

Supplies

Two sets of geometric shapes made from colored poster board, tangrams consisting of no more than 5-6 pieces.

The Activity

The student will put together the shapes to make a pattern.

Variations

- Use small toys or counters instead of the shapes and have the student make a pattern or a shape with the objects. For instance, line up toy cars in a circle.

Focus:

Encourage the student to focus their attention on the task at hand. Allow the student to choose the shapes and explain what the activity is. Formulate a plan with the student.

Questions: What do we have here? Can you tell me what this is? What do we need to do first? Next?

Act:

The student makes patterns, for instance like the one shown.

Questions: What are you doing? What shape is this? What shape is the pattern you made? What pattern would you like to make? Which pattern is bigger? Which one is smaller? Smallest? Biggest?

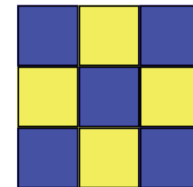
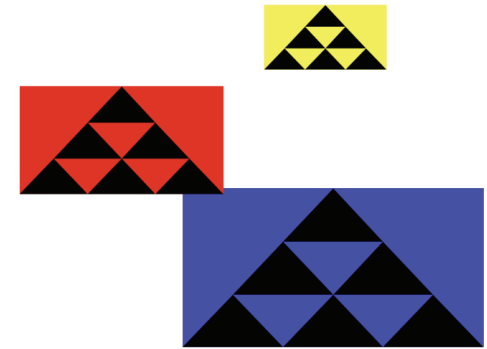
Reflect:

During and after the activity reflect on what the student is doing/has done.

Questions: What did you do? What did you like best about this? How did you know where to put the puzzle pieces? What was your strategy to put it together?

Math Observation Checklist:

This activity will give insight into the student's understanding of ordering, sequencing, position, orientation in space, attending to more than one piece of information, and attending to relevant information.



Supplies

Groups of similar objects, such as toys, blocks, teddy bear counters, crayons, or buttons. It is best to use objects that have the same size, color, weight, or shape.

The Activity

The student will put together the objects to make an A-B A-B pattern, using color as the dimension for the pattern.

Variations

- Use another dimension to make the pattern, for instance size or shape.
- Make and A-B-C A-B-C pattern

Focus:

Encourage the student to focus their attention on the task at hand. Allow the student to get acquainted with the objects by touching, holding, and talking about them. Then explain what they will do. Introduce the word “Pattern”. Formulate a plan with the student.

Questions: What do we have here? Can you tell me what this is? What would you like to use to make your pattern? What do we need to do first? Next?

Act:

The student makes patterns, for instance like the one shown.

Questions: What are you doing? What shape is this? What pattern are you making? What pattern would you like to make? Which pattern is bigger? Which one is smaller? Smallest? Biggest? If I make this pattern, what should I put next?

Reflect:

During and after the activity reflect on what the student is doing/has done.

Questions: What did we do? How many pieces did you use to make this pattern? And that pattern? How did you find out? What was your favorite pattern?

Math Observation Checklist:

This activity will give insight into the student’s skills of counting, shapes, sequencing and planning, taking more than 2 pieces of information into account, and attending to relevant information.



Supplies

Groups of similar objects, at least 3 objects per group. For instance toys, blocks, teddy bear counters, crayons, buttons.

The Activity

The student will put together the objects to make an A-B-C A-B-C pattern, using color as the dimension for the pattern.

Variations

- Use another dimension to make the pattern, for instance size or shape.
- Use two different dimensions, such as color and shape.
- The student can draw the pattern with colored markers.

Focus:

Encourage the student to focus their attention on the task at hand. Allow the student to choose the shapes and explain what the activity is. Formulate a plan with the student.

Questions: What do we have here? Can you tell me what this is? What would you like to use to make your pattern? What do we need to do first? Next?

Act:

The student makes patterns, for instance like the one shown. Ask the student to look at the pattern for a short time and then remove it and ask them to recreate it.

