



# Summer Adventure!

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Professional Development Extension

## More About Math

### Sid the Science Kid – Sid's Outdoor Adventure

#### Background for Leaders

In this unit, children will explore the great outdoors with Sid the Science Kid and solve math-related problems. They will explore a variety of math topics appropriate for children age 4-5 years-old; these topics include nonstandard measurement, temperature, size correspondence, shapes, sorting, and symmetry.



#### Nonstandard Measurement

Children at this age are taught to use nonstandard units to measure by laying multiple shorter objects end to end with no gaps or overlaps. For example, you can lay multiple paperclips (same sized) next to a pencil to determine that the pencil is four paperclips long. This allows children to measure objects before they fully understand customary and standard units of measure.

#### Temperature

Children at this age should recognize temperatures as hot or cold. Some children may even know that temperature is measured using a thermometer. They do not need to read a thermometer, but should recognize when temperatures are warmer and when they are cooler and should be encouraged to relate temperature to the weather. Children should recognize that snow and ice are indicators of cold weather and that a sunny beach or flowers are associated with warm weather. Help to expand their vocabulary to include: **hot, warm, cool, and cold** when discussing the temperature of the environment and/or liquids/solids.

#### Size Correspondence

Children learn size correspondence through comparing objects, ordering objects, and matching objects with similar size. They will learn that all objects have a relative size, meaning that an object is **small, medium, or large** compared to other objects. Children will answer questions comparing the size of two objects as well as groups of objects. Encourage them to use related vocabulary (**smaller, larger, shorter, and taller**) to compare two objects. Children at this age should be able to place 3-5 objects in order by size (smallest to largest or largest to smallest). Related vocabulary terms for comparing three or more objects includes **smallest, largest, shortest, and tallest**.

#### Shapes

Young children should be able to identify and name some shapes as well as recognize that shapes have defining characteristics, such as the number of sides, angles and the lengths of the sides. Children are likely to recognize circles, squares, triangles, rectangles, pentagons and hexagons. Introduce new vocabulary such as ovals, semi-circle (half circle), parallelogram and trapezoid when utilized in these activities.

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### Sorting

Sorting is the act of grouping objects together based upon their characteristics. At this age children should be sorting items based one or more characteristic. These attributes might be size, color, smell, texture. As children become proficient sorting objects by one characteristic, encourage them to sort objects by two characteristics (for example, sorting by size and color). Young children are capable of sorting into three groups at a time.



### Symmetry

When something is **symmetrical** that means that both halves look exactly the same. Another way to understand this is when a symmetrical object is folded in half, both sides match up evenly with nothing hanging over or sticking out. The line that is created by the fold is referred to as **the line of symmetry**. When objects are divided along the line of symmetry children should be able to match the two halves back together by looking for shapes or colors that are identical in both halves.



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