**Grade** **Level**: Second Grade **Dates**: November 29th - January 25th

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| **School Information****School**: Copeland Elementary **School Code**: 060043**Teachers**: Brown, Echols, Huggins, Timmons, and Ginn**Buffer**: January 31-February 4 | **Transdisciplinary Theme**: How the World Works **Segment of Theme**: The Natural World and its law**Over Arching Concept**: Cycles |
| **Section 1: Overview** |
| 1. **Central Idea** Everything is composed of matter and moves through cycles
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| 1. **Key Concepts**: Function, Form and Change
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| 1. **Guiding Related Concepts**:
 | 1. **Lines of Inquiry**:
 | 1. **Teacher Questions (Guided Questions)**:
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| cycles, patterns | Each State of Matter can be altered. Some forms of matter can be put back together while others cannot.The earth moves through cycles   | **DOK Level 3 & 4 ( 4-6 Questions)*** Identify what a scientist does.
* Analyze different properties in matter.
* Explore different properties of the night sky, compared to the day sky.
* Discuss the difference between inches and centimeters.
* Predict how long does it take to revolve around our sun?
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| 1. **Prior Content Knowledge**:
 | 1. **Assessing the Lines of Inquiry**:
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| Students will need to be able to recognize a pattern. Students should be able to recognize the Earth, the moon, the sun visually. Students should know the order of the seasons.  | How will you assess student’s understanding of the lines of inquiry?**Experiments on Matter**: Students will produce a lab report on each science experiment that we complete in class. <https://www.dropbox.com/sh/uzoih0qviyj6gpr/AADvLwHG7XQ_hK9QgE4JtxrMa/Seasons%2C%20Shadows%20and%20the%20Moon?dl=0&preview=s2e2-seasons_shadows_and_the_moon-stem_journal.docx&subfolder_nav_tracking=1>**State of Matter Collage**: Students will create a collage of the different types of matter.**Gallery Walk:** Seasons / Moon Phase Gallery Walks and Student Reflection  |
| **Section 2: What Are Our Target Goals?** |
| 1. **Concept Based Summative Assessment:**
 | 1. **Targeted Approaches to Learning (highlight 3):**
 | 1. **Targeted Learner Profile Attributes (highlight 2):**
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|  **Opinion Writing:** Do you prefer the daytime or nighttime sky? **Informational Writing:** Students will write a journal entry using evidence to support the claim “The sun is not the biggest star in the universe.” **Matter Book:** Students will create a book that demonstrates their knowledge of matter. **Art collaboration:** can combine with opinion writing**Student Choice Project*** + Model of the moon phases
	+ Poster- States of Matter
	+ Science Fiction Writing- Space themed
 | Social Skills, Research Skills, Communication Skills. Thinking Skills, Self-Management Skills  | well-balanced, caring, principled, open-minded, risk taker, knowledgeable, communicator, reflective, thinker, inquirer |
| **Section 3: What Assessments will be provided in this unit of inquiry?** |
| 1. Pre-Assessments:

What assessment will be given at the beginning of the Function, Form and Change unit to inform current understanding  | 1. Formative Content Based Assessments:

What assessments will be given to monitor student learning of content? | 1. Summative Content Based Assessments:

What assessments will be given for students to show mastery of unit content? |
| Standards Mastery I-ReadyGeorgia Science What is matter pre-assessment  | (KWL charts, gallery walks, quizzes)Gallery Walks – Moon Phases, Seasons Graffiti Wall- For students to draw phases of matter. KWL Charts,-Describe MatterVideo quizzes (Brain pop) – Evidence to include acquisition of knowledge contained in videos.Students will create a mini-book on the Phases of the Moon. Evidence to include: correct depiction of moon phases.Seasonal Poem including illustration – evidence to include characteristics or description of season, appropriate illustrationConcept Wheel (graphic organizer) – placing correct information related to the sun, rotation, revolution of the Earth, etc.Brain Pop Video on Matter followed by the activity/quiz on Brain Pop | Standards Mastery I-ReadyGeorgia Science Assessment – Matter, Seasons End of Unit Tests SeeSaw – Writing Assessment Review on Matter/Presentation of Poster/Collage (Assessment) |
| **Section 4: How will we Facilitate Learning?** |
| 1. Provocation:

How will interest into this unit be sparked? | 1. Learning Experiences:

What activities/experiences will help facilitate the learning? | 1. Evidence of Differentiation:

How will the learning experiences be adjusted to different learning styles/abilities? |
| Videos to create wondering.- Showing the videos to students from discovery kids video on Matter. Matter mystery boxes We add items of matter, such as a rubber ball, Chocolate, Blow drier , picture of ice cube, tea kettle. Physical change from one state to another. Using the items from the mystery box, we will take the blow dryer and melt the chocolate, or we can take ice and place the freezer to melt to show the shadow.Hypothesize what they think will happen to chocolate experiment Melting Chocolate Activity (Solid to Liquid)Students to measure shadows.We will take students outside on a sunny day, for them to measure their height and mark it on the long paper.  | **Tuning In*** Students will be able to brainstorm ways that a liquid can turn into a solid.
* Students will look at mystery boxes that contain solids, liquids and gasses.
* Students will watch video of moon, sun, and earth interactions.
* Students will look at an observatory to locate different stars in our solar system. (Video or Virtual experience)

**Finding Out** * Students will conduct science experiment on what freezing does.
* Students will use My On and the internet to research objects that change from one state of matter to another.
* Students will observe objects that change from one state of matter to another.
* Students will use internet to research and watch videos on our solar systems.

