

# Rotation 3: Volume

Content Area: **Mathematics**  
Course(s):  
Time Period: **Default**  
Length: **Rotation 3**  
Status: **Published**

## Summary

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- Calculate and compare the volumes of cylinders, cones, and spheres.
- Use the relationships between height, radius, and volume to calculate missing dimensions.

## Standards

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

## Materials

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### *Desmos Grade 8 Unit 5*

#### [Lesson 10: Volume Lab](#)

- I recognize the following three- dimensional shapes: cylinder, cone, cube, and sphere.
- I can estimate the volumes of different solids.

#### [Lesson 11: Cylinders](#)

- I can explain the parts of the formula for the volume of a cylinder.
- I can calculate the volume of a cylinder.

#### [Lesson 12: Scaling Cylinders](#)

- I can analyze the relationship between the height or radius of a cylinder and its volume.
- I can explain why the relationship between height and volume is linear but the relationship between radius and volume is not.

#### [Lesson 13: Cones](#)

- I can explain the relationship between the volume of a cone and the volume of a cylinder.
- I can use the formula for the volume of a cone.

#### [Lesson 14: Missing Dimensions](#)

- I can find missing information about a cylinder or cone if I know its volume and other information.
- I can compare and contrast strategies for finding information and a cone or cylinder.

#### [Lesson 15: Spheres](#)

- I can compare the volumes of a cone, a cylinder, a hemisphere, and a sphere.

- I can find the volume of a sphere when I know the radius or the diameter.

## **Assessment**

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- Observation
- Cool Downs
- Quizzes