GEORGIA STATE UNIVERSITY

Curriculum Plan

Earth Systems

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Summer 2020

Overview and Theoretical Stance

What is the composition of the Earth? How was the Earth formed?

People can take for granted where they live and how it all came to be. What makes Earth the right place for humans to live? How important are all of the components of our planet for survival? This curriculum plan's goals are to make students understand Earth and Earth systems. Students will comprehend the Earth that they live on and how it relates to the other parts of the solar system. The students will be able to locate and describe the galaxy and where Earth is in relation to the other planets. I will teach students to investigate and complete laboratory assignments with components of the Earth, such as rocks, water and atmosphere. As an educator, the goal is for students to understand the core curriculum as it relates to the IRA Standards for Reading Professionals and Georgia Professional Standards (GPS).

Theoretical Stance

The theoretical stance of this curriculum plan, Earth Systems, will contain a culturally responsive and culturally relevant pedagogy. It recognizes the cultures and is inclusive to African-American, Spanish/Latinos and other cultures that are in the classroom. Cultivating greater cultural awareness in the content area of science will raise the expectations of students, improve literacy and fuel greater student performance (Cartledge et al. 2008). Using the schema theory, the curriculum plan corresponds to when McVee et al.

explained that knowledge grows out of transactions in which the learner is engaged in activity or a task which occurs in a cultural context (Ch. 2 p. 27). Allowing culturally diverse student to read an article, watch a video, or hear about a person from their race or culture in a science context will create a connection to the lesson plan and create greater interest in the subject (Ch. 2 p. 53-54). Keeping the attention of students with differentiated instruction and a quick pace improves the learning. Leonard el al (2010) conclude that culturally relevant pedagogy and social justice pedagogy can lead to understanding the significance of the content, recognizing opportunities, and helping students believe that they can learn the content, thereby creating an effective learning environment.

Part A: Planning Overview

Reading is the process that pertains to recognizing words which then leads to the development of comprehension. It relays the meaning of the text to the reader. Content literacy is the ability to use reading and writing to obtain new content in given discipline (McKenna & Robinson 1990). This curriculum plan is developed around Victoria R. Gillis, George Boggs, & Donna E. Alvermann's 8th Ed. Content Area Reading and Literacy instructional framework for content area literacy lessons. It is designed to help instructors develop strategies, beneficial in addressing the challenges of all students. I chose Victoria R. Gillis, George Boggs, & Donna E. Alvermann's instructional framework because it introduces strategies that have been studied and proven to enhance essential literacy

instruction. It improves areas such as: comprehension, reading fluency, informational text, narrative text, media and digital literacies, critical thinking, and independent learning (Antonacci, O'Callaghan, & Berkowitz, 2014).

I plan to prepare a curriculum that will aid me in understanding assessment and allow me to use assessment to drive instruction because this will benefit both me and my students (C4, p. 91I). I will create a learning environment that promotes respect and support for the student's differences. I will do this by encouraging students to be proud of their culture and heritage. I will have them engage in group discussions to talk about their cultural traditions, food, celebrations, history, and languages. This will help them to become familiar with other ways of life, various ethnicities, and build their confidence at the same time. It is imperative to teach students to support and respect each other's differences. I will also encourage students to make connections between home, school, and peer cultures (C12, p. 310).

The idea of adaptations as it pertains to the teaching of content will be achieved by designing a work plan specific to each student's lifestyle. This will allow them to teach each other and their teacher while they explore learning, growing in their literacy. This will help them to dream their dreams in settings often much more influential than a school setting (C12, p. 310). In my curriculum I will implement graphic novels (some done in manga style) are essentially extended comic books, and along with contemporary picture books, they treat a wide range of subjects, including the environment, families, ethnic heritage, relationships, war, love, social problems, and historical events. Schwartz (2004) points out that many graphic novels also give nuanced treatment to a wide range of worthy topics and lend themselves to teaching multiple literacies, including print literacy, visual literacy, and media literacy (C12, p. 308).

