



Patterning, Geometry & Data Management Grade 1

Patterning, Geometry & Data Management Grade 1 is a thorough and exciting introduction to three strands of mathematical concepts. Through challenging activities, colorful graphics and exciting auditory rewards, the program introduces a variety of basic principles of patterning, geometry and data management. A series of audio instructions and help buttons ensure that students will navigate these activities easily and with confidence. Designed specifically for Grade 1 students, **Patterning, Geometry & Data Management Grade 1** provides an exciting and effective introduction to these mathematical principles.

Targeted Skills

- Patterning (Identify Similarities and Differences in a Variety of Attributes, Complete Basic Geometric, Pictorial and Numerical Patterns, Identify Missing Entries in Geometric, Pictorial and Numerical Patterns, Basic Descriptions of Given Geometric, Pictorial and Numerical Patterns, Complete Basic Numerical Patterns on Number Charts)
- Geometry (Names of 2D Shapes - square, rectangle, circle, triangle, Names of 3D Figures - cone, cube, cylinder, sphere, Basic Properties of 2D Shapes and 3D Figures, Compare 2D Shapes and 3D Figures, Concept of Symmetry and Line of Symmetry, Directional Relationships - inside, to the right, beside, over, etc.)
- Data Management (Counting and Measuring, Sorting by One Attribute, Basic Surveying, Graphing - One-to-One Correspondence, Basic Understanding of Probability Concepts)

Marks Manager

The Marks Manager tracks student progress throughout each program and records the percentage score for every activity completed. This feature provides an overview of how well a student is progressing and allows the teacher to identify strengths and weaknesses.

- Records students' results automatically as they work.
- Prints reports quickly and easily for sharing with parents and staff.
- Provides summary reports by subject or detailed reports by activity.
- Allows teachers to print reports for individual students or an entire class.
- Stores student marks in one central location for all programs.

Program Outline

The program is broken down into 3 smaller programs, which can all be accessed from the Basic Skills Series menu. On the following pages, each of the programs' units are broken down. The units are:

Patterning

1. Attributes
2. What Comes Next?
3. What is Missing?
4. Make a Pattern
5. Talking About Patterns
6. Number Charts

Geometry

1. 2D Naming
2. 3D Naming
3. 2D Properties
4. 3D Properties
5. Symmetry
6. Directions

Data Management

- 1.1 - Counting
- 1.2 - Sorting
- 1.3 - Surveying
- 1.4 - Graphing
- 2.1 - Probability

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Patterning - 1 - Attributes

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Are They the Same Color?	Click on the checkmark if the two shapes that you see are the same color, click on the X if they are different.	Identify whether or not two given objects have similar properties.
Are They the Same Shape?	Click on the checkmark if the two shapes that you see are the same shape, click on the X if they are different.	
Are They the Same Size?	Click on the checkmark if the two shapes that you see are the same size, click on the X if they are different.	
Fruit Loops	How many fruit loops are there? How many fruit loops are yellow? etc.	Sort objects based on color
Parking Lot	Various questions about the numbers of colored cars in the parking lot.	
What do the Letters Have in Common?	Look at the letters above. What do they have in common - same letter or same color?	Determine whether given objects are the same color or same shape.
What do the Shapes Have in Common? (2 activities)	Look at the shapes above. What do they have in common - same shape or same color?	

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Patterning - 2 - What Comes Next?

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Suns and Clouds	Which comes next in the pattern - a sun or a cloud?	Determine the next entry in a basic pictorial pattern.
Next Letter (2 activities)	Look at the pattern and type which letter comes next.	Determine the next entry in a basic letter pattern.
Next Number (2 activities)	Look at the pattern and type which number comes next.	Determine the next entry in a basic number pattern.
Next 3 Numbers	Look at the pattern of numbers and click on the rest of the pattern.	Continue a basic arithmetic pattern going up or down by ones.

Patterning - 3 - What is Missing?

