



Name:

Due Date:

Teacher:

Parent Sign:

Math Worksheet for 5th Grade

Decompose figures to find volume

1. A rectangular box measures 4 units by 3 units by 2 units. What is its volume in cubic units?
2. A prism has length 5 units, width 4 units, and height 3 units. What is its volume?
3. A solid is made by joining two rectangular prisms. Prism A is 6 by 2 by 3 and Prism B is 4 by 2 by 3. What is the total volume?
4. An L-shaped solid is formed by a 6 by 4 by 2 prism with a 2 by 4 by 2 piece removed from one end. What is the volume of the L-shaped solid?
5. A box is 8 units long, 3 units wide, and 2 units tall. How many unit cubes fill it?
6. A rectangular prism has base area 12 square units and height 4 units. What is the volume?
7. A solid is formed by attaching a 3 by 3 by 3 cube to a 3 by 3 by 2 prism along one 3 by 3 face. What is the total volume?
8. A box is 7 by 2 by 5. What is its volume?
9. An L-shaped solid consists of a 5 by 4 by 2 prism and a 2 by 4 by 3 prism attached along the 4 by 2 face. What is the total volume?
10. A rectangular prism is 9 units long, 2 units wide, and 1 unit tall. What is its volume?
11. A large prism measures 10 by 6 by 2. A smaller rectangular prism 4 by 6 by 2 is removed from one side. What volume remains?
12. A toy block tower is formed by stacking two 4 by 4 by 1 layers and one 4 by 4 by 2 layer. What is the total volume?
13. A rectangular container is 6 by 5 by 3. How many unit cubes will fill it?
14. A solid is made by putting together three prisms: $4 \times 2 \times 2$, $3 \times 2 \times 2$, and $2 \times 2 \times 2$. What is the total volume?
15. A rectangular prism has volume 72 cubic units. Its base measures 8 by 3. What is its height?
16. An L-shaped figure can be decomposed into two rectangular prisms: one $6 \times 3 \times 2$ and another $2 \times 3 \times 3$. Find the total volume.
17. A rectangular prism measures 12 by 1 by 3. What is its volume?
18. A box 6 by 4 by 4 has a smaller 2 by 2 by 4 prism removed from one corner. What is the remaining volume?
19. A solid is made by stacking a $5 \times 5 \times 1$ layer, a $5 \times 3 \times 1$ layer directly on top of part of it, and a $5 \times 2 \times 1$ layer on the remaining part, creating a total height of 2 in some places and 1 in others. (Interpret as pieces: $5 \times 5 \times 1 + 5 \times 3 \times 1 + 5 \times 2 \times 1$). What is the total volume?
20. A rectangular prism's volume is 180 cubic units. Its base is 10 by 6. What is the height?
21. A block measures 8 by 3 by 3. A 2 by 3 by 3 block is removed from one end. What is the volume left?
22. A toy model is formed by joining two prisms side-by-side: one is $6 \times 4 \times 1$ and the other is $6 \times 2 \times 1$. What is the combined volume?
23. A rectangular prism measures $4 \times 4 \times 5$. How many unit cubes are inside?
24. A long rectangular prism $15 \times 2 \times 2$ is decomposed into three equal pieces along its length. What is the volume of one piece?
25. A solid is made of two stacked prisms: bottom $6 \times 5 \times 1$ and top $6 \times 5 \times 2$. What is the total volume?



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26. A rectangular prism has base dimensions 9 by 3 and height 2. What is its volume?
27. An L-shaped solid is formed by removing a $3 \times 2 \times 2$ prism from a $6 \times 4 \times 2$ prism. What is the remaining volume?
28. A rectangular prism is 7 by 3 by 4. Find its volume.
29. A box 10 by 4 by 3 contains a hollow space (empty) that is 4 by 4 by 3. What is the volume of the solid (box minus hollow)?
30. A solid is built from three prisms: $4 \times 4 \times 1$, $4 \times 2 \times 2$, and $2 \times 2 \times 1$. What is the total volume?
31. A rectangular prism has volume 96 cubic units. Its height is 4 and one base side is 6. What is the other base side (width)?
32. A solid is a $5 \times 4 \times 3$ prism. How many unit cubes are inside?
33. A rectangular prism $12 \times 3 \times 1$ is decomposed into a $7 \times 3 \times 1$ piece and a $5 \times 3 \times 1$ piece. What are the volumes of those two pieces and their total?
34. A toy is made from a $6 \times 6 \times 1$ base and a $6 \times 3 \times 2$ block attached on top covering half the base. Find the total volume ($6 \times 6 \times 1 + 6 \times 3 \times 2$).
35. A rectangular prism is 9 by 4 by 2. What is its volume?
36. An L-shaped solid is formed by combining three prisms: $3 \times 3 \times 2$, $3 \times 2 \times 1$, and $2 \times 1 \times 2$. What is the total volume?
37. A rectangular box measures 11 by 2 by 2. How many unit cubes does it contain?
38. A solid is built by attaching a $4 \times 3 \times 2$ prism to a $4 \times 3 \times 1$ prism along the 4×3 face. What is the total volume?
39. A rectangular prism has base area 20 square units and height 3. What is its volume?
40. A block is 14 by 1 by 2. It is cut into seven equal $2 \times 1 \times 2$ pieces along its length. What is the volume of one piece?
41. A solid is formed by a large $8 \times 5 \times 2$ prism with a smaller $2 \times 5 \times 1$ prism removed. What is the remaining volume?
42. A rectangular prism is 4 by 3 by 6. What is its volume?
43. A cuboid has volume 240 cubic units. Its dimensions are 10 and 6 for two sides. What is its height?
44. An L-shaped solid is formed by joining a $5 \times 3 \times 2$ prism and a $2 \times 3 \times 1$ prism on top of one end. What is the volume?
45. A rectangular prism 6 by 6 by 3 has a 2 by 6 by 1 slot removed across the top. What is the remaining volume?
46. A rectangular prism has dimensions 7 by 5 by 1. How many unit cubes fill it?
47. A solid is made of a $4 \times 4 \times 3$ prism and a $4 \times 2 \times 2$ prism attached along a 4×2 face. What is the total volume?
48. A rectangular box has base 12 by 2 and height 2. What is the volume?
49. A solid consists of a $9 \times 3 \times 2$ prism with a $3 \times 3 \times 1$ block removed from the top. What is the remaining volume?
50. A rectangular prism measures 5 by 5 by 5 but a $2 \times 2 \times 2$ cube is removed from one corner. What is the remaining volume?