a. **Basic Information:** This curriculum plan is designed for 6th grade students in a 50-minute Earth Science class**.** In the Rockdale County area there are English speakers and English Language Learners. The school is part of the Rockdale County Public School (RCPS) and is a Title 1 school located in Conyers, Georgia. This is a multicultural community and the population of Rockdale County is 85,215 people with a racial breakdown as follows: White-38,187, Black/African American-39,559, Hispanic or Latino-8,063, Asian-1,516, American Indian-253, Some Other Races-3,816, Two or More Races-1,828, and Three or More Races-151. The median income for Rockdale County is $57,049 and the average income is $73,076.25. The unemployment rate is 10.80% which averages to 5,045 people.

b. **Community/School Demographics:** The top three languages spoken in Rockdale County are English, Spanish, and various Asian languages. The minority enrollment is 87% of the student body (majority black), this is more than the Georgia public school average of 60% (majority black). The student teacher ratio of 14:1 is less than the Georgia public school average of 15:1.

c. **Technology:** At Rockdale County Public Schools (RCPS) the instructional technology staff promotes an active learning environment where students use computers to link to real-world topics. The technology resources at each school introduce online content in the traditional classroom. All classes are equipped with tools for an interactive classroom, including a mounted projection system, interactive slates, document camera, and internet connected devices. A three-year program began in the 2013-2014 school year, Learning Reimagined, where each student grades 2 through 12 receive a personal computer to use and at grades K through 1 sets of 10 iPads are provided for each classroom. RCPS, prior to the pandemic, had independent learning days built into the school calendar.

d. Lesson Plan Calendar (below)

TC Name: Ms. Spencer
Day & Date: Days 1-5, Sept. 2020
Subject Area & Grade Level: Earth Science 6th Grade
Number of Students in Class: 15

Day	IRA/GPS Standards Addressed	Focus of Lesson/Focusing Question/Goals of Class	Content Strategies used and why	How I will assess student learning (in/formal)	Resources used that address range of readers	Homework
1	**IRA:** Foundational Knowledge Understand major theories and empirical research that describe the cognitive, linguistic, motivational, and sociocultural foundation of reading and writing development, processes, and components, including word recognition. **GPS:** **S6CS1:** Students will explore the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world **works.** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Q: Why is it important to understand the Earth's systems? Focus: To have students understand scientific theory. To examine to what extent the Earth an active, changing system. To teach students about the solar system, meteorology, oceanography, and geology.	Students will watch Flocabulary video on The Solar System. https://www.flocabulary.com/unit/solar-system/ Allow students to use quotes by scientific scholars to gain a better understanding of the Earth, Moon, Solar System, the Universe, and use this to help them see how the Earth, processes, and systems all complement one another to provide the Earth's resources. "It takes an earthquake to remind us that we can walk on the crust of an unfinished earth." Charles Kuralt "The universe is under no obligation to make sense to you." Neil Degrasse Tyson	Let each student write a paragraph summary detailing what they have learned. Let them ask each other trivia questions about the areas of Earth Science they have studied. Have them give examples of how human activities relate	6th Grade Science Review Booklet----Earth and Space by The Science Duo New Georgia Standards of Excellence 6th Grade Earth Science by SuperDaveScience6th Grade Earth Science Bell Ringers/Warm-ups-BUNDLE! By Science Edugator	S6E1 Ask questions to determine changes in models of Earth's position in the solar system, and origins of the universe as evidence that scientific theories change with the addition of new information. (Clarificatio