Questions: What are you doing? What shape is this? What pattern are you making? What pattern would you like to make? Which pattern is bigger? Which one is smaller? Smallest? Biggest? If I make this pattern, what should I put next?

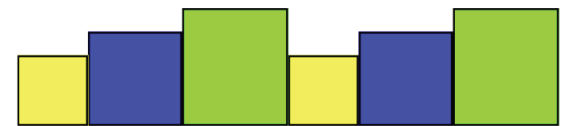
Reflect:

During and after the activity reflect on what the student is doing/has done.

Questions: What did we do? How many pieces did you use to make this pattern? And that pattern? How did you find out? What was your favorite pattern?

Math Observation Checklist:

This activity will give insight into the student's skills of counting, shapes, sequencing and planning, taking more than 2 pieces of information into account, and attending to relevant information.



Supplies

Different size boxes, circle-, square, and triangle shapes, blocks, leaves.

The Activity

The student will compare small - smaller - smallest and form patterns.

Variations

- Walk around the room and identify things that are small, smaller and smallest and then identify big, bigger and biggest.
- Discuss that if compared to something bigger, an object may seem small. However, the same object may seem big if it is compared to something smaller.

Focus:

Encourage the student to focus their attention on the task at hand. Allow the student to get acquainted with the objects by touching, holding, and talking about them. Then explain what they will do. Introduce the word “Pattern”. Formulate a plan with the student.

Questions: What do we have here? Can you tell me what this is? What would you like to use to make your pattern? What do we need to do first? Next?

Act:

Ask the student to find the small objects and put them in a pile/set, then the smaller ones, and then the smallest ones. Encourage them to make a pattern starting with small, smaller, smallest. Repeat these steps with all the materials. When using the boxes, see if the student can find a box to put their small box in and then their smallest box.

Questions: What are you doing? Which one is smaller? Smallest? Biggest? How can you tell? If I say this one is small, which one is smaller? If it is big, which one is bigger? Biggest? If I make this pattern, what should I put next?

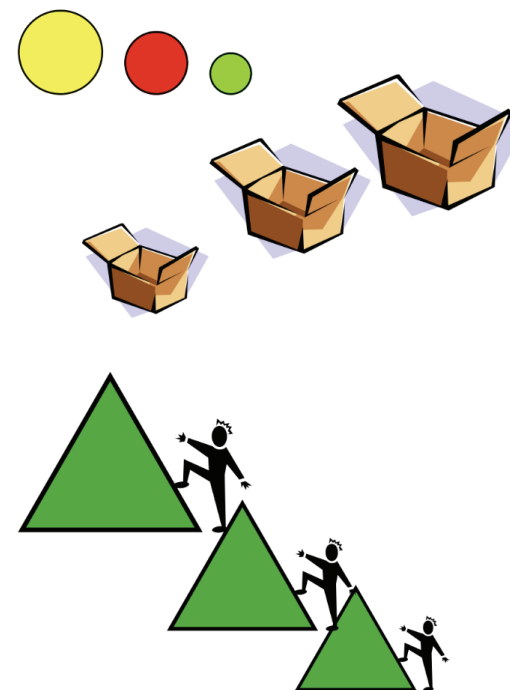
Reflect:

During and after the activity reflect on what the student is doing/has done.

Questions: What did we do? How many pieces did you use to make this pattern? And that pattern? How did you find out?

Math Observation Checklist:

This activity will give insight into the student’s skills of counting, shapes, sequencing and planning, taking more than 2 pieces of information into account, and attending to relevant information.



Supplies

Small objects that can be glued, for instance macaroni, beans, beads, pop corn, or stickers.
Strips of paper or craft paper. Glue sticks.

The Activity

The student will create an A-B or A-B-C pattern with the objects and glue them on a strip of paper.

Variations

- The student can make paper chains with pre-cut paper strips in different colors or sizes.
- The student can create the pattern by lining up the objects or counters.

Focus:

Encourage the student to focus their attention on the task at hand. Allow the student to choose the shapes and explain what the activity is. Formulate a plan with the student.

