

**NATIONAL MATHEMATICS TEAM
GRADE 1 PLANNING TEMPLATE**

ALGEBRA			
Topic/Objectives	Main Concepts	Teaching/Learning Activity	Assessment/Homework
<p>a. Create patterns with objects and geometric figures</p> <p>b. Identify, describe and complete patterns according to any one attribute, for example: shape, colour, and size.</p> <p>c. Create number patterns</p>	<p>Patterns Geometric Attributes Number patterns</p>	<p>Objective: Create patterns with objects and geometric figures.</p> <p>Creating Patterns</p> <p>Place students in various patterns by positioning them in rows such: as boy, girl, boy, girl, OR standing, bending, standing, OR hands up, hands down, hands up.</p> <p>Have discussion with students encouraging them to predict the next item in the pattern.</p> <p>Guided Questions:</p> <ul style="list-style-type: none"> – <i>What do you see? Tell me about it.</i> – <i>What comes next in this sequence?</i> – <i>What would you do first? Second?</i> – <i>What would happen if I changed _____?</i> <p>Class demonstration</p> <p>Place students in groups of five. Instruct each group to be creative in making pattern by positioning their bodies in rows/lines such: as boy, girl, boy, girl, etc.</p>	<p>Objective: Create patterns with objects and geometric figures</p> <p>Geometric Shape - Patterns Create a pattern using geometric shapes eg. plastic or cardboard circles, oval, triangles, squares, and rectangle. Make a drawing of these patterns.</p> <p>Patterns in the Environment Make a list of patterns found in the environment and write them in your math journal. E.g. Pen, pencil, pen, pencil. Stripes on a shirt (red, yellow, blue; red, yellow, blue).</p> <p>Journal Entry: In your journal or math learning log tell about patterns that you see in the classroom.</p> <p>Have students make an AB pattern with 6 counters (e.g., red, blue, red, blue, red, blue). Have them copy the pattern in your book and extend the pattern up to 12.</p>

Have each group display their pattern and describe it. Ask each group to tell what comes next in the pattern.

Patterns Game

Give each student a set of attribute blocks. *(See page 1 of the Resource Document for an Attribute Blocks template)*

Direct students to work in pairs. If possible each pair should face each other. Have students set up a barrier between them in order to block their work from each other's view. Provide students with oral instructions for each pattern that they are to make.

Sample instructions:

- "For the first term, place one red square.
- "For the second term, place a yellow triangle.
- For the second term, place a yellow triangle.
- After all instructions have been given, students remove the barrier and compare their patterns.

Patterns using everyday objects

See sample activity – *Patterns using everyday objects* - on *page 2 of the Resource Document*

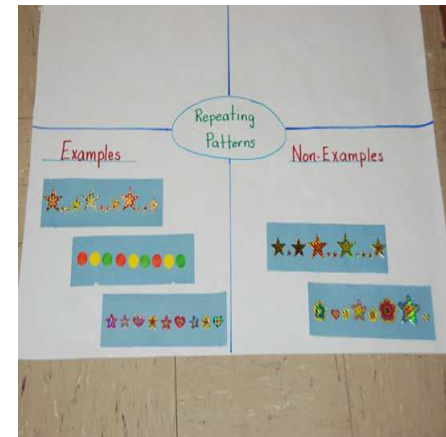
Then have them describe the pattern.

Frayer Model

Provide each student with a copy of a Frayer Model diagram *(see page 4 of the Resource Document for a sample of a Frayer Model)*.

