

PATTERNS

Age Level: Preschool (Ages 4-5)

Subject(s) Area: Math and Science

Materials Needed: Unifix cubes or any type of manipulative, construction paper “snakes,” colored construction paper cut into different shapes, sharpie or black marker, glue sticks

Standards:

MTH.2.3 Recognize, duplicate, and extend simple patterns of objects, sounds, and movements using manipulatives.

SCI.2.4 Make predictions and generate ideas based on past experience, observations, and information.

Objectives:

TLW discover what a pattern is. (Knowledge)

TLW predict what comes next in a pattern sequence. (Understand)

TLW interpret patterns through musical rhythms. (Understand)

TLW manipulate objects to create simple patterns. (Apply)

TLW construct simple patterns using colors and shapes. (Apply)

Learning Activities:

Technology: N/A

Required Vocabulary: pattern, repeat, predict

Opening Element: In a small group, ask the learners if they know what a pattern is. Tell them that a pattern is a group of things that repeats (give the definition for repeat as start over). Also, tell them that patterns can have as many or as little parts as they want as long as they repeat. They can also be done with colors, number, shapes, letters, etc. Next, have the learners stand up and tell them that they are going to be making patterns with their bodies. Demonstrate a pattern for the learners such as clap, snap, clap and have them copy you. Also have the learners identify the pattern you have created. Give another example of a pattern and have the learners copy and identify that pattern as well. Next, give each learner a turn to create a pattern with their body which everyone else will copy. Each time have the learners identify the pattern they copied.

Instructional Methods:

Guided Practice Strategies: Have the learners sit down at their seats and show them an example of a pattern with the manipulatives. Go through the pattern with them and have them predict what would come next in the pattern and why. This can be done with two and three block patterns. Next, give the learners a pattern with the manipulatives that is incorrect. When going through it see if they can identify where the pattern is wrong and the right way to correct it. When this is done, pass out some manipulatives to the learners and have them create their own patterns. They can create whatever patterns they desire as long as they are creating a pattern and can explain why their pattern is an actual pattern. Allow the learners to play with the manipulatives for 7-10 minutes or as time allows. As they play, ask them questions to reflect on patterns.

Independent Concrete Practice/Application: Clean up the manipulatives and tell the learners that they will be creating pattern snakes. (Beforehand, an example pattern snake should be completed as a visual.) Hold up an example of a completed snake and go through it with the learners (see Appendix A). Hand out the snake templates as well as the different, small shapes of construction paper, and glue sticks. Tell the learners that they can create any pattern on their snake that they would like to as long as it repeats. Allow the learners to begin gluing the patterns onto their snakes. As they do so, help the learners create their patterns and check in with them to ensure they are creating patterns. Lastly, draw a face on the snake to complete it.

Differentiation: This lesson allows for a variety of learners. Visual learners can learn through seeing examples of patterns created throughout the entire lesson as well as through creating their own patterns. Auditory learners can learn through hearing the repetition of patterns as well as saying the different patterns out loud. Tactile/kinesthetic learners can learn through creating patterns with their bodies, with manipulatives, and through creating the pattern snakes. If the elements of this lesson are too hard for the learners, they will be given further instruction on patterns as well as teacher assistance in helping to create simple, two step patterns. If the elements of this lesson are too easy for the learners, they will be encouraged to create harder, 3-4 step patterns.

Reflective Questions: What is a pattern? How do you know? Can you give an example of a pattern? What is the pattern that we have created? Can you show me an example of a pattern using your body? What would come next in the pattern? Why? Is this pattern right or wrong? How do you know? What is your pattern on your snake? Does your pattern repeat?

Wrap-Up: To wrap-up, talk with the learners about their snakes and the patterns they created. Go over the concept of patterns once more and have the learners tell you what a pattern is. Lastly, ask the learners if they have any questions about patterns and then dismiss the class.

Assessment:

Formative- The learners will be assessed on their identification of patterns, their ability to create and extend patterns, and their ability to provide a basic definition of what a pattern is. The learners will also be assessed based on their participation in the learning activities.

Summative: The learners will be assessed on their knowledge of patterns, their ability to create and extend patterns, and their ability to identify patterns of various lengths, characters, and levels of difficulty.

Reflection: I think this lesson went excellent! I thought the activities went very well, were enjoyable for the learners, and that the learners were able to learn a lot from this lesson. I was especially surprised at how well the learners responded to my teaching and how well I did when it came to reflective questioning. I think the reflective questioning was so easy for me this time because I was comfortable with the learners, knew my lesson really well, and was relaxed with what I was doing. This way, I was able to focus more on teaching and questioning the learners. To begin, I asked the learners what they knew about patterns and discussed what a pattern is with them. Next, I did a pattern activity where they stood up and did a pattern with their bodies, then a manipulatives activity with patterns, and finally an art project with patterns. I think by having these multiple means of learning about patterns, the learners were given multiple opportunities to experiment with what they were learning. All of the experimentation and hands on work allowed for the knowledge of patterns to be solidified in the learners. One thing that I could have done better with this lesson is to have all of my materials prepped and ready to go. Upon beginning the lesson, I realized that I had forgotten to get glue ready to make the snakes, so I had to run out of the room to go get some. Thankfully, this went quickly because I knew where the glue was, and this short pause did not make me lose my learners. I also forgot a marker to draw the faces on the snakes, but I simply did it after the lesson when I was able to obtain one. One thing I changed while teaching is that some of the learners finished their snakes before others and at first I told them to wait patiently, but I soon realized it wasn't going to happen so I allowed them to play with the

manipulatives while their classmates finished their projects. When making the snakes, I was actually quite interested and surprised by some of the patterns that were being made. One learner made a pattern with all pink and I had never thought of doing that before, so I learned something here as well. Finally, I think it was my enthusiasm, my activities, and my reflective questioning that helped to make this lesson what it was. If I were to do it again, the only things I would change are to make sure I am prepared for my lesson and that I have something for the learners to do if they finish early. I would also start and push patterns of three instead of two on the learners who I feel are ready to learn that concept. Otherwise, I love this lesson and it was very fun to teach.

Appendix A



*I created these snakes as examples of the different patterns the learners could put on their snakes. The first one is a pattern with two shapes and colors and the second one is a pattern with one shape and three colors.