

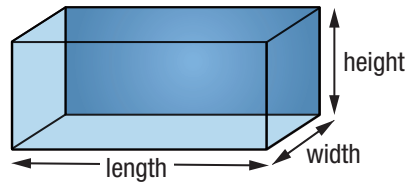
Measuring Volume



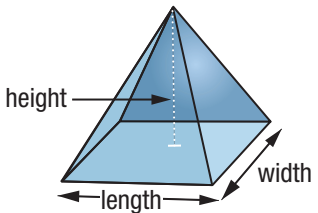
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Regular Solid

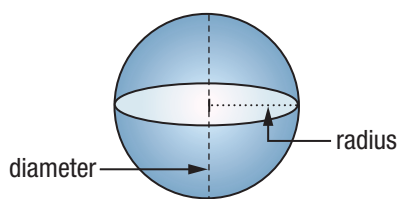
1. Measure the needed dimensions.
2. Plug the dimensions into the equation for volume for the appropriate shape.



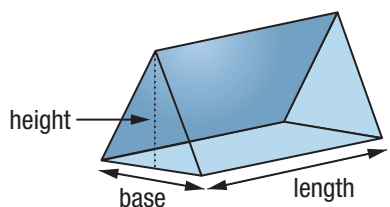
- 1 **Rectangular prism**
Equation: $\text{length} \times \text{width} \times \text{height}$



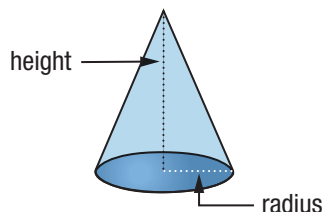
- 2 **Pyramid**
Equation: $\frac{1}{3} \times \text{length} \times \text{width} \times \text{height}$



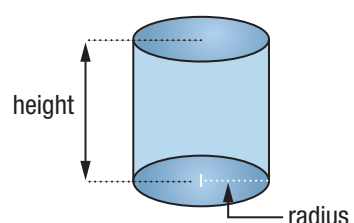
- 3 **Sphere**
Equation: $\frac{4}{3} \times \pi \times \text{radius}^3$



- 4 **Triangular prism**
Equation: $\frac{1}{2} \times \text{triangle height} \times \text{triangle base} \times \text{length}$



- 5 **Cone**
Equation: $\frac{1}{3} \times \pi \times \text{radius}^2 \times \text{height}$