	1. Practice careful and attentive reading of both assigned text and independent text choices. 2. Use summary, paraphrase, annotation, and any other useful strategy you have learned to ensure that you are comprehending as you read and that you have adequate recall of material covered. **S6CS2**: Students will use standard safety practices for all classroom laboratory and field investigations. **S6CS3:** Students will use computation and estimation skills necessary for analyzing data and following scientific explanations.		"The four most common chemically active elements in the universe --- hydrogen, oxygen, carbon, and nitrogen— are four most common elements of life on Earth. We are not simply in the universe. The universe is in us." Neil Degrasse Tyson Word of the day—Astrophile Students will complete a Frayer model for the word of the day. Show a video clip of the "What is Earth Science?" https://youtu.be/Ck_e4CRM82Y Discuss the video and information relayed. Questions to consider: How many individual stars are contained inside the Milky Way? What makes the sun such an important star? How many species roam the Earth?	to interactions with the Earth.		n statement: Students should consider Earth's position in geocentric and heliocentric models and the Big Bang as it describes the formation of the universe.)
2	IRA: Foundational Knowledge Understand major theories and empirical research that describe the cognitive, linguistic, motivational, and sociocultural foundation of reading and writing development, processes, and components, including word recognition.	Q: Is the Earth and its solar system are part of the Milky Way galaxy? If so, is this one of the many galaxies in the universe?	Next, discuss how the sun affects weather patterns and how climate has changed over time and how people can affect this. Have students divide into groups and allow each group to choose an area of Earth Science to write a paragraph about. Allow students to conduct experiments in class. This activity will help them stay engaged and focused on learning without losing interest. It will also aid them in	Have the students share information about what they've read in the text.	I will show a video titled "Earth's Motion Around the Sun" https://youtu.be/82p-DYgGFjI This will help students who have trouble	Read from the Text: Earth & Science Teacher Edition Science Notebook 6th Grade

	GPS: **S6CS4:** Students will use tools and instruments for observing, measuring, and manipulating equipment and materials in scientific activities. **S6CS5**: Students will use the ideas of system, model, change, and scale in exploring science and technological models. **S6CS6:** Students will communicate scientific ideas and activities clearly.	Focus: To have students asking questions, defining problems, developing and using models to analyze and interpret data.	learning and comprehending through the hands-on approach. Project A: Pair up students and let them do an experiment that shows them how salt flats are formed. Project B: Develop a model to represent the position of the solar system in the Milky Way galaxy and in the known universe.		speaking and reading English to better comprehend. I will work individually with each student as they read in class to help struggling readers.	Level 6 IScience
3	IRA: Foundational Knowledge Understand major theories and empirical research that describe the cognitive, linguistic, motivational, and sociocultural foundation of reading and writing development, processes, and components, including word recognition. GPS: **S6CS7:** Students will question scientific claims and arguments effectively.	Q: How What processes cause the creation of the features of the Earth, such as rivers, volcanoes, valleys, mountains, glaciers, and coastal features? Focus: To understand the formation and structure of the solar system.	Women of Color Excellence in STEM, Dr. Patricia Bath, (https://www.youtube.com/watch?v=gcE_QMTBNW4) Teacher will introduce performance task Students will pair with a partner. Teacher will read a chapter from "Atlas World." Students will discuss it with their partner and write a short summary in a journal.	Have students gather information on how scientific investigations are best designed?	Design the lesson plan specific to the needs of each student who has a learning disability.	Read from text Earth & Science Teacher Edition Science Notebook 6th Grade Level 6 IScience. Analyze and interpret data to compare and contrast the planets

	<u>S6CS8</u>: Students will investigate the characteristics of scientific knowledge and how it is achieved.	Students will be able to write an informative text that explains, how the solar system consist of the sun and a collection of objects, including planets, their moons, and asteroids. The students will be able to				in our solar system in terms of size relative to Earth, surface and atmospheric features, relative distance from the sun, and ability to support life.
4	**IRA:** Standard 2: Curriculum & Instruction Use appropriate and varied instructional approaches, including those that develop word recognition, language comprehension, strategic knowledge, and reading– writing connections. **GPS:** **<u>S6CS7</u>:** Students will question scientific claims and arguments effectively.	Q: What governs the motion of the Solar System? Focus: Students will be able to write clear and coherent compositions using organization, and style that are appropriate to task, purpose, and audience.	*<u>Quick Write</u>: If you took a trip into space what would you like to examine? Which celestial bodies do you think would interest you most?* Have students write for no more than 5 minutes, and share their responses. Teacher will introduce performance task. Have students think about Patterns of the apparent motion of the sun, the moon, and the stars in the sky can be observed, described, predicted and explained.	Have students think about information they have shared and read the text throughout the week.	By allowing the students to work in groups to illustrate their understanding, this gives the non-English speaking, and special needs students different ways to convey what they have learned.	Read from the text: Earth & Science Teacher Edition Science Notebook 6th Grade Level 6 IScience Develop and use a model to explain the interaction

