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| **FOCUS****FOUNDATIONAL FRACTIONS** | **KENTUCKY ACADEMIC STANDARDS** | **ACTIVITY** |
| **KINDERGARTEN:** EXPLORATION OF ATTRIBUTES, SHAPES AND MEASUREMENT | **Describe and compare measurable attributes** * K.MD.1: Describe ***measurable attributes of objects***, such as length or weight. Describe several measurable attributes of a single object.
* K.MD.2: Directly ***compare two objects with a measurable attribute in common***, to see which object has “more of”/“less of” the attribute, and describe the difference. *For example, directly compare the heights of two* *children and describe one child as taller/shorter.*

**Analyze, compare, create, and compose shapes.*** K.G.5: Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
* K.G.6: ***Compose simple shapes to form larger shapes***. *For example, “Can you join these two triangles with full sides touching to make a rectangle?”*
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| **FIRST GRADE:** EXPLORATION AND DISCOVERY OF ITERATION AND EQUAL SHARES (INTRODUCTION TO INFORMAL AND FORMAL VOCABULARY) | **Measure lengths indirectly and by iterating length units.*** 1.MD.1: Order three objects by length; compare the lengths of two objects indirectly by using a third object.
* 1.MD.2: Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to* *contexts where the object being measured is spanned by a whole number of* *length units with no gaps or overlaps.*
* 1.MD.3: Tell and write time in hours and ***half***-hours using analog and digital clocks.

**Reason with shapes and their attributes.*** 1.G.2: Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, ***half***-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Note: Students do not need to learn formal names such as “right rectangular prism.”)
* 1.G.3: Partition circles and rectangles ***into two and four equal shares***, describe the shares ***using the words halves, fourths, and quarters,*** and ***use the phrases half of, fourth of, and quarter of.*** Describe the whole as two of, or four of the shares. ***Understand*** for these examples that decomposing into more equal shares creates smaller shares.
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| **SECOND GRADE:** APPLICATION OF PRIOR EXPERIENCES WITH ITERATION AND EQUAL SHARES (USE OF FORMAL VOCABULARY)  | **Measure and estimate lengths in standard units.*** 2.MD.2: Measure the length of an object twice, using length units of different lengths for the two measurements; ***describe how the two measurements relate to the size of the unit chosen.***
* 2.MD.4: Measure to ***determine how much longer one object is than another***, expressing the length difference in terms of a standard length unit.

**Reason with shapes and their attributes.*** 2.G.3: ***Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.***
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| **THIRD GRADE:** UNDERSTANDING AND APPLICATION OF FRACTIONS AS NUMBERS USING FORMAL VOCABULARY AND NOTATION | **Develop understanding of fractions as numbers.** * ***Note: Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.***
* 3.NF.1: Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b*.
* 3.NF.2: Understand a fraction as a number on the number line; represent fractions on a number line diagram.

a. Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line.b. Represent a fraction *a*/*b* on a number line diagram by marking off *a* lengths 1/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.* 3.NF.3:Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model.c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form* *3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point* *of a number line diagram.*d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. |  |