Questions: What do you need to do to focus on what you are going to do? What is the plan? What do you need to do first? Next? And then?

Act:

Ask the student to create an A-B or A-B-C pattern. You can start a pattern first and ask the student to continue your pattern or to create one like yours.

Questions: How are you making your pattern? What comes next in this pattern? How could you tell? How are these two patterns the same? How are they different?

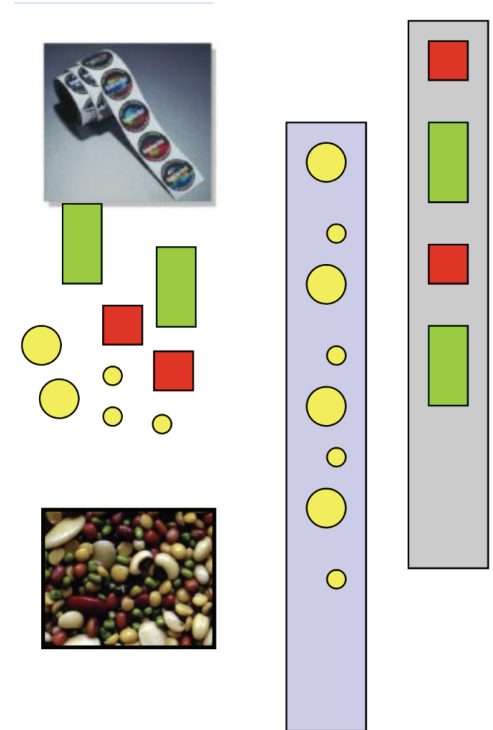
Reflect:

During and after the activity reflect on what the student is doing/has done.

Questions: What did we do? How many pieces did you use to make this pattern? And that pattern? What was the pattern? How did you decide how to extend the pattern?

Math Observation Checklist:

This activity will give insight into the student's understanding of ordering, sequencing, position, orientation in space, attending to more than one piece of information, and attending to relevant information.



Supplies

Groups of similar objects, such as toys, blocks, teddy bear counters, crayons, or buttons. It is best to use objects that have the same size, color, weight, or shape.

The Activity

The student will put together the objects to make an A-B A-B pattern, using color as the dimension for the pattern.

Variations

- Use another dimension to make the pattern, for instance size or shape.
- Make an A-B-C A-B-C pattern

Focus:

Encourage the student to focus their attention on the task at hand. Allow the student to get acquainted with the objects by touching, holding, and talking about them. Then explain what they will do. Introduce the word “Pattern”. Formulate a plan with the student.

Questions: What do we have here? Can you tell me what this is? What would you like to use to make your pattern? What do we need to do first? Next?

Act:

The student makes patterns, for instance like the one shown.

Questions: What are you doing? What shape is this? What pattern are you making? What pattern would you like to make? Which pattern is bigger? Which one is smaller? Smallest? Biggest? If I make this pattern, what should I put next?

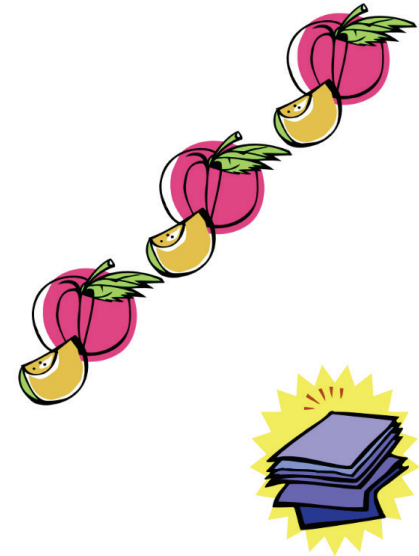
Reflect:

During and after the activity reflect on what the student is doing/has done.

Questions: What did we do? How many pieces did you use to make this pattern? And that pattern? How did you find out? What was your favorite pattern?

