Name: Flannery Begans

Activity Types Planning Guide

Targeted Virginia SOL (or relevant portion): VA SOL Science 1.6 The student will investigate and understand the basic relationships between the sun and Earth. Key concepts include a) the sun is the source of energy and light that warms the land, air, and water; and b) the sun's relative position in the morning is east and in the late afternoon is west.	
Grade Level: 1st	Content Area: Science - Interrelationships in Earth/Space Systems & Earth patterns, Cycles, and Change
Restate the standard in terms of a learning goal for the students: The students will know the difference between and the features of day and night. To meet the standard above, the students will…be introduced to the concepts of day and night through a read aloud, participate in a hands-on activity, write about day and night, and connect the previous scientific knowledge to the new material.	
Engage	
Possible Activity Type: *Attend to Presentation/ Demonstration* Read aloud of the book	Digital/Non-Digital Technology Options: *Presentation software, document camera, video* A book, either a hard-copy that will be read on the carpet, or a digital interactive book found online and projected through laptop and overhead projector. (tumblebooks.com/library/ is a great resource for digital books)
Possible Activity Type: *Attend to Presentation/ Demonstration* Show a video introducing the concept and different features of night and day.	Digital/Non-Digital Technology Options: *Presentation software, document camera, video* A BrainPOP Jr. video can be found on the school's video database and projected through the laptop and overhead projector.
Explore	
Possible Activity Type: *Participate in a Simulation*	Digital/Non-Digital Technology Options: *Curriculum software, Web-based simulations,*

Have the students participate in an activity demonstrating how the sun shines on the earth to create a light side and a dark side (day and night). Make the classroom as dark as possible. Use a strong light to represent the sun and a globe to represent the earth. Place a sticky note over the area where we live. Show the globe rotating, pointing out that the sticky note is sometimes in the light and sometimes in the dark.	*student response systems ("clickers")* A strong light (or even the projector light), a globe; a digital simulation video (such as *http://www.youtube.com/watch?v=pM7Mdma_wuc* or *http://www.schoolsobservatory.org.uk/sites/default/files/movies/euro03sb.mpg*)
Possible Activity Type: *Develop a Concept Map* Create a KWL chart or a concept map for night and day – one for both (info regarding night will be written in a gray and info about day will be written in a orange)	Digital/Non-Digital Technology Options: *Concept mapping software, interactive whiteboards, drawing software* Poster, markers; or the document projector and paper and markers, or an online concept map (https://bubbl.us/)
Explain/Extend	
Possible Activity Type: *Respond to questions* *and* *Draw/Create Images* Have the students write about what they do during the day and what they do during the night. Illustrate.	Digital/Non-Digital Technology Options: *Curriculum software, word processing software, quiz software, Web sites, online discussion forum* *Drawing software, digital camera, image editing software* Writing journals, pencils, crayons/colored pencils; computers in the lab, drawing software (MSPaint), word processing software (Word)
Possible Activity Type: *Draw/Create Images* Incorporate the nocturnal animals into a story about what happens during the day and what happens during the night. Compare to what the students are doing at the same time. Have the students create a picture showing each scene.	Digital/Non-Digital Technology Options: *Drawing software, digital camera, image editing software* Paper and crayons/colored pencils or construction paper to cut shapes; Computers, drawing software (MSPaint)

Name: Flannery Begans

Day and Night Lesson

Teacher – Broe

Grade – 1st

Objective – VA SOL Science 1.6 The student will investigate and understand the basic relationships between the sun and Earth. Key concepts include a) the sun is the source of energy and light that warms the land, air, and water; and b) the sun's relative position in the morning is east and in the late afternoon is west.

Materials – pencils, colored pencils/crayons, foldables (folded paper), **globe, light source (flashlights or lantern) (non-digital technology)**, read aloud books, poster paper, poster markers, **laptop, projector, internet (access to unitedstreaming.com) (digital technology)**

Engage – Explain to the students that we will be learning about day and night today. Present the KWL chart. We will fill out the K (know) and (W) part today. Use Orange for day and gray for night. Ask the students to tell you what they already know about day and night; record it on the chart. Ask the students what they want to know about day and night; record it on the chart. Skim the book What Makes Day and Night by Franklyn M. Branley, engaging the students in guiding questions throughout the book as appropriate, leaving out the last, most complicated, part of the book, which the video will cover.

