

LESSON TITLE:	LIGHT UP THE NIGHT!
BACKGROUND INFORMATION:	
CREATED BY:	JULI WESTRICH, 2023 TEACHER ON THE TRAIL™
GRADE LEVEL/ SUBJECT:	K-2: LIBRARY/ MATH/ SCIENCE
ESSENTIAL QUESTION:	HOW CAN I UNDERSTAND THE SCIENCE OF DAY/NIGHT AND SEASONS AND HOW THAT IMPACTS MY DAILY LIFE?
LEARNING OBJECTIVES:	<p>I CAN:</p> <ul style="list-style-type: none"> ● IDENTIFY THE FOUR SEASONS ● DEFINE TERMS: EQUINOX, SOLSTICE, TILT, AXIS, ROTATION, REVOLUTION ● EXPLAIN THE CONNECTION BETWEEN THE EARTH'S ROTATION ON ITS AXIS AND THE CHANGE OF SEASONS ● COMPARE AND CONTRAST THE TIME OF DAYLIGHT IN ALASKA LOCATIONS AND SCHOOL LOCATION
STANDARDS ADDRESSED:	<p>LIBRARY STANDARDS: INFORMATION FLUENCY CONTINUUM GRADES K-12</p> <p>STANDARD I – INQUIRY AND DESIGN THINKING: USE INQUIRY AND DESIGN THINKING TO BUILD UNDERSTANDING AND CREATE NEW KNOWLEDGE</p>

*WE ARE THINKERS AND DESIGNERS.

- STANDARD 1.1: INFORMATION-FLUENT LEARNERS USE AN INQUIRY PROCESS TO CONNECT TO PRIOR EXPERIENCE AND BACKGROUND KNOWLEDGE, WONDER AND ASK QUESTIONS, INVESTIGATE, CONSTRUCT NEW UNDERSTANDING, EXPRESS LEARNING, AND REFLECT ON THE PROCESS AND PRODUCT OF LEARNING.
 - SHARES WHAT IS KNOWN ABOUT THE GENERAL TOPIC TO ELICIT AND MAKE CONNECTIONS TO PRIOR KNOWLEDGE
 - RESPONDS TO BACKGROUND INFORMATION (DELIVERED THROUGH VIDEOS, STORIES, TEXTS, DISCUSSIONS) BY RESTATING/RETELLING MAIN IDEAS AND DETAILS ABOUT THE TOPIC
 - ASKS QUESTIONS IN RESPONSE TO LISTENING TO A VARIETY OF TEXTS
 - DRAWS A PICTURE TO ILLUSTRATE A RESPONSE TO A STORY

STANDARD II – MULTIPLE LITERACIES: USE MULTIPLE LITERACIES TO EXPLORE, LEARN, AND EXPRESS IDEAS

*WE ARE READERS, WRITERS, AND CREATORS

- STANDARD 2.1: INFORMATION-FLUENT LEARNERS USE MULTIMEDIA LITERACY SKILLS AND KNOWLEDGE TO DECONSTRUCT AND LEARN FROM TEXTS IN MULTIPLE FORMATS THROUGH COMPREHENSION, ANALYSIS, INTERPRETATION, AND EVALUATION.
 - GATHERS INFORMATION FROM ILLUSTRATIONS AND TEXT FEATURES

STANDARD IV – PERSONAL GROWTH AND AGENCY: ENGAGE IN PERSONAL EXPLORATION, SOCIAL AND EMOTIONAL GROWTH, INDEPENDENT READING AND LEARNING, AND PERSONAL AGENCY

	<p>*WE ARE CONFIDENT, INDEPENDENT LEARNERS.</p> <ul style="list-style-type: none"> ● STANDARD 4.1: INFORMATION-FLUENT LEARNERS USE INFORMATION AND IDEAS PRESENTED IN ANY FORMAT TO REFLECT ON AND PURSUE PERSONAL INTERESTS, DEVELOP STRENGTHS, AND ENGAGE IN PERSONALIZED AND INDEPENDENT LEARNING. <ul style="list-style-type: none"> ○ DEVELOPS AND PURSUES PERSONAL CURIOSITY ● STANDARD 4.2: INFORMATION-FLUENT LEARNERS DEVELOP AGENCY (PERSONAL IDENTITY AND CONFIDENCE) TO EXPRESS THEIR IDEAS, RAISE AWARENESS, ADVOCATE FOR CHANGE, AND/OR TAKE SOCIAL ACTION. <ul style="list-style-type: none"> ○ ACTIVELY ENGAGES IN CONVERSATIONS WITH OTHERS IN A RESPECTFUL AND APPROPRIATE WAY
<p>MATERIALS NEEDED:</p>	<ol style="list-style-type: none"> 1. BOOK: <i>UNDER ALASKA'S MIDNIGHT SUN</i> BY DEB VANASSE OR VIDEO READING OF STORY BY FAIRBANKS CHILDREN'S MUSEUM 2. GLOBE 3. LIGHT 4. CRASH COURSE KIDS: EARTH'S ROTATION & REVOLUTION 5. CRASH COURSE KIDS: SEASONS AND THE SUN 6. CHART PAPER & MARKERS 7. VOCABULARY LIST: INCLUDE EARTH, AXIS, SUN, ROTATION, REVOLUTION, EQUINOX, SOLSTICE, AND OTHER TERMS THAT ARE APPLICABLE TO THE LESSON
<p>PROCEDURE:</p>	

