

Metric Measurements Activity

Name: _____

A. Classroom.

1. width of one floor tile in cm: _____
2. number of floor tiles along the length of the classroom: _____
3. width W in cm: _____
4. length of one floor tile in cm: _____
5. number of floor tiles along the length of the classroom: _____
6. length L in cm: _____
7. floor area A in cm^2 : _____ $A = L \times W$ (area of a rectangular object)
8. height H in cm: _____
9. volume V in cm^3 : _____ $V = A \times H$ (volume of a rectangular object)

B. Jar. Now we will calculate the area and volume of a cylindrical object, a small jar.

To determine the diameter D you can measure the top or the bottom of the jar.

10. diameter D in cm: _____
11. radius R in cm: _____ $R = D / 2$ (radius of a circular object)
12. area A in cm^2 of top or bottom: _____ $A = \pi \times R^2$ (area of a circular object, use 3.14 for π)
13. height H in cm: _____
14. volume V in cm^3 : _____ $V = A \times H$ (volume of a circular object)

C. Globe. Next, we'll calculate the area and volume of a spherical object, the globe. We only need to measure its circumference at the equator.

15. circumference C in cm: _____
16. radius R in cm: _____ $R = C / 2 / \pi$ (radius of a spherical object, use 3.14 for π)
17. area A in cm^2 : _____ $A = 4 \times \pi \times R^2$ (area of spherical object)
18. volume V in cm^3 : _____ $V = 4 \times \pi \times R^3 / 3$ (volume of a spherical object)

D. Rectangular object. Select a rectangular object.

19. What rectangular object did you choose? _____

20. width W in cm: _____

21. length L in cm: _____

22. equation for area A of a rectangular object: _____

23. area A in cm^2 : _____

24. height H in cm: _____

25. equation for volume V of a rectangular object: _____

26. volume V in cm^3 : _____

E. Cylindrical object. Select a cylindrical object.

27. What cylindrical object did you choose? _____

28. diameter D in cm: _____

29. equation for radius R of a cylindrical object: _____

30. radius R in cm: _____

31. equation for area A of the top and bottom of the cylindrical object: _____

32. area A in cm^2 : _____

33. height H in cm: _____

34. equation for volume V of a cylindrical object: _____

35. volume V in cm^3 : _____

F. Spherical object. Select a spherical object.

36. What spherical object did you choose? _____

37. circumference C in cm: _____

38. equation for radius R of a spherical object: _____

39. radius R in cm: _____

40. equation for area A of a spherical object: _____

41. area A in cm^2 : _____

42. equation for volume V of a spherical object: _____

43. volume V in cm^3 : _____