Explain – Let the students watch the **United Streaming/Discovery Education "Day and Night" video** (**Attend to Presentation/ Demonstration**) on the projector screen from the front carpet. (**Plan B: If the video does not work, take about 5-10 minutes to read What Makes Day and Night more in depth and in full. The video is more engaging and explains the concept superbly but the book is also quite good and will accomplish the goal of teaching the concept**).

Explore – Explain that we are going to do an **activity about the sun and the earth** (**LAT- Participate in a simulation**) now. Have the globe and light source ready with you in the front of the class. Have some of the students come up and show you different parts of the globe (like the United States, where we are in the United States, and the opposite side of the earth). Have one of the students put a sticky note on our general location. Close all the blinds and the door and turn the lights out. Make the room as dark as possible. Turn on the light source and explain that this is the sun and it will not move. Ask the students questions about what they are observing: If the sun doesn't move, what does move? (The earth). Ask a student to come up and show you how the earth moves. Ask them to notice what happens while the earth is spinning (different parts of the earth are lit up or in the dark). Have the students explain what is going on, while guiding them with appropriate questions. Next, introduce the "foldables" they will be working on. Show them the example and write the sentences on the board: "During the day I _____." and "At night I _____." Have them come up with ideas about what they do during the day and during the night and write key words on the board for them to reference later.

Explain that they should draw a corresponding picture to their sentence, just like the example.

Extend – If there is time left, read the about animals in the book Forest Bright, Forest Night by Jennifer Ward. Make a connection to our other unit on nocturnal animals. Remind them what nocturnal means.

Evaluate – Foldable – check for appropriate responses and pictures for day and night; ask the students throughout the lesson for a thumbs up if they understand the concept or a thumbs down if they are still confused.

Name: Flannery Begans

LESSON PLAN OUTLINE

Directions: Develop a lesson plan outline that addresses the provided content. Assume that the lesson is for a class of approximately fifteen to twenty students.

Subject Area: Science
Content Topic: Day and Night
Grade Level: 1st

Content

1. Describe the topic in your own words.
   The topic for this lesson plan is day and night. The differences between the two and what causes them are necessary to learn for the Virginia Standards of Learning and for a greater understanding of how the world works. The first grade SOLs are still helping to build an academic foundation for students to use as they further their education. The kindergarten SOLs include shadows and how they are made (VA SOL K8 (a) shadows occur in nature when sunlight is blocked by an object). This topic also relates to the SOLs they will cover in second grade, which include the plant cycle and what plants need to survive (VA SOL Science 2.4 (b) plant life cycles). They will touch base with this topic again in third grade as they continue to learn about day and night as well as extend it (VA SOL Science 3.8 (a) The student will investigate and understand basic patterns and cycles occurring in nature. Key concepts include a) patterns of natural events such as day and night, seasonal changes, simple phases of the moon, and tides).

2. List the relevant Virginia Standards of Learning that your topic addresses.
   VA SOL Science 1.6 The student will investigate and understand the basic relationships between the sun and Earth. Key concepts include a) the sun is the source of energy and light that warms the land, air, and water; and b) the sun's relative position in the morning is east and in the late afternoon is west.

Pedagogy

- What are the relevant pedagogical approaches or instructional strategies that you will use to address the content topic?
  The lesson will begin with a KWL chart for the students to come together as a class and describe what they already know and what they want to know about day and night. We will then read a book about day and night, reiterating what the students already know, answering some of their questions, and creating new questions. We will then watch a short video about day and night. A demonstration will be conducted to illustrate what the students learned about what causes day and night (the sun and the earth's rotation). The students will get to have a hands on experience with the globe and creating day and night. They will then make a day and night foldable, drawing pictures and writing sentences about the

differences they learned about day and night. The majority of the lesson will be whole group instruction, but part of the lesson will have the students working independently. The students will all bring something different to the table as we learn about day and night, especially during the KWL chart. This concept is new to all of the students in an academic setting. Time wise, it makes the most sense to teach it to them as a whole class. It also makes sense to have such a demonstration with the whole class because to make sure they are all doing in correctly, the teacher needs to be supervising the entire time. Formative assessments will be given throughout the lesson with informal assessments. Students will be continuously asked questions about what we are discussing. They will also be assessed during the foldable activity to make sure they are on the right track. The finished foldable will be our summative, formal assessment.