<p>BEFORE TEACHING:</p>	<ul style="list-style-type: none"> ● PRE-WATCH CRASH COURSE VIDEOS FOR CONTENT AND AGE-LEVEL APPROPRIATENESS (THEY ALSO PROVIDE A GREAT REFRESHER FOR TEACHERS!) ● CREATE VOCABULARY LIST ● ASSEMBLE SUPPLIES
<p>ENGAGEMENT: 15 MINUTES</p>	<p>DID YOU KNOW THERE ARE TOWNS IN ALASKA WHERE THE SUN NEVER COMES UP IN WINTER? AND IT NEVER SETS IN THE SUMMER – WHAT ARE YOUR THOUGHTS ON WHY THIS HAPPENS? WHAT WOULD THAT FEEL LIKE?</p> <ol style="list-style-type: none"> 1. BRAINSTORM IDEAS AND USE CHART PAPER TO RECORD 2. READ: <i>UNDER ALASKA'S MIDNIGHT SUN</i> BY DEB VANASSE
<p>LESSON: GRADE LEVEL DEPENDENT</p>	<p>PREPARE CLASS WITH LEARNING GOAL: WE ARE TRYING TO DISCOVER WHY DIFFERENT PLACES ON THE EARTH HAVE DIFFERENT SEASONS AND DIFFERENT AMOUNTS OF DAYLIGHT.</p> <ol style="list-style-type: none"> 1. LIST THE 4 SEASONS ON CHART PAPER AND ASK STUDENTS TO SHARE WHAT THEY KNOW ABOUT EACH SEASON. 2. HIGHLIGHT OR CIRCLE THE ASPECTS THAT CONNECT TO DAYLIGHT AND TEMPERATURE. 3. POSE THE ESSENTIAL QUESTION FRAMED IN TERMS OF IDITAROD/ALASKA: HOW CAN I UNDERSTAND THE SCIENCE OF DAY/NIGHT AND SEASONS AND HOW THAT IMPACTS LIFE IN ALASKA? 4. WHAT PROVIDES OUR LIGHT AND WARMTH? THE SUN. 5. WATCH CRASH COURSE KIDS: EARTH'S ROTATION & REVOLUTION OR DISCUSS

<p>EXTENSION:</p>	<p>6. DEFINE: AXIS, ROTATION, REVOLUTION, SOLSTICE, EQUINOX.</p> <p>7. CONNECT SOLSTICE TO SHORTEST/LONGEST DAYS OF THE YEAR IN SUMMER/WINTER AND EQUINOX TO FALL/SPRING AS "EQUAL".</p> <p>8. PERFORM EXPERIMENT FROM THE VIDEO USING THE GLOBE AND LIGHT TO ILLUSTRATE THE ROTATION, REVOLUTION, AND AXIS.</p> <p>9. BE SURE TO POINT OUT ON THE GLOBE AREAS OF ALASKA WHERE SUNLIGHT WOULD BE CONSTANT/NON-EXISTENT DURING THE ROTATION AROUND THE SUN.</p> <p>CHECK TIMEANDDATE.COM FOR THE AMOUNT OF DAYLIGHT IN NOME, AK, THE FINISH LINE OF THE IDITAROD, THROUGHOUT THE YEAR. (OR ANY ALASKA LOCATION – EUREKA (OUTSIDE FAIRBANKS), WHERE 2023 IDITAROD CHAMPION BRENT SASS HAS HIS KENNEL? ANCHORAGE, THE SITE OF THE CEREMONIAL START? WILLOW, THE SITE OF THE RE-START?) CHART THIS DAILY/WEEKLY TO COMPARE TO THE AMOUNT OF DAYLIGHT IN YOUR SCHOOL LOCATION.</p>
<p>CONCLUSION:</p>	<p>1. REVISIT SEASONS CHART AND ADD – OR HIGHLIGHT – THAT THE HOURS OF DAYLIGHT ARE LONGER IN SUMMER, SHORTER IN WINTER, AND MORE EVEN IN FALL/SPRING.</p>

ASSESSMENT:	1. STUDENT RESPONSE TO WRITING/DRAWING PROMPT TO READ-ALOUD: WHAT WOULD YOU DO IN THE SUMMER IF THE SUN STAYED UP ALL NIGHT?
ENRICHMENT/ SUGGESTIONS:	INCORPORATE DISCUSSION OF LIGHT AND LIGHT INTENSITY (INVESTIGATING HEAT AND TEMPERATURE). WATCH CRASH COURSE KIDS: SEASONS AND THE SUN
OTHER:	2018 IDITAROD TEACHER ON THE TRAIL HEIDI SLOAN POSTED A GREAT LESSON ABOUT DAYLIGHT AND THE WINTER SOLSTICE. CHECK IT OUT HERE : HTTPS://IDITAROD.COM/EDU/IDITAROD-AND-WINTER-SOLSTICE/