# Unit 11 - Chapter 11: Angles 

| Content Area: | Mathematics |
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| Course(s): | Math $\mathbf{4}$ |
| 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 <br> common endpoint, and understand concepts of angle measurement: |
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| MA.4.MD.C. | Recognize angle measure as additive. When an angle is decomposed into non-overlapping <br> parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve <br> addition and subtraction problems to find unknown angles on a diagram in real world and <br> mathematical problems, e.g., by using an equation with a symbol for the unknown angle <br> measure. |
| MA.4.MD.C.5a | An angle is measured with reference to a circle with its center at the common endpoint of <br> the rays, by considering the fraction of the circular arc between the points where the two <br> rays intersect the circle. An angle that turns through $1 / 360$ of a circle is called a "one- <br> 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 $n$ <br> degrees. |
| TECH.8.1.5 | Educational Technology: All students will use digital tools to access, manage, evaluate, and <br> synthesize information in order to solve problems individually and collaborate and to <br> create and communicate knowledge. |
| 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 $\mathrm{n}^{0}$ turns through $\mathrm{n} / 360$ 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 stategy draw a diagram to solve angle measurement problems.
- 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 $\mathrm{n}^{0}$ turns through $\mathrm{n} / 360$ 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

- relating angles and fractional parts of a circle.
- relating degrees to fractional parts of a circle by understanding that an angle measures $n^{0}$ 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.