	S6CS8: Students will investigate the characteristics of scientific knowledge and how it is achieved.	Students will be able to use first-hand experience and prior knowledge to explain the how patterns of the motion of the sun, the moon, and the stars in the sky can be observed, described, predicted, and explained.	Poster- a collage of pictures of three types of aggregates. Name the most common thing aggregates are used for. List at least four of the materials used to make concrete. Name two things concrete is used to build. What do you call the reaction that occurs when crystals radiate outwards from the cement grains and mesh with other adjacent crystals or adhere to the adjacent pieces of aggregates?		Also, writing brief summaries on what they studied in class will help them to retain the information as well as Improve their comprehension skills.	of gravity and inertia that governs the motion of objects in the solar system.
5	IRA: Standard 2: Curriculum & Instruction Use appropriate and varied instructional approaches, including those that develop word recognition, language comprehension, strategic knowledge, and reading– writing connections. GPS: **S6CS9:** Students will investigate the features of the process of scientific inquiry. **S6CS10:** Students will enhance reading in all curriculum areas by:	Q: What do scientists call a meteoroid once it strikes the surface of the Earth? Focus: To fully understand the difference between an asteroid,	Students must write two paragraphs in their journal discussing asteroids, meteoroids, and comets. Once a meteoroid enters the Earth's atmosphere and vaporizes, it becomes a meteor. Students must explain what type of star the meteor is also called. *"Almost all of the space program's important advances in scientific knowledge have been accomplished by hundreds of robotic spacecraft in orbit about Earth and on missions to the distant*	The students will share a three minute synopsis of their argumentative paper to the class and turn in the argumentative paper to the teacher.	Using the videos to provide information will help the non-English speaking, and special needs students understand the information. Also, working with students individually and	Ask questions to compare and contrast the characteristics, composition, and location of comets, asteroids, and meteoroids.

	a. Reading in All Curriculum Areas read a minimum of 5 grade-level appropriate books per year from a variety of subject disciplines and participate in discussions related to curricular learning in all areas read both informational and fictional texts in a variety of genres and modes of discourse read technical texts related to various subject areas. b. Discussing books discuss messages and themes from books in all subject areas. Respond to a variety of texts in multiple modes of discourse. Relate messages and themes from one subject area to messages and themes in another area. Evaluate the merit of texts in every subject discipline. Examine author's purpose in writing. Recognize the features of disciplinary texts. c. Building vocabulary knowledge demonstrate an understanding of contextual vocabulary in various subjects. Use content vocabulary in writing and speaking. Explore understanding of new words found in content area texts.	meteoroid, and a comet. Students will learn that meteorites have already been subjected to detailed chemical and physical analyses in laboratories. Students will provide two references that verify that particular asteroids can be identified as the sources for some of the well-studied meteorites, a detailed knowledge of the meteorite's composition and structure will provide important information on the chemical mixture and	*planets Mercury, Venus, Mars, Jupiter, Neptune, Saturn, and Uranus. Robotic exploration of the planets and their satellites as well of comets and asteroids has truly revolutionized our knowledge of the solar system."* ----*James Alfred Van Allen* *Believe me this planet has put up with much more than us. It's been through earthquakes, volcanos, plate tectonics, solar flares, sun-spots, magnetic storms, poles reversals, planetary floods, worldwide fires, tidal waves, wind and water erosion, cosmic rays, ice ages, and hundreds of thousands of years of bombardment by comets, steroids, and meteors. And people think a few plastic bags and aluminum cans are going to make a difference?* ----*George Carlin*		making assignments specific for those that have difficulty will build their confidence and make them more interested in learning.	

	d. Establishing context explore life experiences related to subject area content. Discuss in both writing and speaking how certain words are subject area related. Determine strategies for finding content and contextual meaning for unknown words.	conditions from which the parent asteroid formed 4.6 billion years ago.				

