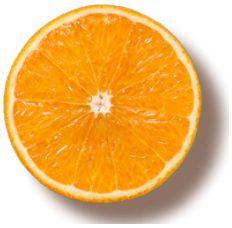
Orange You Glad This Isn't A Worksheet: **Name**_____

Question: How much volume of an orange can you actually eat?



Standards:
8.G.9: Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

7.G.4 Understand area and circumference of a circle. • Understand the relationships between the radius, diameter, circumference, and area. • Apply the formulas for area and circumference of a circle to solve problems

Materials: Orange (or round fruit with a rind), Ruler, Pencil, Calculator

Procedure/Guided Activity:

1) Circumference
    a) What is the definition of circumference?
    _____
    b) Measure the circumference of your orange in centimeters:_____cm
    c) What is the formula for calculating circumference?
        i) _____

2) Radius:
    a) Using your oranges' circumference and the formula above, calculate the radius of your orange in centimeters
        i) _____cm

3) Volume:
    a) What is the formula for volume of a sphere? _____
    b) Using your oranges' calculated radius, determine the volume of your orange._____ cm^3

4) Discovery:
    a) Peel the rind off of your orange.
    b) Break the orange in half.
    c) Measure the diameter of your orange in centimeters _____cm
    d) Calculate the volume of your orange again _____ cm^3
    e) Compare the two volumes you calculated. What do you notice? What conclusions can you make?

_____
_____
_____
_____

5) Challenge: If an orange cost $.89, what value of the orange was not eaten? (AKA how much money did you waste?)