

Kindergarten Student Resource Contents

Resource Title:
The title of the resource relates to an Overall Expectation of the Math Curriculum.

Activity List:
The learning outcome for each activity is listed here. This makes it easier for teachers to target specific concepts for teaching, diagnostic or formative assessment purposes.

SORT, CLASSIFY, COMPARE AND REPRESENT OBJECTS USING A VARIETY OF ATTRIBUTES
Student Activities

Sort, classify and represent groups of objects by category		Sort, classify and represent groups of objects by size	
■ Relate each group to its category.....	1	■ Connect each group to its corresponding sorted group.....	17
■ Relate each category to its corresponding group.....	2	■ Relate each group to its corresponding pictograph representing size.....	18
■ Relate each group to its category.....	3	■ Relate each group to its corresponding bar graph representing size.....	19
■ Relate each group of objects to its category.....	4	■ Connect each bar graph to its corresponding group.....	20
■ Relate each group to its representation on a pictograph.....	5		
■ Relate each group to its representation on a pictograph.....	6	Sort, classify and represent objects by shape	
■ Relate each group of animals to its corresponding representation on a simple bar graph.....	7	■ Connect each group of shapes to its corresponding pictograph using colour as a clue.....	21
■ Relate each group of animals to its corresponding representation on a simple bar graph.....	8	■ Connect each pictograph to its corresponding group of shapes.....	22
		■ Relate each pictograph to its corresponding group of shapes.....	23
Sort, classify and represent groups of objects by colour		■ Compare each pictograph to its corresponding bar graph.....	24
■ Connect each group to its corresponding colour.....	9		
■ Connect each group to its corresponding colour.....	10		
■ Relate each group to its corresponding classification by colour.....	11		
■ Relate each group to its representation on a pictograph.....	12		
■ Relate each pictograph to its corresponding group.....	13		
■ Relate each group of objects to its classification by colour.....	14		
■ Relate each group of objects to its representation on a bar graph.....	15		
■ Relate each bar graph to its corresponding group of objects.....	16		

Teacher Section

How to Use QUICKCHECK Math and tips for success.....	25	Learning Connection Activity Suggestions	
		■ Mathematical Process Expectations: Representing, Reasoning and Proving, Connecting.....	26

Big Ideas:
Groups of activities are organized around key Math concepts as they relate to the expectation noted in the title.

Teacher Section:
Teachers will find helpful tips and Learning Connections Activity Suggestions at the back of each resource.

GETTING READY TO USE QUICKCHECK
You need a book and a case with six tiles.

- Open the book to Activity 1.
- Put the empty tile case over the book.
- The CHECKMARK will cover the answer key.
- There are six squares in the top section.
- Place each tile on the square that has the same icon.
- Lift each tile to reveal the image underneath.
- Transfer each tile to its corresponding image below.
- Close the cover of the tile case.
- Flip the tile case up.
- The answer key will appear.
- The tile pattern should match the answer key.

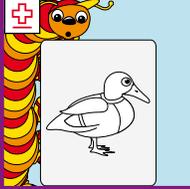
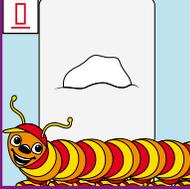
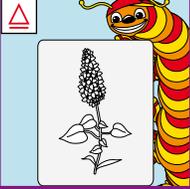
Kindergarten Student Resource Activity Page

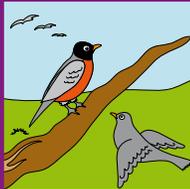
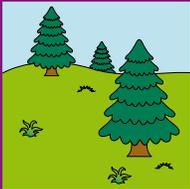
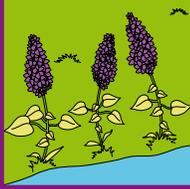
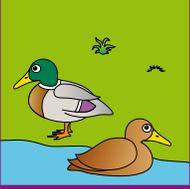
Activity Title:
States the targeted learning outcome: Teachers know the purpose of the activity at a glance.

