

NJDOE MODEL CURRICULUM PROJECT

CONTENT AREA: Mathematics	GRADE: 4	UNIT: # 5	UNIT NAME: Compare Decimals and Measure and Classify Geometric Figures
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#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Determine the measure of an angle in degrees. The two rays of an angle share a common endpoint. If that endpoint is located at the center of a circle, the fraction of the circular arc (between the points where the rays intersect the circle) measures the angle in degrees. A “degree” is defined as 1/360 (one degree angle) of the entire circle; and an angle that turns n one degree angles is said to measure n degrees.	4.MD.5
2	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.	4.NF.7
3	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines and identify these in two-dimensional figures.	4.G.1
4	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specific size. Recognize right angles as a category, and identify right triangles.	4.G.2
5	Use a protractor to measure angles in whole number degrees and sketch angles of specific measures.	4.MD.6
6	Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems using a symbol for an unknown angle measure.	4.MD.7
7	Draw lines of symmetry and identify line-symmetric figures.	4.G.3

Major Content **Supporting Content** **Additional Content** (Identified by PARCC Model Content Frameworks).

Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks).

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Selected Opportunities for Connection to Mathematical Practices

1. Make sense of problems and persevere in solving them.

SLO #1 Consider and use available tools when determining the measure of angles in degrees.

SLO #3 Analyze the relationship and constraints of various geometric objects.

SLO #4 Analyze the relationship between two-dimensional figures based on the presence or absence of parallel lines, perpendicular lines, or angles.

SLO #5 Analyze the givens and constraints when measuring angles.

SLO #7 Analyze the constraints and relationships between lines of symmetry and line-symmetric figures.

2. Reason abstractly and quantitatively.

SLO #2 Understand and make sense of decimal quantities in order to compare them.

SLO #2 Use quantitative reasoning to create a coherent representation of decimal numbers in order to compare their size.

3. Construct viable arguments and critique the reasoning of others.

SLO #6 Understand and use the stated assumptions and definitions of angles to solve addition and subtraction problems utilizing angles.

4. Model with mathematics.

SLO #2 Map the relationship of two decimal numbers using various tools.

5. Use appropriate tools strategically.

SLO #3 Consider and use available tools, such as graphing paper, a ruler, and concrete models, when drawing points, lines, line segments, rays, angles, perpendicular, and parallel lines.

SLO #5 Consider and use available and appropriate tools, such as a protractor, a ruler, and graphing paper, to measure angles.

6. Attend to precision.

SLO #2 State the meaning of the $<$, $>$, or $=$ symbols when comparing two decimal numbers.

7. Look for and make use of structure.

SLO #1 Look for and discern patterns in the measurement of angles.

SLO #4 Look for and discern patterns in two dimensional figures based on the presence or absence of lines or angles.

SLO #7 Look for and discern patterns in lines of symmetry and line-symmetric figures.

8. Look for and express regularity in repeated reasoning.

Bold type identifies possible starting points for connections to the SLOs in this unit.

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Code #	Common Core State Standards
4.MD.5	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
4.MD.5a	
4.MD.5b	
4.NF.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g. , by using a visual model.
4.G.1	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
4.G.2	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
4.MD.6	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
4.MD.7	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g. , by using an equation with a symbol for the unknown angle measure.
4.G.3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

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