cuemath
THE MATH EXPERT

Grade 5 Volume Worksheet-4

Q.1 If the edge of a cube is 10 m in length. Choose the correct volume from the following options.

a) 30 $\mathbf{m^3}$

b) 100 $\mathbf{m^3}$

c) 1000$\mathbf{m^3}$

d) 10 $\mathbf{m^3}$

Q.2 The height of a rectangular prism is doubled. What will happen to its original volume? Choose the correct answer.

a) Volume will be doubled.

b) Volume will be halved.

c) No change in volume.

d) Volume will decrease.

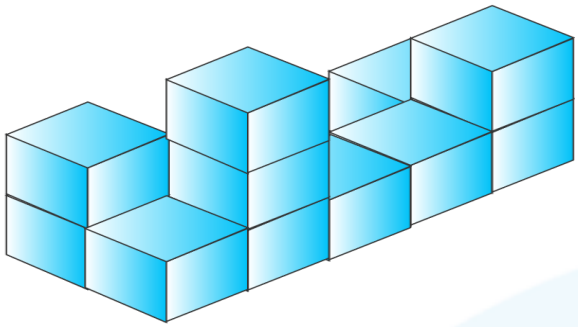
Q.3 What is the volume of a toolbox having length, breadth, and height as 50 inches, 30 inches, and 15 inches respectively.

Q.4 True / false:

a) Only 3-dimensional objects occupy space and have volume.

b) If the volume of cube and cuboid is equal, then both have the same length, breadth, and depth.

Q.5 Find the volume of the shape given below if the volume of each cube is 5 cubic units.



Q.6 Match the column:

Dimensions of cuboid		Volume (in cubic units)	
1.	6 × 3 × 2	a.	180
2.	5 × 2 × 10	b.	48
3.	8 × 3 × 3	c.	100
4.	9 × 4 × 5	d.	36

Q.7 What is the volume of the stock formed by 20 boxes having dimensions 12 inches × 10 inches × 3 inches.

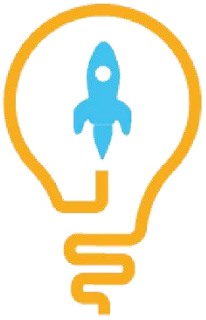
Q.8 What is the volume of a cuboid created by joining 4 cubes with each edge measuring 5 inches?

Q.9 If a bag has a capacity to contain 10 books and the volume of each book is 10 cubic inches. What is the volume of the bag?

Q.10 The volume of a large box is 900 cubic inches. We have to put 30 small cubical boxes inside it. What is the volume of each small box?

ANSWERS

1. c) 1000 m^3	6. 1---d, 2---c, 3---b, 4---a
2. a) Volume will be doubled	7. cubic inches
3. 22500 cubic inches	8. 500 cubic inches
4. a) True b) False	9. 100 cubic inches
5. 55 cubic centimeters	10. 30 cubic inches



SOLUTIONS

Complete solution/explanation

1. Volume of cube $=(side)^3 = 10^3 = 1000m^3$

2. a) Original volume of rectangular prism = Length × Breadth × Height cubic units
Volume of rectangular prism with height doubled = Length × Breadth × (2 × Height) cubic units = Double the original volume

3. Volume of tool box = L × B × H = 50 × 30 × 15 = 22500 cubic inches

4. a) True
   b) False

5. There is a total of 11 cubes in the figure.
   Volume of 11 cubes = 5 × 11= 55 cubic centimeters

6. Match the column:

Edge of cuboid		Volume (in cubic units)	
1.	6 × 3 × 2	d.	36
2.	5 × 2 × 10	c.	100
3.	8 × 3 × 3	b.	48
4.	9 × 4 × 5	a.	180

7. Volume of stock = 20 × volume of each box = 20 × (12 × 10 × 3) = 7200 cubic inches

8. Volume of 1 cube with edge 5 inch = $(\text{edge})^3$ = 5 × 5 × 5 = 125 cubic inches

Volume of cuboid formed joining 4 cubes = 4 × 125 = 500 cubic inches

9. Volume of bag = 10 × volume of each book = 10 × 10 = 100 cubic inches.

10. Volume of small box = $\frac{Volume\ of\ large\ box}{Total\ number\ of\ boxes}$ = 900/30 = 30 cubic inches

FUN FACT

1) 1 million grains of sugar has a volume of just 50 cm^3.

2) Do you know that the volume of a human brain is approx. 600 cm^3?

3) Volume of body cells that die in a day is approximately 450 cm^3.