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| **Lesson Content** | | | |
| **What Standards (national or state) relate to this lesson?**  (You should include ALL applicable standards. Rarely do teachers use just one: they’d never get through them all.) | SC.3.L.14.1 Describe structures in plants and their roles in food production, support, water, and nutrient transport, and reproduction. | | |
| **Objectives- What are you teaching?**  (Student-centered: What will students know and be able to do after this lesson? Include the ABCD’s of objectives: action, behavior, condition, and degree of mastery, i.e., "C: Given a sentence written in the past or present tense, A: the student B: will be able to re-write the sentence in future tense D: with no errors in tense or tense contradiction (i.e., I will see her yesterday.)."  Note: Degree of mastery does **not** need to be a percentage.) | Students will be able to explain how roots absorb water and nutrients and how they hold the plant in place. | | |
| **Evaluation Plan- How will you know students have mastered your objectives?**  Address the following:   * What formative evidence will you use to document student learning during this lesson? * What summative evidence will you collect, either during this lesson or in upcoming lessons? | Formative: Ability to answer the questions throughout the lesson, and complete/comprehend the laboratory experiment  Summative: End of unit test | | |
| **Lesson Implementation** | | | |
| **Step-by-Step Plan**  (What exactly do you plan to do in teaching this lesson? Be thorough. Act as if you needed a substitute to carry out the lesson for you.)  Where applicable, be sure to address the following:   * How will materials be distributed? * How will students transition between activities? * What will you as the teacher do? * What will the students do? * What student data will be collected during each phase? * What are other adults in the room doing? How are they supporting students’ learning? * What model of co-teaching are you using? | Time | Who is responsible (Teacher or Students)? | Each content area may require a different step-by-step format. Use whichever plan is appropriate for the content taught in this lesson. For example, in science, you would detail the 5 Es here (Engage/Encountering the Idea; Exploring the Idea; Explanation/Organizing the Idea; Extend/Applying the Idea; Evaluation).  Today we are going to be learning about plants roots and stems so that we can better understand the world around us (written on the board)  We will start with a really exciting Myon story, and at the end we are going to do an experiment!  STORY:  Myon story *Plant Plumbing: A Book About Roots and Stems*  Page four – plant parts – hold up one of the flowers so that the students can observe a plant in real life  Page five – the roots of our flowers were cut off, but they are important when the flower is growing! The stems are attached to the flower still  Page six – roots are really important! Lets learn more about them!  Page eleven – wow! Roots are really interesting. The stems are attached to our flower still, lets learn more about them!  Page fourteen – pass around bundle of straws  That is a lot of information about roots and stems! Who is excited to learn more?  SCIENCE TEXTBOOK: ROOTS AND STEMS  Open your science textbooks to page fourteen  Can anybody read me the title of this section? (Roots and Stems)  Buddy read pages 14 through 15, I will give you about ten minutes.  Pull class back together  What are roots? (The part of a plant that grows down into the soil)  What do roots do for the plant? (Roots take in water and nutrients from the soil. They also hold the plants in place and support its upward growth)  Turn the page and buddy read pages 16 through 17  What is a stem? (The part of a plant that supports the plant and holds it up right?)  Wrap up questions:  What does a root take from the soil (Roots take water and nutrients from the soil)  How do the roots of a plant get food? List the parts of a plant that food passes through as it travels to the roots (Food moves through the leaves to the stem and then through the roots)  How are the stalk of a bean plant and the trunk of a tree alike? How do the stalk and a trunk help a plant to live? (Both are kinds of stems. They carry water and nutrients from the roots to the leaves, and they carry food from the leaves to the rest of the plant)  EXPERIMENT:  Fill a cup about half full with water.  Add about twenty drops of food coloring (blue, green, purple, red)  Put the students in pairs  Pass out the flowers  Place the stem in the cup (on the back counter) and wait till tomorrow  What do you think will happen? (Accept a variety of answers – the flower will change colors – the stems will suck up the colored water – etc.)  Have the students log (and draw a picture of) their observations and prediction in their science notebooks  Tomorrow you guys will be able to check on your plants and see if your predictions were correct!  Remember that roots and stems are really important for plants to survive  Really good job everybody  Put away your science books and get ready for math! |
| **Meeting your students’ needs as people and as learners** | **If applicable, how does this lesson connect to the interests and cultural backgrounds of your students?**  This lesson connects to the interest of the students because they all really enjoy completing science experiments, through incorporating this experiment the students will be more involved with the lesson and retain the information related to the objectives. | | |
| **Differentiation—based on the needs of your students how will you take individual and group learning differences into account.** | Through allowing the students to work together during the reading and experiment, the lower level students will have some guidance from their peers that will assist them in understanding the content. | | |
| **Relevant Psychological Theories and research taken in consideration when planning this lesson** |  | | |