

Unit 11 - Chapter 11: Angles

Content Area: **Mathematics**
Course(s): **Math 4**
Time Period: **April**
Length: **2 weeks**
Status: **Published**

Unit Summary

In this unit, students will relate angles and fractional parts of a circle. They will relate degrees to fractional parts of a circle by understanding that an angle that measures n degrees turns through $n/360$ of a circle. Students will use a protractor to measure an angle and draw an angle with a given measure. They determine the measure of an angle separated into parts using the strategy draw a diagram to solve angle measurement problems.

Standards

MA.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:
MA.4.MD.C.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.
MA.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. An angle that turns through $1/360$ of a circle is called a “one-degree angle,” and can be used to measure angles.
MA.4.MD.C.5b	An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
TECH.8.1.5	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.5.A.CS2	Select and use applications effectively and productively.

Students Learning Objectives

Students will learn to:

- relate angles and fractional parts of a circle.
- relate degrees to fractional parts of a circle by understanding that an angle measures n° turns through $n/360$ of a circle.
- use a protractor to measure an angle and draw an angle with a given measure.
- determine the measure of an angle separated into parts.
- use the strategy *draw a diagram* to solve angle measurement problems.

Essential Questions

Students understand that:

- we can relate angles and fractional parts of a circle.
- degrees are related to fractional parts of a circle.
- we can use a protractor to measure and draw angles.
- we can determine the measure of an angle separated into parts.
- we can use the strategy *draw a diagram* to solve angle measurement problems.

Enduring Understanding

Students will understand that:

- concepts of angles and measure angles.
- there is a relationship between angles and fractional parts of a circle.
- degrees relate to fractional parts of a circle by understanding that an angle that measures part of 360 degrees.
- there are specific ways to drawing and label angles.
- angles can be measured by separating into parts.

Application

Students will be able to independently use their learning to:

- relate angles and fractional parts of a circle.
- relate degrees to fractional parts of a circle by understanding that an angle measures n° turns through $n/360$ of a circle.
- use a protractor to measure an angle and draw an angle with a given measure.
- determine the measure of an angle separated into parts.
- use the strategy *draw a diagram* to solve angle measurement problems.

Skills

Students will be skilled at:

- relating angles and fractional parts of a circle.
- relating degrees to fractional parts of a circle by understanding that an angle measures n° turns through $n/360$ of a circle.
- using a protractor to measure an angle and drawing an angle with a given measure.
- determining the measure of an angle separated into parts.
- using the strategy *draw a diagram* to solve angle measurement problems.