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Animals (2 activities)	Click on which animal should replace the checkmark for each pattern.	Fill in a missing entry for a basic pictorial pattern.
Money	Click on whether a coin or bill is missing in each pattern.	
Shapes	Look at the pattern and click the shape that belongs in the red X.	
Letters	Click on one of three letters at the end of each row to replace the missing letter in each pattern.	Fill in a missing entry for a basic letter pattern.
Numbers	Click on one of three numbers at the end of each row to replace the missing number in each pattern.	Fill in a missing entry for a basic numerical pattern.

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Patterning - 4 - Make a Pattern

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Fruit	Listen to the pattern and click on what comes next in the pattern.	Continue a pictorial pattern by choosing the correct set of items.
Shapes		
Shirts		
Pattern Matching	Click on the pattern of shapes that matches the pattern at the top of the screen.	Recognize similarities in given patterns.

Patterning - 5 - Talking About Patterns

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Up and Down Patterns	Do the numbers in this pattern go up or down?	Discuss whether an arithmetic pattern gets larger or smaller.
Talking About Number Patterns	Match the arithmetic patterns on the left with the printed descriptions on the right.	Determine printed description of basic arithmetic patterns.
Talking About Number Patterns 2	Choose the correct arithmetic pattern that matches the printed description at the top.	
Talking About Shape Patterns	Look at each pattern of shapes. Is the printed description correct?	Determine printed description of basic geometric patterns.

Patterning - 6 - Number Charts

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Number Charts	Click on the next three numbers for the pattern on each number chart.	Use a number chart to continue simple arithmetic patterns, going up and down by ones.
Number Charts II		
Number Charts Backwards		

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Geometry - 1 - 2D Naming

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Pick the Shape (2 activities)	Click on the shape that matches the shape you hear.	Identify 2D shapes (circle, rectangle, square, triangle).
Shape Matching (2 activities)	Match the shape with its name.	
What Shape is This? (2 activities)	Click on the name of the shape that you hear.	
Shape Hunt	Find and click on all the shapes that match the shape that you hear.	
Shape Hunt Counting	Count the number of shapes that match the shape that you hear and press enter.	

Geometry - 2 - 3D Naming

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Pick the Figure (2 activities)	Click on the figure that matches the figure that you hear.	Identify 3D shapes (cube, cone, cylinder, sphere).
Figure Matching (2 activities)	Match the figure with its name.	
What Figure is This? (2 activities)	Click on the name of the figure that you hear.	
Figure Hunt	Find and click on all the figures that match the shape that you hear.	
Figure Hunt Counting	Count the number of figures that match the figure that you hear and press enter.	
Click the Prism	Click on the shape that is a prism.	Basic identification of a prism.

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Geometry - 3 - 2D Properties

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Count the Sides	Type the number of sides that each shape has.	Count the number of sides of 2D shapes.
Count the Corners	Type the number of corners that each shape has.	Count the number of corners of 2D shapes.
Find the Sides	Click on the shapes that have the number of sides that you hear.	Count the number of sides of 2D shapes.
Biggest	Click on the biggest shape.	Compare 2D shapes based on size.
Smallest	Click on the smallest shape.	
Order the Shapes	Click on the shapes in order from the smallest to the biggest.	
Same Size Shapes	Click on the two shapes that are the same size.	
Shapes and Colors	Match each shape with its description.	Classify shapes based on color.

Geometry - 4 - 3D Properties

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Biggest	Click on the biggest figure.	Compare 3D figures based on size.
Smallest	Click on the smallest figure.	
Order the Figures	Click on the figures in order from the smallest to the biggest.	
Same Size Figures	Click on the two figures that are the same size.	
Figures & Colors	Match each figure with its description.	Classify figures based on color.
Riddles	Click on the figure that answers each riddle.	Understand basic properties of 3D figures - # corners, sides, etc.
Riddles 2		
What is the Shaded Shape?	Click on the shape that matches the red shape.	Identify a 2D shape within a 3D figure.