Teaching Overview (C5-11)

It is important to understand a wide variety of instructional practices, approaches, methods, and curriculum materials because you must prepare for the need of each student. When you have students that are already at a disadvantage due to language barriers, they need more individual help. They also require other tools to guide them in learning rather than just reading from the text. It is imperative for teachers to get familiar with each student's learning style. Some students are quick learners, and some learn at a much slower rate which makes them more likely to have trouble. I would use audio, visual, online activities, and group activities to keep them focused. It is important to encourage and motivate the students while letting them know that you have confidence in their abilities.

Consequently, I would introduce the curriculum to students who are having difficulty by establishing general concepts about students with and without disabilities through class discussions, books, movies or a guest speaker. Give all students an opportunity to talk about themselves, their strengths and interests. Allow others to ask questions. (I will make sure to talk about the types of questions that can be asked prior to the activity.) Dis-spell any myths and misunderstandings about students with disabilities by praising the student for their talents and strengths. Address student-specific issues that are important for the class to know about in order to interact and learn alongside each other. For example, if a student has a peanut allergy, invite the class nurse in to talk about allergies and the importance of keeping peanut products out of the classroom. If the student with disabilities communicates with an iPad, have the student (parent and/or paraprofessional) give a demonstration (Eredics, 2017).

b. Text and Rational used in Curriculum Plan

1. The Earth Science Book (D. Zike, 1993). I chose this book because it contains a series of easy-activities and experiments that help children uncover secrets about the Earth's composition, movement, atmosphere, oceans, habitats and environment. The activities will add fun to learning and help readers who struggle to gain a better understanding of what they are reading through the illustrations.
2. The Ultimate Book of Planet Earth (A.S. Baumann, 2019). I chose this book because it is great for learning about the Earth's geology, geography, atmosphere, weather, etc. It also has lots of flaps, popups, pull-tabs, and rotating wheels bring mountain ranges, continents, and oceans to life. The toys and popups will make it engaging for the students and give them an incentive to comprehend what they read.
3. Planet Earth Inside Out (G. Gibbons, 1995). I selected this book because it's a basic and enjoyable introduction to our planet according to the Washington Post/Children's Book Guild Award winner.
4. My First 454 Billion Years by (S. McAnulty, 2017). I chose this book because it is fairly, easy to read and I feel that students with language barriers and other learning disabilities will have an easier time reading it. It also has colorful illustrations that can add students in comprehending the text.
5. Geology Lab for Kids: 52 Projects to Explore Rocks, Gems, Geodes, Crystals, Fossils, and Other Wonders of the Earth's Surface. (G. Romaine, 2017). I chose this book because it's full of amazing activities for students to enjoy. I chose this book because it's a guide to exploring the wonders of geology such as the formation of crystals, fossils, and layers of the Earth's crust. It is an excellent book for keeping students engaged and eager to learn.

Texts to Use with Curriculum Plan

Baumann, A. S., & Balicevic, D. (2019). *The Ultimate Book of Planet Earth*. Tourbillon.

Gibbons, G. (1998). *Planet Earth/Inside Out*. HarperCollins.

McAnulty, S. (2017). *S. McAnulty, 2017*. Henry Holt and Co. (BYR).

Romain, G. (2017). *Geology Lab for Kids: 52 Projects to Explore Rocks, Gems, Geodes, Crystals, Fossils, and Other Wonders of the Earth's Surface*. Quarry Books.

