S.T.E.M.

Project Based Learning with the ButtOn Chair
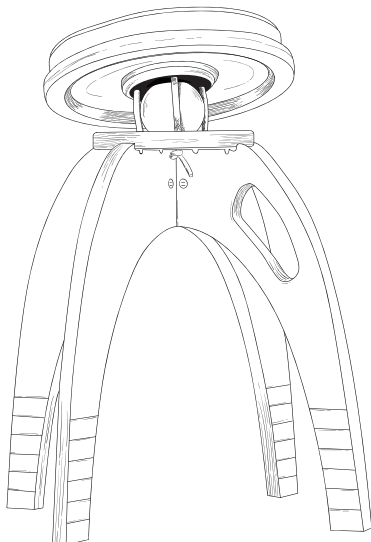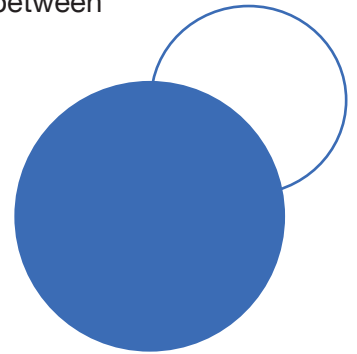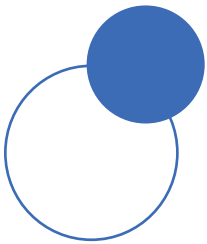
CALCULATING THE CIRCUMFERENCE OF A CIRCLE

PART 1: CALCULATING CIRCUMFERENCE
PART 2: ROLL IT OUT, CIRCUMFERENCE ACTIVITY

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.

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2021

the
butt**e**n
chair by
QOR360®

**PART 1: Calculating Circumference
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.

The circumference of a circle is the distance around the outside edge. The circumference of a circle is the same as the perimeter of a closed straight sided two dimensional shape. If your backyard was a circle and you wanted to put a fence around it, you would calculate the circumference to determine how long the fence would be.

Because we know the diameter of the circles on the ButtOn Chair, we can start with the diameter and calculate the circumference.

circumference = π d

You can also calculate the circumference by using the radius of a circle. The radius starts in the center of the circle and goes to the edge. It is exactly half of the diameter.

circumference = 2 π r

Calculate the circumference of both seats on the ButtOn Chair using the provided equation.

1. Seat Section 1: 7 inch diameter

circumference = π d

2. Seat Section 2: 10 inch diameter

circumference = π d

Name:

Date:

Class:

Directions
* Show as much work as possible.

Let's check to see if the equation we used to calculate the circumference is correct.

Do the following for both circles on the ButtOn Chair.

1. Put a pencil mark on the face of the seat.
2. Stand your seat on end like a wheel, and put the pencil mark flat on the ground.
3. Put a piece of masking tape on the floor and put a pencil mark on the floor that lines up with the pencil mark on the seat.
4. Roll the seat like a wheel until the pencil mark is touching the floor again.
5. Put another piece of tape on the floor and mark the exact spot where the pencil mark hits the floor.
6. Measure the distance on the floor and see if it matches the distance you calculated for the circumference using the equation.
7. Are your solutions close? Which strategy do you think is most accurate? Why?

Draw a diagram that represents your work.