


## Generic Tasks: Determine Volume/Mass

Cuboid	Determine the volume/mass of the stone.
	<p>Data to be measured:            Length <math>l</math>=            Height <math>h</math>=            Width <math>w</math>=            The data should be measured several times at different parts to consider deviations from the chosen model.</p> <p>Determining the mass, one has to consider the density as well:            Concrete: 1,8-2,4 g/cm<sup>3</sup>            Granite: 2,6 g/cm<sup>3</sup></p>
<p>It is important to mark in the picture which object is meant.</p>	<p>Solution:  <math>V = l \cdot w \cdot h</math>            Determine the mass via multiplication with the density.</p> <p>Possible Hints:</p> <ul style="list-style-type: none"> <li>• Which form equals the stone?</li> <li>• You can assume that it is a cuboid. Determine its volume.</li> <li>• Volume = length multiplied with height multiplied with width</li> <li>• Measure the values in cm and multiply the volume with the density.</li> </ul>

## Cylinder



Determine the volume/mass of the tree trunk/fountain.

Data to be measured:

radius  $r =$  (alternatively diameter or circumference)

height  $h =$

Determining the mass, one has to consider the density as well:

Beech:  $0,7\text{g/cm}^3$

Oak:  $0,9\text{g/cm}^3$

Spruce:  $0,5\text{g/cm}^3$

Pine:  $0,5\text{g/cm}^3$

Solution:

$$V = \pi \cdot r^2 \cdot h$$

Determine the mass via multiplication with the density.

Mögliche Tipps:

- Which form equals the tree trunk?
- You can assume that it is a cylinder. Determine its volume.
- Volume = Pi multiplied with square radius multiplied with height
- Measure the values in cm and multiply the volume with the density
- Fountain: Give the result in liters.