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| **Grade: 3** | | | **Subject: Science-Soil** | |
| **Materials: soil, sand, oreos, chex cereal, pretzels, white board** | | | **Technology Needed:** | |
| **Instructional Strategies:**   * Direct instruction * Guided practice * Socratic Seminar * Learning Centers * Lecture * Technology integration * Other (list) | | * Peer teaching/collaboration/   cooperative learning   * Visuals/Graphic organizers * PBL * Discussion/Debate * Modeling | **Guided Practices and Concrete Application:** | |
| * Large group activity * Independent activity * Pairing/collaboration * Simulations/Scenarios * Other (list)  |  | | --- | | Explain: | | * Hands-on * Technology integration * Imitation/Repeat/Mimic |
| **Standard(s)**  3.5.4. Identify the properties of soil (e.g., color, texture, ability to support plant growth, capacity to retain water) | | | **Differentiation**  **Below Proficiency: Students will only need to write 1-2 descriptive words for each soil and sand. Should the teacher have the students write sentences, the student below proficiency will only be required to write one sentence.**  **Above Proficiency: Students will be expected to write 5 or more words for each as well as a short paragraph about soil.**  **Approaching/Emerging Proficiency: Students at this level will be required to write the amount of words and sentences that are asked, but will be encouraged to write more if possible.**  **Modalities/Learning Preferences: Students with visual, auditory or attention deficit needs will sit closer to where the learning is taking place. Students with visual learning styles will benefit from the Venn diagram and the diagram of the tree and the different layers of soil.** | |
| **Objective(s)**  **By the end of the unit, students will compare and contrast the different types of soil, as well as label the different layers of the ground.**  **Bloom’s Taxonomy Cognitive Level: Knowledge and Comprehension** | | |
| **Classroom Management- (grouping(s), movement/transitions, etc.)**  **Students will raise their hand before speaking. The teacher will dismiss students no more than 2-3 students at a time to go back to their desk.** | | | **Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)**  **Students will be expected to raise their hand prior to speaking. Students will be expected to be respectful to one another. Students will be expected to write and draw only what pertains to the lesson in their notebooks-not only to help the students stay on task but to also prevent them from getting confused when looking back on their notes.** | |
| **Minutes** | **Procedures** | | | |
|  | **Set-up/Prep:**  **Fill a cup with dirt and a cup with sand. Fill a clear cup or jar in this order (chex, crushed oreo, oreo mixed with gram cracker crumbs, bits of pretzel). Draw venn diagram for soil and sand on the board.** | | | |
|  | **Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)**  **Gather students to the front of the classroom.**  **Pass around the cups of dirt and sand and have the students think of 3 words to describe each and have them write them down in their notebook.**  **Once the cups have made their way around, ask 4-5 students to share their adjectives.**  **Discuss where soil comes from and where sand comes from.**  **Fill out Venn diagram with students’ aid. Put 2-3 items in each space. Have them copy in their notebooks.**  **Ask which they think would grow plants better and why.**  **“Did you know there were more layers to the ground than just these two things?”**  **Draw a tree on the board and a grid under the tree for each layer (humus-top most layer that includes debris from plants and animals; topsoil-upper most layer of soil that supports plant life; subsoil-mostly weathered rocks, beneath topsoil; bedrock-part of the earth’s crust and made of rock) and explain each.**  **Show example of jar with food particles layered to model the different layers of soil. Label each layer on the cup as well as the board. Have students copy image and labels in notebook.** | | | |
|  | **Explain: (concepts, procedures, vocabulary, etc.)**  **Soil, sand, humus, topsoil, subsoil, bedrock, Venn diagram** | | | |
|  | **Explore: (independent, concreate practice/application with relevant learning task -connections from content to real-life experiences,** **reflective questions- probing or clarifying questions)**  **Feeling the dirt, coming up with descriptive words for the dirt and sand. Labeling the layers of the earth helps the students in connecting the topic of the lesson to real life.** | | | |
|  | **Review (wrap up and transition to next activity):**  **Recap what was taught. Ask the students for any remaining questions or comments on the subject. Release the students group by group to go back to their desk for the next activity.** | | | |
| **Formative Assessment: (linked to objectives)**  **Progress monitoring throughout lesson- clarifying questions, check-**  **in strategies, etc.**  **The descriptive words the students use and the input they give will serve as a formative assessment for the teacher to take note of how well the students are comprehending the information.**    **Consideration for Back-up Plan:**  **Have the students write a sentence or two about soil to use as an exit slip.** | | | **Summative Assessment (linked back to objectives)**  **End of lesson:**  **The teacher will review the descriptive words the students come up with for the soil. The teacher will also use the sentences the students create if that is what is used in the lesson.**  **If applicable- overall unit, chapter, concept, etc.:**  **The unit test will be given by the classroom teacher at a later date.** | |
| **Reflection (What went well? What did the students learn? How do you know? What changes would you make?):**  **This lesson went *so well*! The students knew way more than I anticipated, but the lesson went so much smoother than the previous social studies lesson! I took what I needed to adjust to my social studies lesson and applied it to this science lesson.**  **The students took this lesson and ran with it. They added information or little stories they had that all related to the topic and it just flew! The students brought their notebooks with, which helped them stay on task and I had a better hand on classroom management. Though I had a better hand on it, my classroom management still needs a lot of work. I’m glad I am noticing this now and am able to take the steps to correct it and improve my teaching abilities in the area of classroom management (among other abilities that need to be improved).**  **I started out small and the students seemed to like the little sand activity, but I think next time I will have two cups of each sand and soil. The students took a very long time with both and therefore it took much longer to get through all the students. I was very impressed with how many creative words the students came up with to describe the sand and soil.**  **I was also impressed with how well the students knew what a Venn Diagram was and how it worked. They helped push this lesson along much faster and further than I anticipated. The students took it from the Venn Diagram and the tree drawing to volcanoes. I was so impressed with how the students were able to connect the bedrock layer of soil to the crust without my telling them.**  **Talking about the bedrock lead to discussing the different layers of the earth to the core and then onto volcanoes. I kind of let them run with it because they were doing so well at connecting it all together. Students had so many questions and comments and I loved it! It was another one of those instances that made me feel that I was in the right path on my was to the profession that was made for me.**  **As the lesson continued, we started talking about nutrients and vitamins that the plants needed, which then led to a brief discussion of how our bodies need vitamins and such similar to plants, we just don’t make our own food. The lesson just went so well, I loved it!**  **This is definitely a lesson I would go back and teach again. They did so well with it and I think that any other class would do well with it too. I felt the activity at the beginning was very attention grabbing and they enjoyed it and it was very thought provoking.**  **With any lesson, there are always changes that need to be made, and in this case, I would keep the students on better track with the conversation topic. I again, noticed that I need to work on my classroom management skills, but overall I think I did much better this time than previously.** | | | | |