

Lesson Plan Template

Grade: 5 th grade		Subject: Science, Language Arts	
Materials: Science journals, paper, markers, crayons, colored pencils, oil pastels, cotton balls, pipe cleaners, glue, whiteboard, iPads		Technology Needed: iPads (voice recording)	
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Guided practice <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Learning Centers <input type="checkbox"/> Lecture <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list) <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> PBL <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Modeling		Guided Practices and Concrete Application: <input type="checkbox"/> Large group activity <input type="checkbox"/> Independent activity <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) <input type="checkbox"/> Hands-on <input type="checkbox"/> Technology integration <input type="checkbox"/> Imitation/Repeat/Mimic	
Standard(s) Science: Performance Standard 5-PS1-3 Make observations and measurements to identify materials based on their properties. Language Arts: W.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. d. Use precise language and domain-specific vocabulary to inform about or explain the topic.		Differentiation Below Proficiency: (Hawa, KK, Jaydon, JayLee) Students will incorporate three of the five physical properties in their description and observation of the objects and materials. Students will use a minimum of two domain-specific words. Above Proficiency: (Wyatt, Jami, Dontay, Ella, Nat, Brodie, Jaden, Hudson, Ellea, Shyann, Brenna) Students will utilize all of the domain-specific terms in their observations and report, and will observe four or more objects and materials. Modalities/Learning Preferences (Auditory, Visual, Tactile, Kinesthetic) Auditory: Students will listen to the definitions of the domain-specific words and listen to other students' observations and ideas. Students can record their observations auditorily on their iPad. Visual: Students will see examples of physical properties, observe different materials and objects in nature to make observations of their own, and be able to reference domain-specific words through visuals as well as word definitions. Students can draw or visually represent their observations as research for their written report. Tactile: Students will manipulate the materials and objects (if possible) throughout their observation.	
Objective(s) By the end of the lesson, the learner will observe three different materials and objects outside and describe them based on their physical properties by recording their observations in one of the approved ways. By the end of the lesson, the learner will write up a report of their findings using domain-specific language like "physical properties", "color", "shape", "weight", "texture", and "hardness". Bloom's Taxonomy Cognitive Level: Knowledge, Analysis			
Classroom Management- (grouping(s), movement/transitions, etc.) Students will be in five groups of five students each. They will be grouped by counting off. Students will move outside in their groups to observe their materials and discuss their observations. Students will be warned when five minutes is left and asked to transition back inside to independent writing of their report at their desk with walking feet and quiet voices. Students will be warned when five minutes are left for writing and will be asked to turn to their desk partner and share their observations with the partner. The teacher will call them back and the students will pass their papers up.		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) Students will use walking feet, quiet voices, and respectful language when talking with their peers and teachers. Students will complete the writing portion on their own unless approved to work with another student (see above). Students will discuss their observations and findings with their peers. Students will transition quietly, quickly, and safely. Students will not ingest or taste any of the materials or objects they are observing.	
Minutes	Procedures		
3	Set-up/Prep: Gather the art materials in one place.		
5-6	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) "Find your desk partners, students. Now, I want you to figure out which birthday comes first, yours or your desk partner's. Thumbs up when you know. Okay, whoever's birthday is first, you need to close your eyes. Okay, keep your eyes closed until I say you can open them back up. I am going to put a picture up on the board. I want you to get your desk partner to guess what the picture is of. You can only describe the object by saying its color, size and shape, how much it weighs, how hard or soft it is, and how it feels. Okay, go ahead students. (allow two minutes for descriptions). Students, come back to the class in 5, 4, 3, 2, 1. You can open your eyes. Everybody's eyes should be open and on the teacher. Was that hard or easy? Thumbs up if it was easy, thumbs down if it was		

