

S.T.E.M.

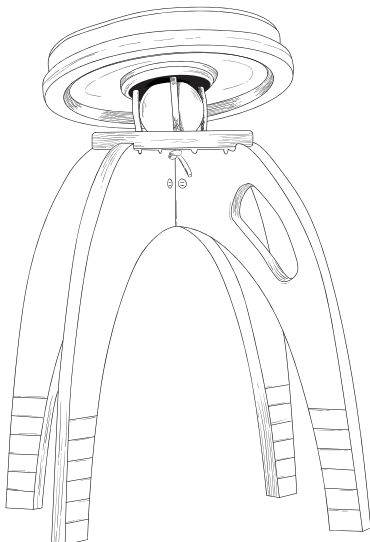
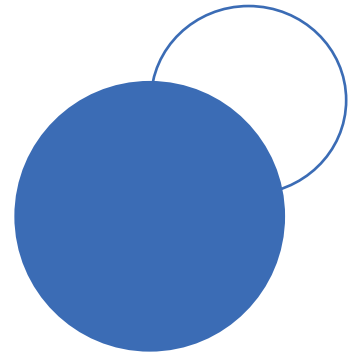
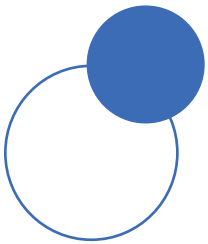
Project Based Learning with the ButtOn Chair

CALCULATING THE AREA OF A CIRCLE

CCSS.MATH.CONTENT.7.G.B.4

Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

Developed by Instructor Phil Young
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2021



the
but^{on}
chair_{by}

 QOR360[®]

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Calculating the Area of a Circle Using the ButtOn Chair

Name:

Date:

Class:

Directions

- Show as much work as possible.
 - Type your equations into the document.
 - You are allowed to use a calculator.
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The ButtOn Chair has two circles found in its seat. For this activity, we are considering these two seat sections to be two dimensional. The bottom circle has a diameter of 7 inches. This is attached to the legs of the chair and is the bottom of the seat. The top section of the seat sits on the ball and has a diameter of 10 inches. This is the part you sit on.

Please go to the 8 minute and 23 seconds mark on the ButtOn Chair video to see more detailed information about the two circles found in the ButtOn Chair.

Calculate the area of the two circles used in the construction and show all of your work below. Remember AREA is used with two dimensional shapes and it is the space that fills the inside of the shape.

The most common equation for calculating the area of a circle is **area = πr^2**

1. Seat Section 1: 7 inch diameter

$$\text{area} = \pi r^2$$

2. Seat Section 2: 10 inch diameter

$$\text{area} = \pi r^2$$