**Sorting Out*** Students will make a collage of a chosen state of matter. Students can use different magazines to cut out pictures and create own pictures.
* Students will use Venn Diagrams to sort information about different states of matter.
* Students will write informational text using information that they learned about states of matter.
* Students will understand that the earth, sun, and moon move in different directions and ways.

**Going Further** * Students will have many group tasks to work with each other. Students will have to answer a problem through critical thinking.

**Reflection** * Students will be able to play the game “What am I?” by using information that they have learned to identify an object.
* Students will discuss what would happen if Earth, Moon and Sun did not rotate or spin.
* This will be read-aloud, with DOK Level Questions“Everything is Matter” Book/Question
* Mrs. Shoemaker is the Media Specialist and we will be using the library for these sessions. This is a Writing Workshop (Speaker on Opinion Writing) “I Want An Iguana”
* Students write an opinion writing on what type of pet and why
 | * Video quizzes (Brain pop) – Evidence to include acquisition of knowledge contained in videos.
* Students will create a mini-book on the Phases of the Moon. Evidence to include: correct depiction of moon phases.
* Seasonal Poem including illustration – evidence to include characteristics or description of season, appropriate illustration
* Concept Wheel (graphic organizer) – placing correct information related to the sun, rotation, revolution of the Earth, etc.
* Unit Project- Student Choice
	+ Model of the moon phases
	+ Poster- States of Matter
	+ Science Fiction Writing- Space themed
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| 1. Learning Experiences in Specials:

How are Specials Courses able to connect to this unit? | 1. Local/National/Global Connections:

How can we connect the content to local/national/global issues? | 1. Student Action:

What learning experiences support potential student-initiated action? |
| We will be focus on the States of matter Spanish words related to the Unit. Ss will make a Gameshow quiz to reflect about the concepts learnt in this unit. | Partial Lunar Moon EclipseWe can show pictures and video of the Partial Lunar EclipseTime change | * Students will conduct science experiment on what freezing does.
* Students will look at an observatory to locate different stars in our solar system. (Video or Virtual experience)

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| 1. Student Agency and Play:

