

Name: _____

Due Date: _____

Teacher: _____

Parent Sign: _____

1. A cube has side length $\frac{1}{2}$ cm. What is its volume (in cm^3)?
2. A cube has side length $\frac{3}{2}$ cm. What is its volume (in cm^3)?
3. A cube has side length $\frac{2}{3}$ cm. What is its volume (in cm^3)?
4. A cube has side length $\frac{4}{3}$ cm. What is its volume (in cm^3)?
5. A cube has side length $\frac{5}{4}$ cm. What is its volume (in cm^3)?
6. How many $\frac{1}{2}$ -cm mini cubes are needed to fill a cube that measures 3 cm on each edge?
7. How many $\frac{1}{4}$ -cm mini cubes are needed to fill a cube that measures 2 cm on each edge?
8. A rectangular box measures 4 cm by 3 cm by $\frac{3}{2}$ cm. How many $\frac{1}{2}$ -cm mini cubes will fill it?
9. A box measures 4 cm by 3 cm by 1 cm. How many $\frac{1}{5}$ -cm mini cubes will fit inside it?
10. A cube has side $2\frac{1}{2}$ cm. How many $\frac{1}{2}$ -cm mini cubes are needed to build it?
11. A cube's volume is $\frac{27}{8} cm^3$. What is the length of one edge of the cube?
12. A box measures $1\frac{1}{2}$ cm by $\frac{3}{2}$ cm by 2 cm. How many $\frac{1}{2}$ -cm mini cubes fit inside?
13. A wooden cube is 4 cm on a side. How many mini cubes of side $\frac{2}{3}$ cm are needed to fill it?
14. A container measures $\frac{7}{2}$ cm by 3 cm by $1\frac{1}{2}$ cm. How many $\frac{1}{2}$ -cm mini cubes fit inside?
15. What is the volume of a cube with side $\frac{9}{4}$ cm (in cm^3)?
16. A prism measures 2 cm by $1\frac{2}{3}$ cm by 1 cm. How many $\frac{1}{3}$ -cm mini cubes will fill it?
17. A cube is built from $\frac{1}{4}$ -cm mini cubes and contains 512 mini cubes. What is the length of the big cube's edge?
18. A rectangular block is $3\frac{1}{2}$ cm by $2\frac{1}{2}$ cm by 1 cm. How many $\frac{1}{2}$ -cm mini cubes fill it?
19. A cube measures 5 cm on each edge. How many $\frac{1}{5}$ -cm mini cubes are needed to fill it?
20. A rectangular prism measures 6 cm by $2\frac{1}{2}$ cm by 3 cm. How many $\frac{1}{2}$ -cm mini cubes fill it?
21. A small cube has side $\frac{3}{4}$ cm. What is the combined volume (in cm^3) of 64 such small cubes?
22. A box has inner volume $27 cm^3$. If you fill it with $\frac{1}{3}$ -cm mini cubes, how many mini cubes are inside?
23. A toy block is a cube of side $2\frac{2}{3}$ cm. If it is made of $\frac{1}{3}$ -cm mini cubes, how many mini cubes does it contain?
24. A container measures $4\frac{1}{2}$ cm by 3 cm by 2 cm. How many $\frac{1}{2}$ -cm mini cubes fit inside?
25. A cube has volume $\frac{343}{27} cm^3$. What is the edge length of the cube?
26. An aquarium measures 10 cm by 6 cm by 4 cm. How many $\frac{1}{2}$ -cm mini cubes will fill the aquarium?
27. A cube has edge $1\frac{1}{4}$ cm. How many $\frac{1}{4}$ -cm mini cubes build it?
28. A cube of side $\frac{7}{3}$ cm is built from $\frac{1}{3}$ -cm mini cubes. How many mini cubes are used?
29. A prism is $5\frac{1}{2}$ cm by $2\frac{1}{2}$ cm by $1\frac{1}{2}$ cm. How many $\frac{1}{2}$ -cm mini cubes fill it?
30. A solid wooden cube is 3 cm on a side. A smaller cube of side $1\frac{1}{2}$ cm is removed from its centre. If everything is measured in $\frac{1}{2}$ -cm mini cubes, how many mini cubes remain in the large cube after removing the smaller cube?
31. A box measures $\frac{8}{3}$ cm by 2 cm by $1\frac{1}{3}$ cm. How many $\frac{1}{3}$ -cm mini cubes fill it?



Math Worksheet for 6th Grade

Volume with mini cubes

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32. A big cube is made from $\frac{1}{6}$ -cm mini cubes and contains 27,000 small cubes. What is the edge length of the big cube (in cm)?
33. You have 216 small cubes, each of side $\frac{1}{3}$ cm. Can you arrange them into a larger cube using all of them? If yes, what is the edge length of the larger cube?
34. A box measures 7 cm by 3 cm by $2\frac{1}{2}$ cm. How many $\frac{1}{2}$ -cm mini cubes fit inside?
35. A cube is constructed from $\frac{1}{8}$ -cm mini cubes. The finished cube has total volume 27 cm^3 . How many small ($\frac{1}{8}$ -cm) mini cubes are in it?
36. What is the volume of a cube with edge length $1\frac{1}{3}$ cm (in cm^3)?
37. A box measures $4\frac{1}{2}$ cm by 3 cm by $2\frac{1}{2}$ cm. How many $\frac{1}{2}$ -cm mini cubes fill it?
38. What is the volume of a cube with edge $\frac{7}{4}$ cm (in cm^3)?
39. How many $\frac{3}{4}$ -cm mini cubes fit inside a cube of side 9 cm?
40. A rectangular solid measures 8 cm by $2\frac{1}{2}$ cm by $1\frac{1}{2}$ cm. How many $\frac{1}{2}$ -cm mini cubes fill it?
41. A cube has volume $\frac{125}{27}\text{ cm}^3$. What is the length of an edge?
42. A cube of side 2 cm is made from very small cubes of side $\frac{1}{10}$ cm. How many of the $\frac{1}{10}$ -cm mini cubes are needed?
43. A cube with edge $4\frac{1}{2}$ cm is sliced into $\frac{1}{2}$ -cm mini cubes. How many mini cubes are produced?
44. A box measures $3\frac{1}{3}$ cm by $2\frac{2}{3}$ cm by $1\frac{1}{3}$ cm. How many $\frac{1}{3}$ -cm mini cubes fill it?
45. What is the volume of a cube whose edge is $\frac{5}{6}$ cm (in cm^3)?
46. Sixty-four small cubes, each of side $\frac{1}{4}$ cm, are glued together to form a larger perfect cube. What is the edge length (in cm) of the larger cube?
47. A prism measures $3\frac{1}{2}$ cm by 3 cm by 2 cm. How many $\frac{1}{2}$ -cm mini cubes are needed to fill it?
48. Mini cubes of side $\frac{2}{3}$ cm fill a box that measures 8 cm by 4 cm by $2\frac{2}{3}$ cm. How many mini cubes fit inside?
49. A cube has volume $\frac{64}{27}\text{ cm}^3$. What is the cube's edge length?
50. A toy maker wants a cube of side 10 cm built from mini cubes each $\frac{2}{5}$ cm on a side. How many mini cubes are needed?