Lesson Plan Template

	<p>hard. What kind of aspects or words did you use to help your partner guess correctly? (take two or three share-outs). Students, today we are going to learn how scientists use observation to learn about objects.”</p>
<p>10</p>	<p>Explain: (concepts, procedures, vocabulary, etc.) “When scientists try to determine what an object is, they look very closely at its physical properties. Who has a hypothesis as to what physical properties are? (take at least one hypothesis). The physical properties of an object are the characteristics of an object or material that does not change. It’s what makes the material or object what it is. Let’s use an example. This is a pencil. Why is it a pencil? (Take answers-because it writes, because it’s long and narrow, because it has lead in it, etc.). The properties of this pencil that make it a pencil is that it is thin and shaped like a tube. It has a pointy top to write with and a rubbery end for the bottom. It is different colors, and it is pretty light. It is smooth except for the pointy top. When we as scientists are trying to figure out what a substance is, we look at its physical properties-color, weight, shape, texture, and hardness of it. Let’s go through what each of these terms mean. Color, what does that mean? (what it looks like, draw spot in different colored marker). Weight, what does that mean? (is it heavy or light, draw a weight and a feather). Texture, what does that mean? (It’s how something feels. Is it bumpy or squishy? Draw a poky porcupine). Hardness, what does that mean? (does it break easily? Is it soft and easy to change shape or is it stiff? Draw a rock and some water). We are going to go outside and work in groups to observe different materials and objects we see outside and describe them using these terms, or their physical properties. You are responsible for recording your observations of all of the physical properties that we talked about for at least three different materials or objects. Good scientists always record what their observations are. I know that you are responsible scientists, so I am going to give you a choice on how you record your observations. Some scientists might want to visually represent the materials and objects they are seeing. I am bringing out crayons, markers, pencils, oil pastels, and paints and brushes, glues, cotton balls, and pipe cleaners out for these scientists. Some scientists just want to write down what they are observing. You can use your science journal and a pencil for this. Some scientists might want to record their observations with their voice recorder on their iPad. You are welcome to bring that out with you if that is what you want. Whatever way you record your observations, I want you to focus on making them very accurate. Scientists need to make their observations accurate because that is how they discover new information. I need to see that the words or materials you are using is helping you be more accurate. When you explore these objects outside, you may touch them, pick them up, and look all over them and turn it around. You may also talk to your group members and share observations with quiet, respectful voices. You may NOT taste any of the materials. When you make your observations and talk to your peers, I want you to be using these terms that we talked about. It is really important as scientists to use the right words so that everyone understands us. I am going to count you off in groups and we are going to walk down the hall and go outside with quiet, safe feet and no voices. Once outside, you may explore your materials with your groups. (Count the students off into five groups).</p>
<p>30</p>	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions) Walk around outside facilitating discussion and accurate observations. Ask questions like, “How are you recording your observations? How are you making sure you know which observation goes with which material? How are you using the proper terms to describe your observations? Did anything surprise you? Why?” Take pictures of students’ observation records to use as formative assessments.</p> <p>After fifteen minutes of exploration, pull the students back by saying, “Gather around me by the door with voices off and eyes on me in 5, 4, 3, 2, 1. Students, you thought like scientists today and recorded your observations. I heard quite a few students using these terms we talked about in their observations, that’s wonderful. Let’s go back inside and talk about the next step that scientists would take. (Walk students inside and guide them back to their desks). Okay, students, the next step for scientists is to share our observations and findings. I want you to write up a report of your observations. I want you to describe the physical properties you found for each material that you observed. When you write this report, I want you to focus on using these terms to describe the properties, because it is important to use the right words in our writing so that everyone knows what we are talking about. I am going to give you ten minutes to work on your report. After the timer is done, we are going to share out some of our findings. (Set timer).</p> <p>While students are writing, make suggestions to students based on the pictures of their observations that you took earlier and answer any questions.</p>
<p>3</p>	<p>Review (wrap up and transition to next activity): “Alright students, if you are not quite finished with your report, that’s okay, you may work on it at independent work time or writing time. Let’s have three share-outs of different observations. (take three share-outs, reinforce the use of the correct terms in their descriptions). Excellent work scientists! I am excited to read these and see what observations you made and terms you used today. I challenge you to think about the physical properties of different objects around the school today. If you are done, I want you to double-check that you have your name on it and pass it forward. Please pass forward your observations as well.</p>
<p>Formative Assessment: (linked to objectives) Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc. Answers to the questions asked in the Explore section:</p>	<p>Summative Assessment (linked back to objectives) End of lesson: Reports written by the students, observations completed by the students.</p> <p>If applicable- overall unit, chapter, concept, etc.:</p>

Lesson Plan Template

“How are you recording your observations? How are you making sure you know which observation goes with which substance? How are you using the proper terms to describe your observations? How do you know that this substance is a rock/wood/etc.? Did anything surprise you? Why?”

Pictures of observations taken in explore section.

Consideration for Back-up Plan: I could use different materials found in the classroom if we were unable to go outside. I could offer a limited amount of record-keeping options if not all the materials were available for use.

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

This lesson went pretty well. The grabber caught my students' attention right away, and they drew the connection to physical properties right away. Additionally, this grabber helped them utilize the physical properties' terms much more successfully throughout the lesson. Additionally, taking them outside to observe and record authentic materials was engaging for my students. While they worked on their observations, I walked around and employed the feedback I received on my differentiation to increase the number of criteria for my high fliers. I caught my high fliers and told them that instead of observations on three objects, I wanted at least four or five, and these students really excelled at meeting that goal. I could tell that I empowered these students, and the pride on one of my student's face was evident when she showed me her observations on five different objects. I know that my students learned more about how to use words and visuals to describe their observations as scientists because they started using words like 'cylindrical' to describe shape and were able to explain why they used the materials they did to record their observations in terms of accuracy. Additionally, I know that my students practiced critical thinking skills because of the discussions they had with peers and teachers about what words would be most accurate in describing their objects ("Would this be more rubbery because it is bouncy when you step on it or hard because it is hard to squeeze between your fingers?" or "Ms. Hanson, would 'cylindrical' be more accurate than 'pole-shape' for this piece of equipment?"). The changes I would make to this lesson would be more about the placement of the lesson in the year and the setting. For example, I would want to ensure that the students had extensive practice with each of the materials that I set out for them for the lesson. Additionally, I would want a more enclosed space for the students to observe in because some students wandered off a ways away and started getting off track and playing instead of observing.