Math Observation Checklist:

This activity will give insight into the student’s skills of counting, shapes, sequencing and planning, position, taking more than 2 pieces of information into account regarding spatial orientation, and attend to relevant information.



Supplies

Different shapes cut out of construction paper, for instance big and little circles, big and little squares, and big and little triangles. You can also make them in different colors. Attribute blocks, or building blocks. Paper and markers or coloring pencils.

The Activity

The student will create an A-B or A-B-C pattern with the shapes and then trace the shapes on paper.

Variations

- Instead of tracing, the student can draw the shapes in the pattern using coloring pencils or markers, and making sure the sizes are correct.

Focus:

Encourage the student to focus their attention on the task at hand. Allow the student to get acquainted with the shapes by touching, holding, and talking about them. Then explain what they will do. Formulate a plan with the student.

Questions: What do you need to do to focus on what you are going to do? What is the plan? What do you need to do first? Next? And then?

Act:

Ask the student to create an A-B or A-B-C pattern. You can start a pattern first and ask the student to continue your pattern or to create one like yours.

Questions: How are you making your pattern? What comes next in this pattern? How could you tell? What shape is this? How are these two shapes different from each other?

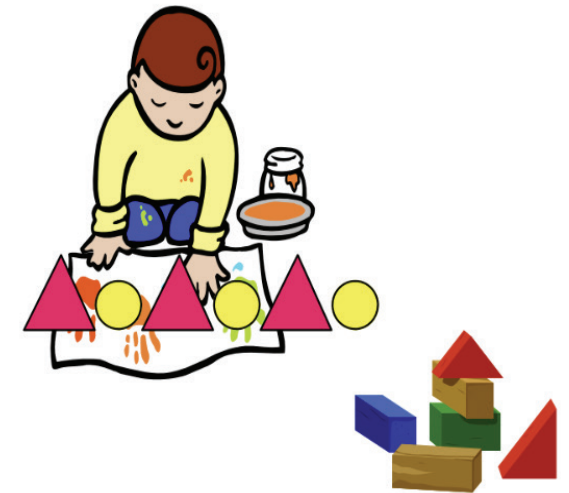
Reflect:

During and after the activity reflect on what the student is doing/has done.

Questions: What did we do? How many shapes did you use to make this pattern? How is this pattern different from that one?

Math Observation Checklist:

This activity will give insight into the student's skills of counting, shapes, sequencing and planning, position, taking more than 2 pieces of information into account regarding spatial orientation, and attending to relevant information.



Supplies

Interlocking cubes.

The Activity

The student will create number patterns by adding a number of cubes to each new cube tower. For instance, start with a tower of 3 cubes and add 2. So the next tower will be 5, then 7 and so on. The instructor and student take turns and have to guess what the pattern is in each other's towers.

Variations

- Instead of interlocking cubes, colored inch-tiles can be used and laid out on 1 inch graph paper to form the pattern.
- The student can also draw the pattern on graph paper.

Focus:

Encourage the student to focus their attention on the task at hand. Allow the student to get acquainted with the interlocking cubes by touching, holding, and talking about them. Then explain what they will do. Formulate a plan with the student.

Questions: What do you need to do to focus on what you are going to do? What is the plan? What do you need to do first? Next? And then?

Act:

Ask the student to create number pattern by choosing a number to start with and then choose the number of tiles that will be added each time.

Questions: How are you making your pattern? What pattern am I making? What is the number sentence when you start from this tower to the next?

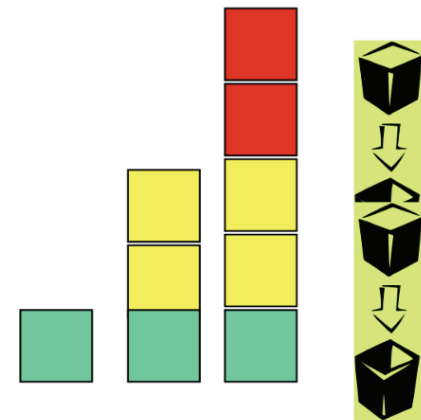
Reflect:

During and after the activity reflect on what the student is doing/has done.