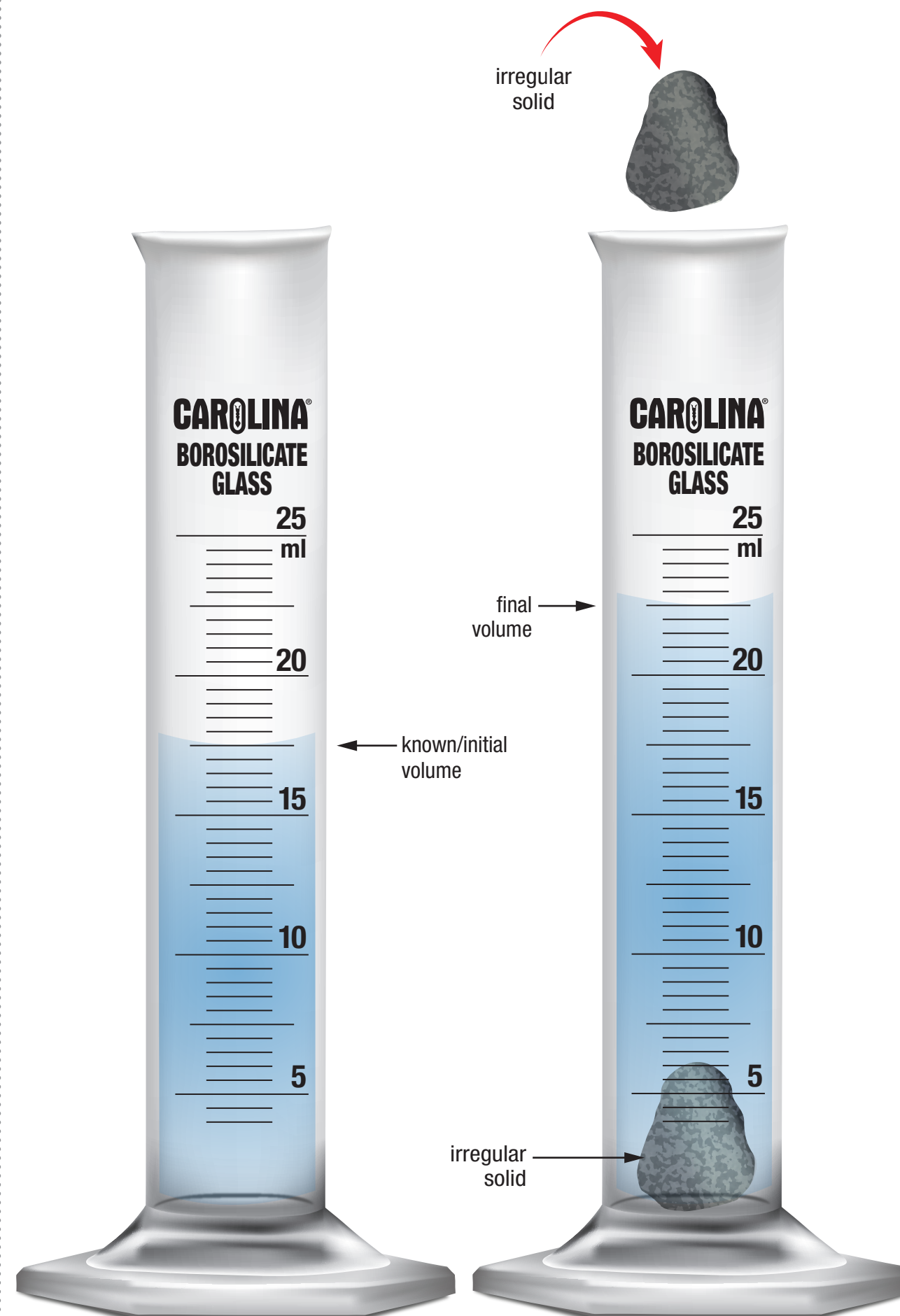


- 6 **Cylinder**
Equation: $\pi \times \text{radius}^2 \times \text{height}$

Irregular Solid

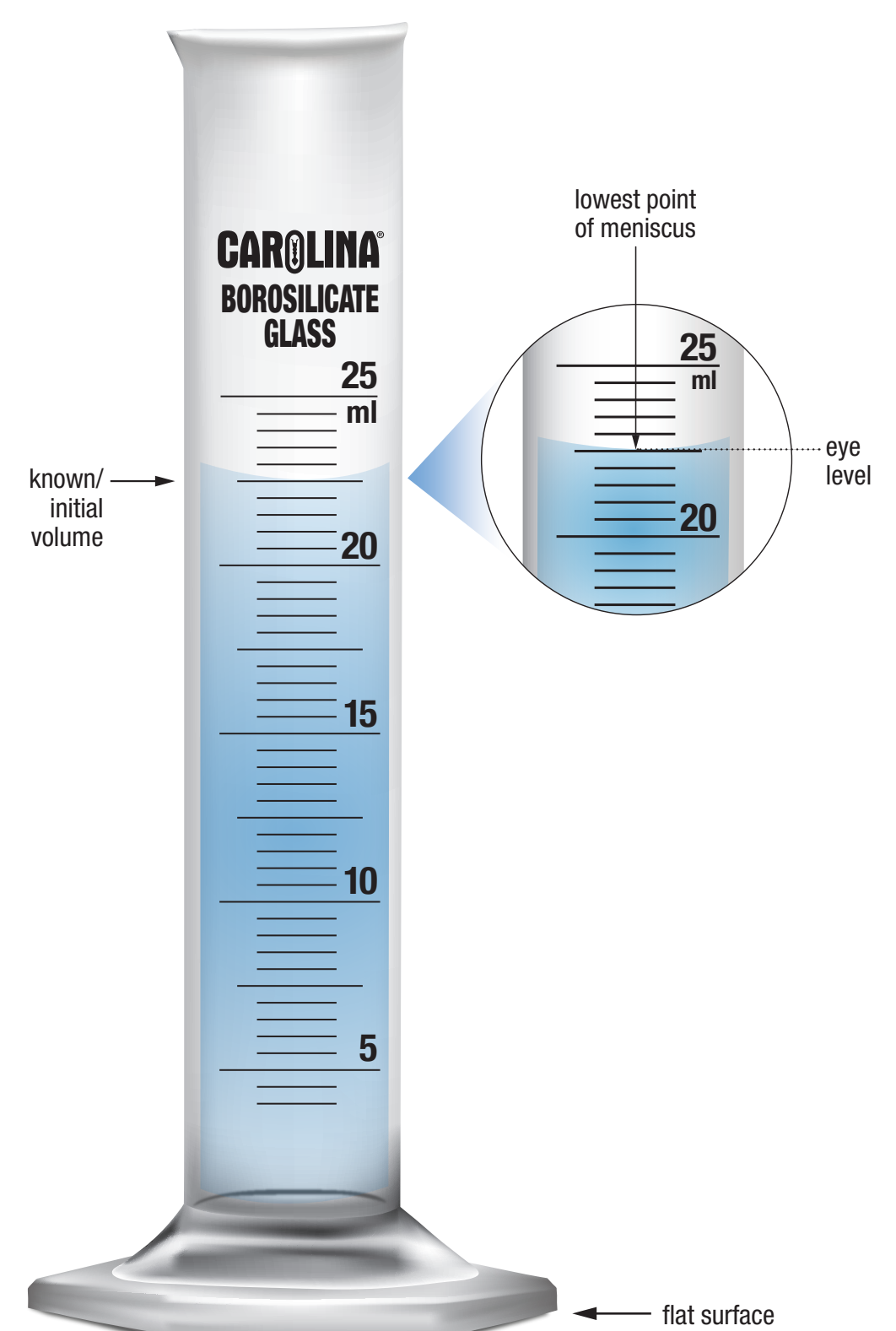
1. Put a known volume of water in a graduated cylinder (initial volume).
2. Add the irregular solid to the graduated cylinder.
3. Determine the new volume contained in the graduated cylinder (final volume).
4. Subtract the initial volume from the final volume. This is the volume of the solid.

$$\text{Final Volume} - \text{Initial Volume} = \text{Volume of Irregular Solid}$$



Liquid

1. Place a graduated cylinder on a level, flat surface.
2. Pour the liquid into the graduated cylinder.
3. Examine the liquid at eye level.
4. Read the numbered mark at the lowest point of the meniscus.



Real World Connections



Culinary Arts

Ingredients must be measured precisely for recipes to be crafted correctly, so individuals working in the culinary field must know how to measure volume correctly.



Pharmacist or Pharmacy Technician

When pharmacists or pharmacy technicians compound ingredients or prepare suspensions for medication, they must be able to accurately measure volumes for the prescriptions.



Shipping Logistics and Product Packaging

Individuals involved in transporting items in packages from one location to another must be able to calculate volume to make the best use of available space.



Architect

Architects must be able to measure the volume of the structures that they are designing to make accurate decisions about how they will be constructed and what resources will be used.