Students will be assessed on their paragraph that they write at the end of class on how the sun causes daytime and nighttime. They must include how the Earth rotates, which causes one side of the Earth to face the sun while the other faces away from the sun. They also must include that the side of the Earth facing away from the sun will be cooler than the side directly facing the sun.

**Planning for Learner Variability:**

* Representation: *3.1 Activate or supply background knowledge* – Students will remember their background information on the sun through playing the “Red Light, Green Light” game. Their previous knowledge will be activated through the directed questions.
* Action & Expression*: 5.1 Use multiple media for communication –* In order to teach this lesson, multiple means of communication will be used including, paper, white board, projector, voice, and visual.
* Engagement: *7.3 Minimize threats and distractions –* In order to keep students engaged in this lesson, the teacher will minimize their distraction by allowing them the opportunity to do a quick stretch. This serves as a brain break while also calming students down in order to get them ready to learn more.

**Sources Utilized in the Design Process:**

When I was in Girl Scouts, my mom did the globe/flashlight demonstration in order to teach us the seasons. I took out the part about the Earth revolving to create seasons and switched it with how the Earth rotates in order to focus in on how daytime and nighttime occur. I also found the “Red Light, Green Light” activity idea from this website: <http://www.christina.k12.de.us/literacylinks/elemresources/lfs_resources/activating_strategies.pdf>.

**Application of Course Content:**

The focus of this first lesson was to effectively integrate Gardner’s Theory of Multiple Intelligences into its design and approach. I tried my best to incorporate at least a little bit from every category of intelligence in order to help all my students, regardless of what type of learner they are. I was able to incorporate linguistic intelligence because the Venn Diagram helped them to brainstorm ideas about daytime and nighttime. I also touched upon the logical-mathematical intelligence through science thinking and the demonstration. Spatial intelligence was incorporated because there was a visual aspect of the demonstration, as well as the use of the projector to show the graphic organizer. Bodily-kinesthetic intelligence was easily incorporated into the “Red Light, Green Light” game since it gets children up and moving and creates a competitive game. Naturalistic intelligence was incorporated simply through the material being taught. Students observed nature and noticed changes between daytime and nighttime. I incorporate intrapersonal intelligence in my summarizer and their “ticket to leave” because students have to work individually. Throughout the lesson, I also incorporated the interpersonal intelligence because there is much time for interaction between students during the game, as well as during the demonstration and brainstorming. The last multiple intelligence, musical, was surprisingly one I was not able to incorporate. Musical intelligence is my highest intelligence so it kind of shocks me that I didn’t include it. I think an easy way to do this would be to create a song to teach children involving how daytime and nighttime occur. This would be a very helpful way for students to be able to remember what we learned in class. However, this would require an additional 5 or so minutes to teach them the song, which may be hard to do if the time isn’t there.