

Just In Time Quick Check
Standard of Learning (SOL) K.12

Strand: Probability and Statistics

Standard of Learning (SOL) K.12

The student will sort and classify objects according to one attribute.

Grade Level Skills:

- Identify the attributes of an object (e.g., color, size, shape, thickness)
- Sort objects into appropriate groups (categories) based on one attribute (e.g., size – large bears and small bears).
- Classify sets of objects into groups (categories) of one attribute.
- Label attributes of a set of objects that has been sorted.
- Name multiple ways to sort a set of objects.

Just in Time Quick Check

Just in Time Quick Check Teacher Notes

Supporting Resources:

- VDOE Mathematics Instructional Plans (MIPS)
 - [K.12 - Sorting Collections](#) (Word) / [PDF Version](#)
- VDOE Word Wall Cards: Kindergarten [\(Word\)](#) | [\(PDF\)](#)
 - Smaller/Larger
 - Same

Supporting and Prerequisite SOL: [K.9](#), [K.10a](#), [K.10b](#), [Foundation Blocks for Early Learning: Standards for Four-Year Olds – 6a](#)*

*This links to the prerequisite standards found in Foundation Blocks for Preschool. Just in Time Quick Checks have not been created for Foundation Blocks.

SOL K.12 - Just in Time Quick Check

Materials Needed:

- A set of objects that vary in color, size, shape and thickness (i.e., attribute blocks, teddy bear counters, buttons, etc.).
- A set of objects that have been presorted by one of the following attributes: color, size, shape, or thickness.

For problems 1-3, provide students with a set of objects that vary in color, size, shape and thickness (i.e., attribute blocks, teddy bear counters, buttons, etc.).

1. Ask the student, "How are these objects similar?"

___ color ___ size ___ shape ___ thickness

Child's description: _____

2. Ask the student, "How are these objects different?"

___ color ___ size ___ shape ___ thickness

Child's description: _____

3. Have the student sort the objects first by color, then by size, and then by thickness.

___ / ___ color ___ / ___ size ___ / ___ thickness

Show the student a set of objects that have been presorted based on one of the following attributes (color, size, shape or thickness).

4. Ask the student to communicate how the objects have been sorted.

Child's response: _____

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Common Errors/Misconceptions and their Possible Indications

1. Ask the student, "How are these objects similar?"

___ color ___ size ___ shape ___ thickness

Child's description: _____

2. Ask the student, "How are these objects different?"

___ color ___ size ___ shape ___ thickness

Child's description: _____

Students who are unable to identify the similarities (common attributes of the objects) or differences (uncommon attributes) among objects may be overwhelmed with a set of objects that includes several characteristics. These students may benefit from working with smaller sets that include only one differing characteristic (i.e., all objects are the same shape and size and vary only by color). If the student is unable to identify the similarities/differences of objects, students will need opportunities to choose an object and describe its characteristics. Guess My Shape or I Spy games could be used to practice identifying a shape or object based on its characteristics.

3. Have the student sort the objects first by color, then by size, and then by thickness.

___ / ___ color ___ / ___ size ___ / ___ thickness

Some students may be unable to sort the objects from the large group of given objects. These students may not be able to apply a rule consistently and may become confused or start sorting by color and then notice shapes and create other sorts. It may be beneficial for these students to work with smaller groups that is limited to one distinguishing difference (i.e., color, size, shape, or thickness). From this smaller group determine if the student understands that objects can be sorted by one attribute.

For students who are unable to sort by a specific attribute such as color, provide additional practice identifying objects of differing colors. If a student is unable to sort by size, encourage the student to place objects next to each other in order to visually see the differences and provide practice using the vocabulary that describes size (i.e., small/large). If a student is unable to sort by shape, provide further review of the characteristics of each shape should be provided. Students who are unable to sort by thickness will need additional opportunities to handle the objects, compare their thickness, and discuss the difference between thick and thin. I Spy, Guess My Shape, and other types of activities are helpful in providing experiences identifying and comparing characteristics of shapes. Attribute blocks, buttons, etc. can serve as great tools to work on these skills.

Show student a set of objects that has been presorted based on one of the following attributes (color, size, shape or thickness).

4. Ask student to communicate how the objects have been sorted.

Child's response: _____

Students who struggle to name the common attribute of the presorted set of objects need lots of opportunities to sort and classify in whole group and small group settings, as well as individually. They will benefit from selecting two objects that are the same in some way and describing how they are similar or how they are different. Guess my rule is an activity that will support the development of identifying how objects have been sorted. For instance, using a group of sorted shapes that all have three sides, you might ask the students what the shapes all have in common (was is the same about all of the shapes)?

Classification is a skill needed in many areas of mathematics (i.e., patterning, measurement, etc.). Students will need many opportunities to identify the attributes of objects and to develop flexible reasoning around those characteristics. It is helpful to begin sorting activities with materials that have easily identifiable characteristics (i.e., teddy bears, pattern blocks, etc.). Once students are ready, it is appropriate to introduce materials that have many characteristics (i.e., button, stuffed animals, keys, their peers, etc.).