

Lesson Plan Template

Grade: 5		Subject: Science	
Materials: Solar System Cards		Technology Needed:	
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)		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) Explain:	
Standard(s) ESS1.B: Earth and the Solar System -The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them. The solar system appears to have formed from a disk of dust and gas, drawn together by gravity		Differentiation Below Proficiency: -Working with a partner Above Proficiency: -Including other solar system components in the order Approaching/Emerging Proficiency: -Comparing results with other groups Modalities/Learning Preferences: Visual- seeing the names of the planets on the board and what they look like on the cards. Kinesthetic- moving the cards in the correct order. Auditory- hearing the order of the planets with the help of the sentence.	
Objective(s) By the end of the lesson the students will understand the components of the solar system by using the set of cards. Bloom's Taxonomy Cognitive Level: Understand		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) Students will treat the materials respectfully. Voices will be at a level that allows their classmates to be able to work.	
Classroom Management- (grouping(s), movement/transitions, etc.) For the activities the students will get to pick their own partners. One partner will come up to get the deck of cards.			
Minutes	Procedures		
	Set-up/Prep: Have sets of solar system cards set out.		
1	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) We just learned about the moon, now we are going to move on and talk about the planets. Does anyone know the order right off the top of your head? Don't tell me yet! Keep it a secret for the moment because you are going to need it for later.		
5	Explain: (concepts, procedures, vocabulary, etc.) There are many components to the solar system, how do you think they interact with each other? Take a couple minutes to think, when you have an idea I want you to come write it on the board. So I see some good ideas here, let's keep going to find out more information. A system is a set of objects working together. To help you think about this think about a car, there are many parts to the engine and all of them have to work together in order for it to work. In our solar system there is the sun, the planets, and some other objects working together. Now, in a minute you are going to get to see them for yourselves. I have a set of cards here with pictures of objects in the solar system, and you and a partner are going to work together to sort them. Your first challenge is going to be to just look at the picture, don't turn it over, you are just going to group them based on what you see. Maybe it's color, size, or what the surface looks like. I am going to trust you to pick your partners this time, but if we get out of hand I will pick a new partner for you and you'll have to start over. Okay, now let's compare our answers with other groups. Find a group close to you and tell what you and your partner did. How did you sort them? Was their strategy similar to yours? After they have had a few minutes to share have them go back to their original work space. Now I want you to flip your cards over and look at the descriptions on the back. Did your objects in your groups match up? Are you finding out some new/ interesting information? If you see 'unknown' next to any of the categories that means the scientists don't even have the information yet. Remember when you are sorting them this time, you are just looking at the picture and grouping them based on what they look like. Don't look at the information on the back. Now I need you to put the cards back in the bag, leave them in your area, and come back to your desk. Does everyone know what the word orbit means? –Something revolving around another object along a path. (Insert demonstration if needed) You and your partner are going to go back to your work space and put the planets in order this time. There are other objects included so make sure you sort them out and set them aside. On the back of the card there is a 'Distance from' category, I want you to use that to put the planets in order. Some of the numbers are pretty large so you need to look carefully, you might have to count how many place values and that may give you a better idea of which number is bigger. Some have different places they are measured from. They may say distance from Mars and think about what that means. You told me that there is more than planets in the universe so what could these other objects be if they are being measured from another planet. One more thing, where is the sun in our solar system. Yes, the middle. So for this activity it is going to be our starting point. Some say the sun and others might say another planet. Make sure to look carefully! If you get stuck make sure to ask questions. Only one partner from each group needs to come up to get a deck of cards. Use the Solar System model to give the students a visual.		

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	Write My Very Eager Mother Just Served Us Nine Pizzas on the board. This goofy sentence can help you remember the order if you get stuck. Have the students come up to write the correct names of the planets under the hint words.	
10 15	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <p>Students will work with their partner to sort their cards based similar characteristics. Students will have another challenge of putting the planets in the correct order based on the 'distance from' category. They will have the same partner and will work together.</p>	
3	<p>Review (wrap up and transition to next activity):</p> <p>Who can tell me what a system is? Were there any challenging parts to either activity? What did you learn about the planets? How does this help you remember the order of the planets?</p>	
<p>Formative Assessment: (linked to objectives) Progress monitoring throughout lesson- clarifying questions, check- in strategies, etc. -Walk around to monitor how the groups are working together -Walk around to see how they are doing with the challenges and answer any questions</p> <p>Consideration for Back-up Plan: Have students just focus on the order of the planets.</p>		<p>Summative Assessment (linked back to objectives) End of lesson: Writing down the order of the planets</p> <p>If applicable- overall unit, chapter, concept, etc.:</p>
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</p> <p>Overall, I feel this lesson went pretty smooth. At the beginning before we did the explore activity, we scratched the surface of the solar system and the students did well coming up with answers the questions. I taught this lesson to 2 different classes, and even though it went well with both I think it went more smoothly the second time around. I knew what to expect and how much time to give them to get both activities done. The fist activity where they were just grouping the components of the solar system just based on what they saw from the picture took more time than I thought. Some students were looking at the information on the back as they were grouping them, so I could have explained more that they were just looking at the front of the card. After they had completed the first activity I had them come back to their desks so we could discuss how they grouped them together. Most of the groups used similar ideas, their groups were based on color or what the surface looked like. I wanted to make sure they got enough time to work on the second activity because it was a little more challenging. I didn't tell them much about the other components that were included in the set of cards because I wanted to see if they could figure out why they were in there. Before we started I did ask them if they thought planets and stars were the only things and they replied 'no' and were able to give me a few examples. I gave them the directions to the activity by saying they needed to look at the 'distance from' category and that would help them get the correct order. In the second class there was a group I had to remind to look closely at the numbers because the place value of such big numbers can be confusing. As they were working some of the students asked me where they were supposed to put the cards that a different 'distance from' location. Some were based from other planets, so I asked them why they thought that was. Even though I didn't cover it at the beginning of the lesson, they were able to tell me that it was because they were just orbiting that planet. Another question that came up a lot was the location of the sun, on the back of that card the 'distance from' category was different again and I had to ask them where the sun was in the solar system and after they thought about it a little, they were able to answer their own question. At the end of the lesson I wrote the goofy sentence on the board and they were able to come up and write the names of the planets under each word. Both classes were sure to remind me that Pluto is no longer a planet. Throughout the activities I felt they were able to stay on task and weren't messing around too much with the cards. I had the same amount of time both times, but it felt less rushed the second time. The first group I had to wait a little longer for them to show me they were ready so I'm not sure if that is why the second time felt like it went smoother, or if it was because I had done the lesson once already. Even though the activities went pretty well I feel like I could have clarified what they were doing a little better before they started. That would have helped to limit some confusion, but they were able to figure it out as they went which I think can also be a beneficial way to learn.</p> <p>*My Practicum teacher didn't observe this lesson because she was not there the first day of Practicum. I did ask the Sub what she thought and she said it went well and the solar system cards were a big hit.</p>		