Activity Extension:
Provides new information for teachers or, ideas for further development of the activity.

4 **Relate each category to its corresponding group.**

■ Using examples from the bottom grid, discuss with students what they see. Help students see that although the things in each square differ in some ways, they all belong to the same category.



1. Match:
Students begin each activity by matching the shape icons on the tiles, to those in the squares of the top grid of the resource.

2. Think & Play:
Students move each tile from the top grid to the correct square in the bottom grid until all the tiles have been transferred.

3. Check:
Students close the cover of the plastic case and flip it up to see if the pattern revealed on the back of the tiles matches this answer key.

Kindergarten Teacher Section

Learning Connection Activity Suggestions:

These suggestions are organized around the same key math concepts addressed in the 24 activities. They relate to some of the Mathematical Process Expectations used in the Math Curriculum.

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TEACHER SECTION

LEARNING CONNECTION ACTIVITY SUGGESTIONS

Mathematical Process Expectations:
Representing, Reasoning and Proving, Connecting

- **Sort and classify objects using one attribute**

Small group guided Math activity: Using a sorting mat or two hoops, have student sort objects from a selected group of bin toys in the classroom (e.g. vehicles, animals, dinosaurs, Lego, etc.); first, use one attribute, then another. Animal example: Say: "Soon, we are going to learn about animals. I want to know how many farm animals and how many zoo animals are in our animal bin. Using the sorting mat, can you find out how many farm animals we have first? How do you know? Prove it/show me."

Say: "Now that you've found all the farm animals, can you sort them? How did you sort them/what sorting rule did you use?" Students may sort them by animal type, by colour or by size. You may also want to suggest two ways, from which they may choose one.
- **Sort, classify and represent objects using one attribute**

Idea: When beginning your unit on Data Management representations, take a picture of each of your students and glue/tape each one onto a smooth metal frozen juice lid. Then, place a piece of magnetic tape on the back; you have a set of round magnetic pictures of your class. Make a grid or axis on a metal chart board using a dry erase marker or tape. This is great for data work and very interactive for students—not to mention easy to manipulate.

Large group Math activity (after students have had experience with different ways to represent data): Say: "I am going to sing a colour song/chant a colour poem. Listen to my song/chant. If you are wearing a shirt of the colour I sing/chant about, stand up. Red, red, red, who is wearing red today? (Note: if you think it would benefit some of your students, hold up a piece of red construction paper while you sing/chant). Thank you. Sit down please. Listen again: Blue, blue, blue, who is wearing blue today? Thank you. Sit down please. I wonder, are there more children wearing red or blue shirts today? How can we find out?" Note: If the students wear uniforms, use another attribute, like hair colour.

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TEACHER SECTION

Have each group stand up again and ask students to count the number of students in each group. Use a T-chart with shirt outlines coloured red or blue as headings to record the totals. Say: "Are more children wearing blue or red shirts today? How do you know?" Listen to a variety of responses from your students. Say: "In smaller groups, let's make some representations of what we have found."

Have centres around the room, have different materials for students to make their representations. Review with your students what their choices are and what is expected in each centre (you may want to show them some samples). Let them know that you will ask them to bring their representations back to the large group to talk about them. Have adults or older students available to help at each centre. Here are three examples to get you started, but there are many other ways:

Connecting Cube Tower Representation Centre: Students count the correct number of red and blue connecting cubes to represent the number of students wearing red shirts and the number of students wearing blue shirts. Then, they make two towers out of the cubes they counted and compare them.

Link Chains Representation Centre: Students count the correct number of red and blue links to represent the number of students wearing red shirts and blue shirts. Then, they make two chains out of the links they counted and compare them.

Sorting Mat Representation Centre: Students work together and sort shirt cutouts or stickers of the two colours of shirts on either side of the sorting mat.

When you bring the large group back together, ask students to share their representations. While you are reflecting and connecting, you might want to ask:

- How is your representation the same as another student's and how is it different?
- Is it easier to get information from your representation or from our groups of people at the beginning? Why?