Example Unit Planner – not for use

Grade/Subject	Grade 2
Unit Title/Topic	Science, Unit: Plants and Soil are Friends
Pacing/# of weeks	5 weeks, November week 1 through holiday break or first week in January

Unit Overview

Rationale: This unit fits after the Matter unit and helps students understand that just like people and characters, soil has physical characteristics or properties, and the different characteristics affect how plants grow. Also, just like social studies teaches us that people live in different areas of the world, different soil can be found in different parts of the world. People and soil are very closely connected. The performance expectations in second grade help students formulate answers to questions such as: "How does land change and what are some things that cause it to change? How are materials similar and different from one another, and how do the properties of the materials relate to their use? What do plants need to grow? Students are expected to develop an understanding of how and why soils differ by climate/area, what plants need to grow, and how plants depend on animals for seed dispersal and pollination. Students are also expected to compare the diversity of life in different habitats.

Big Ideas

Enduring Understandings	**Essential Questions**
Studying and comparing things helps us make sense of our world Plants depend on water and light to grow Soil is different in different places Different plants can live in different places Soil keeps plants, animals, and humans alive Properties of soil are color, texture, and loam Materials have different physical properties which make them useful in different ways	Why do we classify things? Why do some plants only grow in certain places? How does soil help us survive? How does the type of soil impact plants? How can we classify or sort soil types? How does the soil where I live impact things that I see around me?

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Core Content Standards	
Overarching Standards	Understanding the properties of soil helps us better understand the environment in which we live A "variety of objects, organisms, and systems are made up of parts" - an idea that applies to the physical, life, and Earth and space sciences, as well as engineering. A simple sketch, drawing, or physical model helps to show how the shape of an object helps it function as needed to solve a given problem.
Priority CT Core Standards or Content Specific Standards **(NGSS)**	2.3.2- Classify soils by properties such as color, particle, size (sand, silt, clay), or amount of organic material (loam). 2.3.3- Explain the importance of soil to plants, animals, and people. 2.3.4- Evaluate the quality of different soils in terms of visible/observable presence of air, water, living things, and plant remains NGSS: Engineering Standards: 2: Developing and Using Models 3: Planning and Carrying Out Investigations Life Science: LS2 Ecosystems: Interactions, Energy, and Dynamics
Supporting Standards	2.3.1- Use senses and simple tools (ex. beaker/sieve) to separate soil into components such as rock fragments, water, air, and plant remains 2.3.5- Conduct a test to investigate how different soil types affect plant growth and write conclusions supported by evidence CT Core Standards: LA/Literacy – W.2.7 Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (2-LS2-1) W.2.8 Recall information from experiences or gather information from provided sources to answer a question. (2-LS2-1)

Performance Expectations/Success Criteria
Students will separate and classify soil by sand, silt, clay, and loam as well as by color, size, texture. Students will explain and evaluate soil importance to plants, animals, and people. Students will analyze soil components: rock fragments, water, air, organic material. Students will design an experiment to show that soil affects plant growth. Students will design and conduct an experiment to show that a plant needs light and water to grow.

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Concepts students need to know/understand	**Skills** students need to be able to do
Components of soil: Rock fragments, Water, Air, Organic material Soil can be separated to identify sand, silt, clay, particles Name particles by: Color, Size, Texture, Loam Soil importance to plants, animals, people Soil affects plant growth Soil is a habitat for many living things	Observe/analyze Classify Explain and Interpret Evaluate Evaluate/Synthesize Read, write, and speak about observations

Authentic Assessment/Project-Based Assessment/Inquiry	**Unit Assessments** (Common assessments, formative, quizzes)
Students will design an experiment to show that soil affects plant growth. Students will design and conduct an experiment to show that a plant needs light and water to grow. Students will create a local soil book	FOSS Kit- Pebbles, Sand, & Silt investigation- all students Vocabulary activity & week 2 Classification stations Scientist journal- examine local soil, run tests, record findings, & observe plant growth for local soil book

Learning Plan- example only- not complete		
Strategies for Tier I Instruction Identifying similarities and differences, comparison/contrast, classification Making models/ pictures to represent content Generating and testing hypotheses- problem-solving, investigation, inquiry tasks Journaling for use for data and summarizing Vocabulary cards	**Materials/Resources** Venn diagrams and T charts for comparisons Compiled soil materials and variety of sorting tools (Foss Kit) Digital/print images of various landscapes, plants, and soil types John Muir Soil lesson: https://vault.sierraclub.org/john_muir_exhibit/lessons/science/grade_2_soil.aspx Literature: Dirt Made My Lunch- Banana Slug String Band	**Assessments** Informal: exit slips, schema activator questions, end of class tracking of Essential Questions, MRT (multiple response techniques like dry erase boards or tech survey platforms)

Specialized Instructional Strategies		
Differentiation Strategies Graphic organizers (Venn, Comparison/contrast, Word web) Varied texts Modeling Video journal	**Intervention Strategies** Direct vocabulary instruction Technology modeling/visual support Visual cues/images to align with content Hands-on manipulatives Taking pictures on iPad/device to show steps for students to reference Repetition and practice Dictation/recording of notes/video journal	**MLL/Special Education Strategies** Models/materials Story frames Direct vocabulary instruction Technology modeling/visual support Visual cue cards Pre-teach concepts Advance organizers