Zike, D. (1993). *The Earth science book: Activities for kids*. Wiley.

c. Five Strategies Used in CP to Support Student Learning

1. Context Clues Strategy (C7, p. 197)

   It is important to teach students a process for finding and interpreting context clues. Stop and reread the sentence and pay attention to the words that come before and after an unfamiliar word. I chose this strategy for this content because it is makes it easier for a student to learn to pronounce the word in the science content. It also, helps to determine the meaning of a challenging word.

2. Morphemic Analysis Strategy (C7, p. 197)

   Morphemes are the smallest units of meaning in a language. Inside clues come from recognizing meaningful parts of a word, i.e., using morphological knowledge. I chose to use this strategy because it allows a student to understand how language building relates to words in the science classroom. This also helps to comprehend the internal components of a word.

3. Visual Associations Strategy C7, p. 195)

This method connects words with visual images which makes them easier to remember. I chose this because visual literacy makes sense of information presented in visual form and is necessary in scientific observation. This extends the meaning of literacy in the science classroom, so it often simplifies the comprehension of the written text.

4. Monitoring Comprehension Strategy (C.R. Adler, n.d.)

   Students who are good at monitoring their comprehension know when they understand what they read and when they do not. They have strategies to fix problems in their understanding as the problems arise. I chose this strategy because comprehension monitoring instruction teaches students to be aware of what they do not understand and to use the appropriate strategies to resolve problems with comprehension.

5. Metacognition Strategy (C.R. Adler, n.d.)

   This can be defined as thinking about thinking. Good readers use metacognitive strategies to think about and have control over their reading. Before reading, they might clarify their purpose for reading and review the text. I chose this strategy for the students who are good readers because this will only help to sharpen their skills. It makes them focus and concentrate on what they are reading. It helps them to learn their weaknesses and strengths. They can quickly find the root of the problem which in turn, helps them to overcome the issue much more quickly.

Assessment (5, 12)

It is important to use informal assessments because they can be used to identify why a student is acting out in the classroom. It can help the teacher better meet the needs of the student. Informal assessments make it easier for teachers to best a student's specific needs. It is important to use formal assessments because they answer the accountability question with factual data. These assessments are valuable tools that educators can use to evaluate the process of a student on a subject. The information provided by these assessments allow teachers to see how well a student is progressing and target specific areas (B. Weaver, 2020).

Furthermore, I would use science journal writing samples, grading assignments, science projects and tests and quizzes to monitor student's progress and to see just how much they know. Informal assessments are not data driven but rather content and performance driven. For example, running records are informal assessments because they indicate how well a student is reading a specific book. The assessment used should match the purpose of assessing. Formal or standardized measures may be used to assess overall achievement (Scholastic.com, 2020).

Consequently, two culminating experiences formal in nature that help to monitor the insight to the extent of a student's learning are standardized tests. They help because you can determine the amount of information the student has retained. It also allows you to view their strengths and weaknesses. Achievement tests also are beneficial for this reason. These test results give the teacher an idea of how fast the student is learning, how much extra help they need, and whether or not they are able to comprehend what they are reading.

References

Antonacci, P. A., O'Callaghan, C. M., & Berkowitz, E. (2014). *Developing content area literacy: 40 strategies for middle and secondary classrooms*. Sage Publications.

Beers, K. (2002). When Kids Can't Read: What Teachers Can Do: A Guide for Teachers 6-12 (1st ed.). Heinemann.

Cartledge, G., & Kourea, L. (2008). Culturally responsive classrooms for culturally diverse students with and at risk for disabilities. *Exceptional Children, 74*(3), 351–371.

Eredics, N. (2017). *8 Tips for Introducing a Student with Disabilities to a General Education Classroom*. Friendshipcircle.Org. https://Friendshipcircle.org

Gillis, V. R., Boggs, G., & Alvermann, D. E. (2016). Content Area Reading and Literacy: Succeeding in Today's Diverse Classrooms, (8th Edition). Pearson.