Have students demonstrate their understandings of patterns by

- providing their definition of a *Pattern*
- *provide a fact about patterns*
- *use objects to demonstrate an example of a pattern*
- *use objects to demonstrate a non-example of patterns*

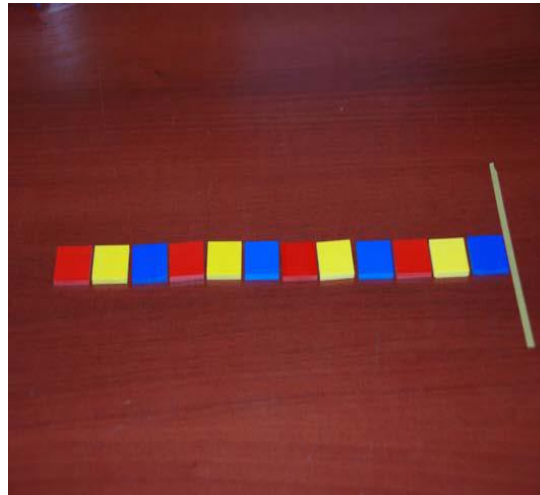


Create your own pattern

Give students pattern worksheet that helps them predict what comes next. *(See page 6 of Resource Document for Sample Pattern Worksheets)*

Objective: Identify, describe and complete patterns according to any one attribute, for example: shape, colour, and size.

Distribute attribute blocks to students sitting in pairs or groups
Provide instruction so that they create a repeating pattern on their desks as shown below.
Provide them with instructions:
First, place a red rectangular block on your desk, second a yellow, third a blue, fourth a red, fifth yellow, sixth blue and so.



Engage students in a discussion on the pattern they made.

Guided Questions:

- *Tell me about your pattern.*
- *What would come next in the pattern?*
- *How do you know?*
- *What do you notice about this pattern?*

Objective: Identify, describe and complete patterns according to any one attribute, for example: shape, colour, and size.

ICT Infusion

- Students should go to <https://ca.ixl.com/math/grade-1/shape-patterns> to complete each pattern and see their scores.
- Pattern game for students can be found at: <http://www.softschools.com/math/patterns/game/>

		<p>Ask each group to create another repeating pattern (pattern that start over and continue with the same sequence). (See the image above). Have students show that they are finished by placing a straw at the end of the 2nd, 3rd or 4th repetition.</p> <p>Objective: Create number patterns.</p> <p><u>Hundred Chart Pattern</u></p> <p>Give each student a copy of a hundreds chart. <i>(See page 5 of Resource Document for sample hundreds chart).</i></p> <p>Display a section of a hundreds chart (1-40) on the overhead projector.</p> <p>Have discussion with students to help them identify patterns on the chart.</p> <p>Guided Questions:</p> <p><i>What do you notice about all numbers in the fourth column?</i></p> <p><i>If we start at 2 and add two each time that are the numbers that would form the pattern?</i></p> <p>Highlight each pattern as students identify them. Next, have the students count aloud by, 2's, starting with 2.</p> <p>Have students place a counter on each number as it is said aloud.</p>	
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		<p>Ask students to describe the pattern that they observe (e.g., “The counters are arranged in horizontal rows”; “All numbers with 2, 4, 6, 8, and 0 in the ones place”).(we are adding two each time)</p> <p>Do a similar activities with different starting point... counting by 1, 3’s etc.</p> <p><u>Patterns Number Game</u></p> <p>Provide students with oral instructions to create patterns. Give instructions such as the following:</p> <ul style="list-style-type: none"> – “For the first term/number, write the number 3. – “For the second term/number, I add two to the first term. – For the third term/number in the sequence I add two to the second term/number. <p><u>Number Line Hop</u></p> <p>Print numbers and create a large number line 1-10 or 1-20 on the floor or outdoors if possible. (<i>See page 8 of the Resource Document for image of number line</i>).</p> <p>Have students walk the number line and call the numbers as they step on each.</p> <p>Call on individual students to make sequences by hopping from different start point. Teacher should give instruction such as:</p>	
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		<p>John, starting from the number one jump two places forward. Make another two jumps forward. Have students say what number John lands on each time and if he is right or wrong. Write the sequence on the board.</p> <ul style="list-style-type: none">• Example 1,3, 5, 7 <p>Participate in discussion with students so to help them visualize the pattern should it continues.</p> <p>Guided questions:</p> <ul style="list-style-type: none">– <i>How many hops did John make each time?</i>– <i>If John continues making the same number of hops which number would come next in the pattern?</i>	
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