The continuous questioning of the students will help the teacher know what the students understand and what they still need help with. It will also keep them engaged. The lesson is split into many different activities, which will also keep the students engaged. Science is all about inquiry and hands on activities. Having more than one activity that the students can actively participate in will help them learn, and having all activities engaging and thought provoking, will help the students learn.

This lesson provides many ways for each student to learn. There are speaking, listening, watching, and doing activities that will reach every kind of learner in the classroom. The lesson is accessible to each student. Even if the student is quiet or does not know a lot about the topic, they can sit back and listen while their peers talk about what they know. Then, the quiet student can learn from the book and the video before participating in the activity and independent work. The KWL chart, the student participation in the activity, and the foldables all provide a different form of expression and communication so all of the students can showcase their knowledge in any way that best suits them.

Technology

1. Describe the technology or technologies that you will use in the lesson.

   This lesson will utilize the website UnitedStreaming.com. This will necessitate the laptop, projector, and projector screen for the viewing of one of Discovery Education's videos about day and night. The students are engaged with videos because they do not have the opportunity to watch them every day. The video explains things in a very relatable and understandable way to the students. The teacher gets to preview the video before it is shown to make sure that all of the information is relevant and that all of the information is covered. Anything left out can be fit into the rest of the lesson.

   The video and books must be previewed before the lesson, to make sure they are appropriate and include all of the necessary content. If it does not, the teacher can include the missing content elsewhere in the lesson. The blank paper needs to be folded before the lesson as well. This would take much too long and is not a beneficial step for the students to perform to understand the content in the lesson. Doing it before hand will save the students time that they can now use on content

related work. The point of a science lesson is to engage the students. The video will engage them and teach them through a fun medium.

2. Complete the following table for any technologies used in the lesson plan outline. Please add rows if needed.

Technology	Relationship to Pedagogy
Digital book	Delivers the same information as a teacher reading a book, but catches the attention of the class in a new way
Educational video	Engages the students and presents guaranteed content
Earth/sun simulation	Engages students with hands on, inquiry based learning
Online concept map	Has students use their own knowledge to educate the class, share ideas, inquire further
Drawing software	Presents a new way for students to express their knowledge of the content in the own way

3. List the relevant National Education Technology Standards for Students (NETS-s) that your topic addresses.
   1. Creativity and Innovation - Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. a. Apply existing knowledge to generate new ideas, products, or processes (*the KWL chart*) b. Create original works as a means of personal or group expression (*the foldables*) c. Use models and simulations to explore complex systems and issues (*the globe/sun activity*).

Reflection:
The technologies, content, and pedagogy used in this lesson engage the students and help them learn the content better. This lesson plan outline helped me see that any lesson could be done without any kind of technology. Students could sit on the floor and listen to the teacher recite everything he or she knows about every subject, but what would they remember? Technology can be as little as a globe and a lantern. This engages the students so they pay attention. Taking what students like (say, watching "tv" in school) and incorporating it into the classroom keeps them interested and more likely to remember the content. It is important to find technology that fits seamlessly into the lesson. Forcing technology, especially into a class of first graders, is not always a good idea. It is important for them to learn about the different ways to use technology, but when it comes down to it, the most important part is the content. Sometimes an engaging teacher is more fun than an online game. The LAT activities helped me remember what kind of technologies could be used in a lesson. I still do not see the benefit in trying to fit technology into every lesson. My class loves making posters (like a KWL chart) that we can hang right away in the room or in the hallway. I understand that making a KWL chart with a website found online can be interesting and teach the students the same content, but where does this go after we make it? We cannot hang it up to reference later. Technology has its important place, but sometimes the old ways work even better for some activities.