What learning experiences provide students with voice, choice and ownership? What play opportunities will be provided by Kindergarten/Pre-K?hands on/STEAM for K-5? |  Resources:Which resources will you and the students use? This may include people, places, technologies, learning spaces and physical materials.  |
| Matter Stem ActivityStudents will use playdough to make a stage of matter or the moon.Student can make shadow puppets.In the states of matter students will try to freeze juice, popsicle. This will represent physical change.Physical change from one state to another. Melting Chocolate Activity (Solid to Liquid)Using the items from the mystery box, we will take the blow dryer and melt the chocolate, or we can take ice and place the freezer to melt to show the shadow.Hypothesize what they think will happen to chocolate experiment Students to measure shadows.We will take students outside on a sunny day, for them to measure their height and mark it on the long paper.  | Matter Mystery Box SuppliesVirtual Observatory Myon Magazines for matter collages Brain PopQuestions“Everything is Matter” BookMatter Attack Stations<https://www.dropbox.com/sh/uzoih0qviyj6gpr/AAAqF1vOAADSchzhFnNj5cl4a/Properties%20of%20Matter?dl=0&preview=s2p1-matter-lesson_1.docx&subfolder_nav_tracking=1> Melting Chocolate<https://www.dropbox.com/sh/uzoih0qviyj6gpr/AAAqF1vOAADSchzhFnNj5cl4a/Properties%20of%20Matter?dl=0&preview=s2p1-matter-lesson_2-_physical_properties_stations.docx&subfolder_nav_tracking=1> Sun, Earth, and Shadows<https://www.dropbox.com/sh/uzoih0qviyj6gpr/AADvLwHG7XQ_hK9QgE4JtxrMa/Seasons%2C%20Shadows%20and%20the%20Moon?dl=0&preview=s2e2-lesson_1.docx&subfolder_nav_tracking=1> Moon Data (Month Long Project)<https://www.dropbox.com/sh/uzoih0qviyj6gpr/AADvLwHG7XQ_hK9QgE4JtxrMa/Seasons%2C%20Shadows%20and%20the%20Moon?dl=0&preview=s2e2-lesson_3.docx&subfolder_nav_tracking=1> My Moon Observation Calendar (Month Long Project)<https://www.dropbox.com/sh/uzoih0qviyj6gpr/AADvLwHG7XQ_hK9QgE4JtxrMa/Seasons%2C%20Shadows%20and%20the%20Moon?dl=0&preview=s2e2-seasons_shadows_and_the_moon-lesson_3-student_moon_recording_sheet.docx&subfolder_nav_tracking=1> Experiment Recording Sheet<https://www.dropbox.com/sh/uzoih0qviyj6gpr/AADvLwHG7XQ_hK9QgE4JtxrMa/Seasons%2C%20Shadows%20and%20the%20Moon?dl=0&preview=s2e2-seasons_shadows_and_the_moon-stem_journal.docx&subfolder_nav_tracking=1> Me and My Shadow<https://www.dropbox.com/sh/uzoih0qviyj6gpr/AADvLwHG7XQ_hK9QgE4JtxrMa/Seasons%2C%20Shadows%20and%20the%20Moon?dl=0&preview=s2e2-stem_lesson-me_and_my_shadow.docx&subfolder_nav_tracking=1> Length of Day and Night<https://www.dropbox.com/sh/uzoih0qviyj6gpr/AADvLwHG7XQ_hK9QgE4JtxrMa/Seasons%2C%20Shadows%20and%20the%20Moon?dl=0&preview=s2e2-lesson_2_length_of_day_chart.docx&subfolder_nav_tracking=1> |
| **Section 5: Reflection** (Write the year, change font color for each year) |
| 1. Reflect on learning experiences:
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| Ginn(2021-22): Students showed understanding of matter and moon phases through completing their booklet and lesson on moon phases. They were able to relate real-life situations to the theme.Brown 21-22: My students really enjoyed working with this unit because we were able to do a lot of hands on activities. They showed their understanding of matter through completing their matter collage project and also through the inquiry based projects from the ga science resources. ECHOLS- students enjoyed activities we did.Timmons: Students were able show an understanding of matter throughout the unit with a variety of activities. They were able to create matter collages as well as playing a classroom game where they identified states of matter and how to change the state to another.  |
| 1. How were the tasks differentiated to meet different learning styles?
 | 1. How did the learning experiences and strategies we used throughout the unit help to develop and show students understanding of the central idea?
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| Ginn 21-22: Some students drew only pictures to make their book on matter. Some students wrote a paragraph. Students also wrote paragraphs. Brown 21-22: I was able to differentiate the tasks by the different inquiry projects. My higher thinkers did research on how hot does an item have to be at to start melting and how cold the temperature has to be to start freezing. Timmons: When identifying how the states of matter changed, some students illustrated the change while others were able to write sentences explain how the states change.  | Ginn 21-22: Students really loved learning about matter, force and motion, and the sky. They loved the hands on activities because they kept them engaged and excited about learning. Brown 21-22: My students really enjoyed this unit because of the different inquiry based task. The enjoyed learning about why and how things move in this world and that everything that moves is made of matter. Timmons: Students were able to see how all things are composed of matter and began to identify the different states as we worked through the unit. Some students were even able to identify changes in matter as a cycle and compared it to the moon phases.  |
| 1. What learning experiences best supported students’ development and demonstration of the attributes of the learner profile and approaches to learning?
 | 1. How effective were the summative assessments in measuring student learning? What, if any, changes need to be made to the assessments?
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| Ginn: Students completing the task on Matter, and Phase of the Moon best supported my students. Brown 21-22: Same as Mrs. Ginn’s class my students were really intrigued by completing the different task on matter and also the task from the ga science flipchart that focused on motion. These different task got my children to really start thinking deeply. Timmons: During the moon phases, students were able to better understand how the Earth moves in cycles and how the moon phases align with the seasons.  | Ginn 21-22: The science assessments and inquiry based assessments were very helpful to students. They focuses on the topics were facing. Brown 21-22: The summative assessment were very effective because they pinned point everything we had discussed in this unit and the assessments even connected to the central idea very well.ECHOLS-21-22 assessment variety usedTimmons: Assessments were good to gauge student’s understanding of the topic’s presented and if further assistance was needed.  |
| 1. What student-initiated inquiries (questions) arose from this unit of inquiry?
 | 1. What student action arose from this unit of inquiry?
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| Ginn 21-22: Students wanted to know more about the different phases, and Brown 21-22: So my students were really intrigued when we started to learn about matter. They wanted to know how do things freeze and why do things freeze. They also wanted to know how cold does it have to be for things to get to their freezing and melting point. Timmons: Students asked if there were only three states of matter.  | Ginn 21-22: Students researched moon phases, and made observations. Brown 21-22: My students researched freezing point and melting point of different items and we also did an experiment on moving a cube with different object by not just using our hands and they really enjoyed that. Timmons: Students regularly have started stating the types of matter things are in their everyday lives.  |
| 1. Any additional notes or changes that need to be considered next year?
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| **Section 6: Picture Evidence** |
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\*\*Scroll Down for Unit Standards\*\*

**Unit Standards**:

**ELA**:

**Math**:

**Science**:

**Social Studies**: