

Volume Lab

Summary

This is an introductory activity to teach measurement of volume. Students will find the volume of everyday items as well as the volume by percent of air in sand.

Time Frame

1 class periods of 60 minutes each

Group Size

Small Groups

Materials

- small rocks, marbles, wooden blocks (about the same size as the baby food jar is good)
- baby food jar
- 2 graduates of different sizes
- ruler
- sand
- overflow jar
- [student worksheet](#)

Student Prior Knowledge

The introduction to the lab should give students sufficient knowledge to complete this activity.

Instructional Procedures

- Put clean dry sand in a tray and have an empty tray next to it for students to empty their graduates into. The wet sand will take a few days to dry after the lab is over.
- You may wish to talk about sand and how the irregular grains have air space between them.
- Have students predict the amount by percent of air space.
- Have each student group put their percent of sand that is air on the board. It is typically from 35% to 50%. Discuss the pros and cons of each different type of volume measurement and what substances they best measure.
- Point out to students that a centimeter cubed is the same as a milliliter.

Assessment Plan

Scoring Guide

- :
1. Students make measurements and record their data.....15 pts
 2. Students correctly answer analysis questions..... 7 pts
 3. Students clean-up work area.....3 pts

Answers:

- It will depend on the objects you provide.
- It will depend on the objects you provide.
- Overflow jars are more practical for objects that do not fit in a graduated cylinder.
- 20-40 ml
- Answers should be between 35-50%
- They measure the same volume

- a. graduated cylinder,
- b. length x width x height
- c. water displacement in overflow cup

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

[Utah LessonPlans](#)