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Geometry - 5 - Symmetry

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Is it a Line of Symmetry	Is this shape divided symmetrically?	Identify whether a picture is divided symmetrically or not.
Is it Symmetrical?	Is this picture symmetrical?	
Find the Match	On the left there is one half of a picture. Click on the shape from the right that is the matching other half.	Determine whether given halves of an object are symmetrical or not.
Pick the Line	Look at the picture you see. If you wanted to divide it into two symmetrical parts, would you use a line that goes up & down or a line that goes left & right?	Basic understanding of how to divide a picture symmetrically.

Geometry - 6 - Directions

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Fun with Directions	Listen carefully and answer each question about the picture you see (questions based on comparing objects shown by using concepts like "to the right/left of" and "behind/in front of" etc).	Describe an object in relation to another object - behind, in front, to the left, to the right, above, below, inside, outside.
Fruit Salad		
Positioning 1		
Positioning 2		
Positioning 3		
Crossroads	Look at this map of a town and click on the direction that answers the question you hear.	Read a map and apply directional language to move between two given points - turn right, turn left.

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Data Management - 1.1 - Counting

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Fruit	Various questions about how many apples or bananas there are, as well as comparing these numbers.	Sort, count and compare objects based on one characteristic.
Stars	Various questions about how many yellow or blue stars there are, as well as comparing these numbers.	
Skateboards	How many skateboards are there? How many skateboards are red? How many skateboards are not red or green? etc.	
Water Jugs	Click the jug with the most / least / 2nd most / 2nd least amount of water.	Sort pictorial objects based on one characteristic.

Data Management - 1.2 - Sorting

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Hats	Various questions about the properties of a group of hats.	Recognize basic properties of pictorial items.
Triangles	Click on each triangle and place them in two different groups so that are the triangles in each group are the same.	Sort geometric objects based on one attribute.
Shapes	Look at the picture of sorted shapes. Are the shapes sorted by shape or color?	Determine how three groups of shapes have been sorted - by color or shape.
What Do They Have in Common?	Look at these shapes. What do they have in common?	Determine what two given shapes have in common - same shape or same color.
What Do They Have in Common? II	Look at these letters. What do they have in common - same letter or same color?	
What Do They Have in Common? III	Look at these numbers. What do they have in common - same number or same color?	

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Data Management - 1.3 - Surveying

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Pick the Question	Students must pick the best question from a list given to get a desired result.	Choose an appropriate question to get a desired result from a survey.
Good and Bad Questions	Is the given question a “yes and no” question?	Determine whether a given question is a “yes and no” question.
Do a Survey	Look at the picture and tell me - How many people like red / blue balloons? How many more people liked red balloons over blue balloons? How many people did you ask in total?	Collect first-hand data by performing basic surveys.
Do a Survey II	Look at the ballots and keep track of how many votes each person received to be class president.	

Data Management - 1.4 - Graphing

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Cafeteria Food	Various questions about reading data from a basic bar graph.	Read data from bar graphs with one-to-one correspondence.
Number of Coins	Does the graph match the number of coins you see?	Compare one-to-one bar graphs with a pictorial representation of the data.
Rainy Days	Various questions about reading data from a basic pictograph.	Read data from pictographs with one-to-one correspondence.
Getting to School	Your teacher did a survey on how the students in your class got to school each day. Click on the squares in the graph to fill them in.	Complete a one-to-one bar graph from basic data.
Getting to School (Activity 2)	Various questions about reading data from a basic bar graph.	Read data from bar graphs with one-to-one correspondence.

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Data Management - 2.1 - Probability

ACTIVITY NAME	INSTRUCTION	REQUIRED SKILLS
Animals	Various questions about real world probability problems involving animals - eg. "Is there a good chance the next dog you will see will have a tail?"	<p>Understand that certain events may or may not occur.</p> <p>Use real world experience to predict the probability of certain events.</p> <p>Understand meaning of never, sometimes, always, certain, good chance.</p>
Days	Various questions about real world probability problems involving days - eg. "Will Friday ever be the day right after Wednesday?"	
Weather	Various questions about real world probability problems involving weather - eg. "Will it always snow on Christmas?"	
Fun and Games	Various questions about real world probability problems - eg. "The next time you play baseball, is it certain that you will get a hit?"	