Leonard, J., Brooks, W., Barnes-Johnson, J., & Berry III, R. Q. (2010). The nuances and complexities of teaching mathematics for cultural relevance and social justice. *Journal of Teacher Education, 61*(3), 261–270.

McGraw-Hill Education (2011). Glencoe Earth & Space IScience: Teacher Edition. Science Notebook 6th Grade, ISBN 10: 0078880092 ISBN 13: 9780078880094

McKenna, M. C., & Robinson, R. D. (1990). Content literacy: A definition and implications. *Journal of reading, 34*(3), 184-186.

Demographic Sources:
https://www.point2homes.com/US/Neighborhood/GA/Rockdale-County-Demographics.html
https://www.niche.com/k12/d/rockdale-county-schools-ga/#finances
https://www.rockdaleschools.org/

Day 1: Lesson and Assessment Plan

Curriculum Standards

GSE (Georgia Standards of Excellence) / National Curriculum Standards
https://www.georgiastandards.org/Frameworks/Pages/BrowseFrameworks/Frameworks.aspx

SPLC Anti-bias Framework Standard

https://www.tolerance.org/sites/default/files/general/TT%20anti%20bias%20framework%20pamphlet_final.pdf

ISTE Technology Standard

https://www.iste.org/standards/for-students

Mode of Instruction - Face to Face / Classroom aids/computer labs/laptop instruction/web-enhanced learning

Learning Objective(s)

- **Knowledge-Remembering: define, list, recognize**
- **Comprehension/Understanding: characterize, describe, explain, identify, locate, sort**
- **Application/Applying: choose, demonstrate, implement, perform**
- **Analysis/Analyzing: Analyze, categorize, compare, differentiate**

- **Formative & Summative Assessment- Draw a concept map in class to represent their understanding of the topic**
- **Give them tests and use progress reports to assess the student's improvement**

- **Differentiation- Individual learning plans**
- **Accommodation-Recording of stories for those students with reading struggles. Word banks to choose from, extra time for assignment completion**
- **Modification-Instructional time changed, different spelling list than others, Different lists of vocabulary based on reading level**

Instructional Strategies & Learning Tasks to Support Diverse Learners' Needs • **Cooperative Learning** • **Inquiry-based instruction** • **Differentiation** • **Behavior Management** • **Professional Development** • **Technology in the classroom**
Introduction (10 Number of minutes)
Body (30 Number of minutes)
Closure (10 Number of minutes)
Facilitation & Safety • **Preparation by a written plan** • **Serves as a recorded record**
Materials • **#2 Pencils Erasers, Highlighters** • **Science Journal** • **Pencil Sharpener** • **Backpack**
References • **Books on teaching Earth Science** • **Earth Science book list & Resource Guide**

Day 2: Lesson and Assessment Plan

Curriculum Standards

GSE (Georgia Standards of Excellence) / National Curriculum Standards
https://www.georgiastandards.org/Frameworks/Pages/BrowseFrameworks/Frameworks.aspx

SPLC Anti-bias Framework Standard

https://www.tolerance.org/sites/default/files/general/TT%20anti%20bias%20framework%20pamphlet_final.pdf

ISTE Technology Standard

https://www.iste.org/standards/for-students

Mode of Instruction
Face to Face / Classroom aids/computer labs/laptop instruction/web-enhanced learning

Learning Objectives

- **Knowledge-Remembering: define, list, recognize**
- **Analysis/Analyzing: Analyze, categorize, compare, differentiate**
- **Application/Applying: choose, demonstrate, implement, perform**

Formative & Summative Assessment

- **Draw a concept map in class to represent their understanding of the topic**
- **Complete a laboratory model and present it to the class**

- **Differentiation- Individual Learning Plans**
- **Accommodation-Recording of stories for those students with reading struggles. Word banks to choose from, extra time for assignment completion**
- **Modification-Instructional time changed, different spelling list as others, Different lists of vocabulary based on reading level**

Instructional Strategies & Learning Tasks to Support Diverse Learners' Needs

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References • Books on teaching Earth Science • Earth Science book list & Resource Guide