

Dear Parents,

We will begin our next unit of study in math soon. The information below will serve as an overview of the unit as you work to support your child at home. If you have any questions, please feel free to contact me. I appreciate your on-going support.

Sincerely,

Your Child's Teacher

Unit Name: Measuring Angles

Common Core State Standards:

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.

Essential Vocabulary:

- | | | |
|-------------------|--------------------|------------------------|
| ● lines | ● end point | ● protractor |
| ● angle | ● geometric shapes | ● decompose |
| ● point | ● ray | ● addition |
| ● line segment | ● angle | ● subtraction |
| ● ray | ● circle | ● unknown |
| ● vertex/vertices | ● fraction | ● complementary angles |
| ● measure | ● intersect | |
| ● point | ● one-degree angle | |

Unit Overview:

In this unit, students will be exposed to measuring angles for the first time. Angle measure is a "turning point" in the study of geometry. Students often find angles and angle measure to be difficult concepts to learn, but that learning allows them to engage in interesting and important mathematics. Students will learn that a circle is made up of 360 one-degree angles. Students will learn to reason using complementary angles. They will utilize this information in order to decompose (break apart) angles into smaller angles. For example a 40 degree angle = 40 one-degree angles = 25 degree angle + 15 degree angle, etc. In addition, students will learn how to use a protractor as a tool within this unit.

Strategies/Skills:

Students will build on their understanding of geometric shapes and go further with identifying and measuring angles. Students will model mastery of this concept through the following ways:

- building
- drawing
- identifying
- analyzing

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Video Support:

Video support can be found on LearnZillion.

- <https://learnzillion.com/>
 - Introduction to protractors
<https://learnzillion.com/lessons/2907-introduction-to-protractors>
 - Measure angles to the nearest 10 by reading a protractor
<https://learnzillion.com/lessons/3010-measure-angles-to-the-nearest-10-by-reading-a-protractor>
 - Measure angles to the nearest degree with protractor
<https://learnzillion.com/lessons/2973-measure-angles-to-the-nearest-degree-with-protractors>
 - Sketch angles that are multiples of 10 degrees using a protractor
<https://learnzillion.com/lessons/2913-sketch-angles-that-are-multiples-of-10-degrees-using-a-protractor>
 - Sketch angles that are not multiples of 10 degrees using protractor
<https://learnzillion.com/lessons/3101-sketch-angles-that-are-not-multiples-of-10-degrees-using-a-protractor>
 - Compose and decompose angles
<https://learnzillion.com/lessons/3270-compose-and-decompose-angles>
 - Understand that angle measure is additive by decomposing
<https://learnzillion.com/lessons/3253-understand-that-angle-measure-is-additive-by-decomposing>
 - Finding unknown angles using angle properties
<https://learnzillion.com/lessons/3254-find-unknown-angles-using-angle-properties>
 - Find unknown angles using diagrams
<https://learnzillion.com/lessons/3402-find-unknown-angles-using-diagrams>
 - Write an equation to solve for a missing angle measure
<https://learnzillion.com/lessons/3403-write-an-equation-to-solve-for-a-missing-angle-measure>

Additional Resources:

If you have limited/no internet access, please contact your child's teacher for hard copies of the resources listed in this document.

- NCDPI Unpacking Document: [4th Grade Unpacking Document](#)