

## Teacher Notes

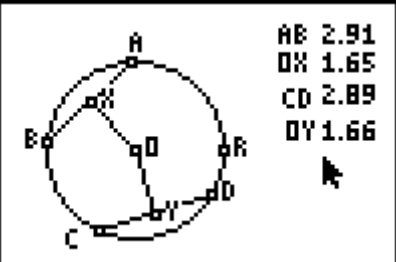
G.G.49 Investigate, justify, and apply theorems regarding chords of a circle:

- the relative lengths of chords as compared to their distance from the center of the circle

### Lesson Launcher Objectives:

- 1) Discover that the relative length of a chord of a circle can be determined by its distance from the center .
- 2) Discover that the longest chord of a circle must pass through the center of the circle and therefore is the diameter.

Procedure:

<p>The student opens Cabri Jr. and the APPVAR CHORDS2</p> 	<p>As the student explores the figure by moving various points they will be able to conclude that as the distance from the center decreases/increases the length of the chord increases/decreases.</p>
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- 1.) Select, grab and drag point A or point B. What happens to the length of OX as the length of AB increases? **The length of OX decreases**
- 2.) Select, grab and drag point A or point B. What happens to the length of OX as the length of AB decreases? **The length of OX increases**
- 3.) Select, grab and drag point C or point D. What happens to the length of OY as the length of CD increases? **The length of OY decreases**
- 4.) Select, grab and drag point C or point D. What happens to the length of OY as the length of CD decreases? **The length of OY increases**
- 5.) In circle O chords PQ and RS are drawn and chord PQ is closer to point O than chord RS. What can you conclude about the lengths of O chord PQ and chord RS?  
**PQ > RS**
- 6.) What is the longest chord in a circle? **The diameter**

7.) How far from the center is the longest chord you can draw in a circle? Since it is a diameter it passes through the center therefore is 0 units from the center.