Questions: What did we do? How is this pattern different from that one? What was the pattern? How did you decide how to make the pattern?

Math Observation Checklist:

This activity will give insight into the student's skills of sequencing and planning, understanding addition, taking more than 2 pieces of information into account regarding spatial orientation, recognizing a problem, and attending to relevant information.



Supplies

10 x 10 addition chart (see picture of a 5 x 5 addition chart), coloring pencils.

The Activity

The student will create number patterns by adding a fixed number to a starting number. For instance start with 3 and add 2. So the next number will be 5, then 7 and so on. Next, a new number and a new addend are chosen. The student will color in the numbers on the 10 x 10 chart with different colored pencils and look at the patterns that are formed.

Variations

- Use pages of an old calendar and have the student draw a pattern on it; for instance, one square to the side and then two squares down. The student will determine what the number pattern is, for instance $+ 1 + 15 + 1 + 15$. The student colors in the squares for the pattern and then chooses another pattern

Focus:

Encourage the student to focus their attention on the task at hand. Allow the student to get acquainted with the supplies by touching, holding, and talking about them. Then explain what they will do. Formulate a plan with the student.

Questions: What do you need to do to focus on what you are going to do? What is the plan? What do you need to do first? Next? And then? What number pattern would you like to make?

Act:

Ask the student to create number pattern by choosing a number to start with and then choose the number that will be added each time.

Questions: How are you making your pattern? What is the number sentence when you start from this number to the next?

Reflect:

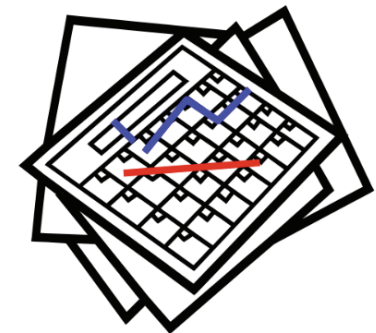
During and after the activity reflect on what the student is doing/has done.

Questions: What did we do? How is this pattern different from that one? What was the pattern? How did you decide how to make the pattern?

Math Observation Checklist:

This activity will give insight into the student's skills of sequencing and planning, taking more than 2 pieces of information into account, regarding spatial orientation, recognizing a problem, and attending to relevant information.

+	1	2	3	4	5
1					
2					
3					
4					
5					



Supplies

Interlocking cubes in 2 colors (about 20 of each color). Markers in the same color as the cubes and graph paper.

The Activity

The student will make a pattern with the interlocking cubes, for instance yellow-green, until all the cubes have been used. Then they break up the cube-tower into even sections and line these sections up underneath each other. The student will then draw the resulting pattern on graph paper and see if another pattern emerges.

Variations

- Use two different colored inch-tiles and line them up on 1" graph paper in a predetermined pattern, but only putting 4 or 5 in each row. Have the student analyze the 2-d pattern that emerges because of the change from a linear pattern to a block pattern.

Focus:

Encourage the student to focus their attention on the task at hand. Allow the student to get acquainted with the supplies by touching, holding, and talking about them. Then explain what they will do. Formulate a plan with the student.

Questions: What do you need to do to focus on what you are going to do? What is the plan? What do you need to do first? Next? And then? What pattern would you like to make?

Act:

Ask the student to create a color pattern and put together the interlocking cubes in a linear fashion. Next, the student breaks up the linear pattern and forms a block pattern and records the block pattern on graph paper.

Questions: How are you making your pattern? What happens when you break it up? Can you break it up differently? What does your block pattern look like now?

Reflect:

During and after the activity reflect on what the student is doing/has done.

Questions: What did we do? How is this linear pattern different from the block pattern? How is it the same? What new pattern emerged?

Math Observation Checklist:

This activity will give insight into the student's skills of sequencing and planning, take more than 2 pieces of information into account, taking all information into account regarding spatial orientation, recognizing a problem, and attending to relevant information.

