Name: _____

Lesson Guide

This lesson guide accompanies the following video lesson:
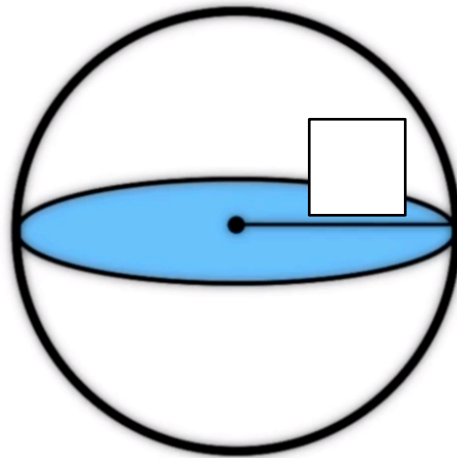
Volume of a Sphere

▶ **Key Questions and Info:**

What are the properties of a sphere?

A sphere is a three-dimensional circle (like a _____)

The _____ of a sphere is any line that extends from the center to the edge.

The radius (r) of a sphere is equal to _____ the diameter (d).

What is the difference between <u>volume</u> and <u>surface area</u>?

VOLUME

How much room is _____

of a sphere.

SURFACE AREA

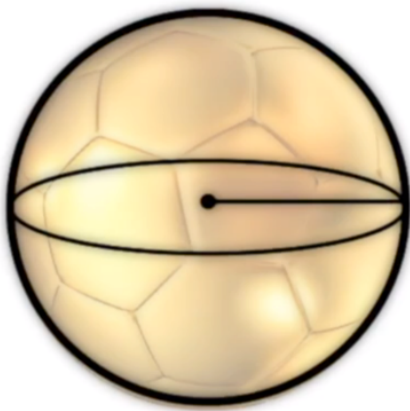How much space covers the

_____ of a sphere.

FORUMLA REFERENCE

VOLUME

$$V = \frac{4}{3}\pi r^3$$

[   ]

SURFACE AREA

$$A = 4\pi r^2$$

[   ]

► **Example 01: Find the volume of a sphere using a forumla:**

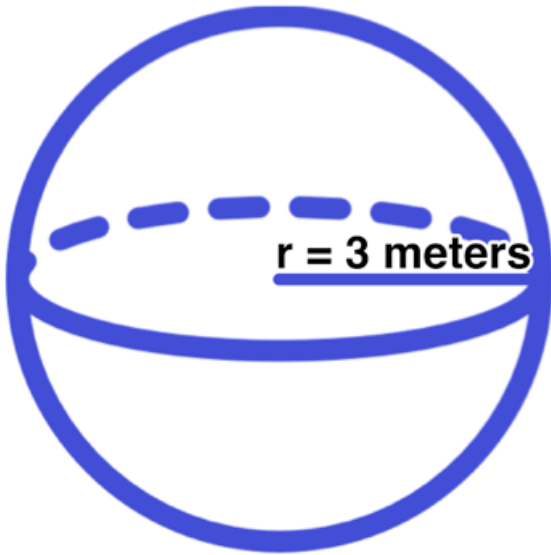**How many cubic centimeters of air would be needed to completely fill a soccer ball with a diameter of 22 cm?**

$$V = \frac{4}{3}\pi r^3$$

V = _____

Your Turn!

▶ **Example 02:**

What is the volume of the figure below? Round your answer to the nearest tenth of a meter.

r = 3 meters

V = _____

▶ **Example 02:**

How many cubic centimeters of air would be needed to completely fill a basketball with a <u>diameter</u> of 19.5 cm? Round your answer to the nearest hundredths decimal place.

V = _____

ANSWER KEY

1.) V=5575.3 cubic cm

2.) V=113.1 cubic meters

3.) V= 3882.42 cubic centimeters