Pocatello/Chubbuck School District #25

4th Grade **TOPIC 15: Geometric Measurement: Understand Concepts of Angles and Angle Measurement** **Pacing: 9 Days**

Topic 15 OVERVIEW

TOPIC FOCUS: This topic focuses on angles, angle measurement, and using a protractor to measure angles. Learners will gain an understanding of what an angle is and what it means to measure an angle. Learners develop a basic understanding of angle measurement by using fractions of a circle to find angle measure. They connect measuring angles to work with equivalent fractions, and will use known angles to determine the measures of new angles. Learners will apply their angle measurement skills as they solve problems that involve adding and subtracting angle measures. They will develop a conceptual understanding of angle measurement, and use that understanding to solve problems.

ESSENTIAL QUESTION(S): What are some common geometric terms? How can you measure angles?

STANDARDS: The Major focus standards for this topic are **4.G.A** Draw and identify lines and angles, and classify shapes by properties of their lines and angles, **4.MD.C.5** Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement, **4.MD.C.6** Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure, **4.MD.C.7** Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems.

Topic 15 has a 3-Act Task that should be included into the lesson sequence after lesson 15-6.

ASSESSMENT: Understand concepts of angle and **4.MD.C.7** measure angles and solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems standards are only assessed at the end of Topic 15, so the Topic 15 Assessment should be used summatively for those standards. **4.G.A** Draw and identify lines and angles, and classify shapes by properties of their lines and angles are addressed in later topics, so the information from the Topic 15 Assessment should be used formatively for those standards.

MANIPULATIVES: Whiteboard, protractor, digital tools

REQUIRED ASSESSMENTS	
Resources for Formative and Summative Assessment from enVision Mathematics	Pre-Assessment - Review What you Know ● Use item analysis to identify MDIS lessons Topic 15 Review ● Online Topic 15 Assessment (TE pg 578A) may be projected and used as a review. ● Topic 15 Performance Task (TE pg 579-580 #1) to be used as guided instruction with the whole group. Not to be used as an assessment at this time.

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	Topic 15 Assessment ● Topic 15 Assessment Practice(TE pg 577-578) Administer as a summative assessment for 4.MD.C.5a, 4.MD.C.5b, 4.MD.C.6, 4.MD.C.7a, and 4.MD.C.7b. Use the assessment formatively for 4.G.A.1.

STANDARDS The standards are clustered with Learning Intentions and Success Criteria (LI/SC) and are identified to provide coherence in teaching and learning. **Students should spend the large majority of their time on the major work of the grade. Major clusters (□) address the most important standards at that grade level. Supporting clusters (△) are strongly connected to the content of the major clusters, and additional clusters (?) address other content to be taught at that grade level.**	**LEARNING INTENTION** LI Identified on Math Background: Focus pg 545C	**SUCCESS CRITERIA** SC identified in Topic Planner - math objectives
⚪**4.G.A.1** Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. ⚪**4.MD.C.5a** 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. ⚪**4.MD.C.6** Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure ⚪**4.MD.C.7a** Use an equation with a symbol for the unknown angle measure. ⚪**4.MD.C.7b** 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	We are learning to develop an understanding of angle concepts including angle measurement.	15-1: I can recognize and draw lines, rays, and angles with different measures. 15-2: I can find the measure of an angle that turns through a fraction of a circle. 15-3: I can use known angle measures to measure unknown angles. 15-4: I can use a protractor to measure and draw angles. 15-5: I can use addition and subtractions to solve problems with unknown angle measures. 15-6: I can use appropriate tools, such as a protractor and ruler, to solve problems.

parts. ⚪**4.G.A.1** Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.		