SmartMathz

Volume of cubes & Rectangular Prisms

Grade 5 Measurements & Data Worksheet

LET'S MAKE LEARNING FUN

1. An aquarium has a rectangular base that is 16 in. long and 18 in. wide. What should be the minimum height of the aquarium if the fish requires 576 in^3 of water and there are 6 fish in the aquarium?

Solution:

2. Find the volume of a reading table whose length is 9 ft, width is 8 ft, and height is 10 ft.

Solution:

3. The area of the base of a rectangular prism is 112 cm^2 and its height is 3 cm. Find the volume of the rectangular prism.

Solution:

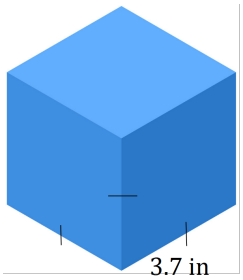
4. Find the dimensions of a cubical oil tank that can hold 27 ft^3 of oil.

Solution:

5. How many cubic meter of water can a cuboidal tank with a length of 5 m, width of 6 m, and a height of 7 m can hold?

Solution:

6. Find the volume and the surface area of the square prism shown below.



Solution:

7. Find the volume of each of the following cubes having the side length given below.

   a. 3 m _____

   b. 2.5 cm _____

   c. 6 in _____

SmartMathz

Volume of cubes & Rectangular Prisms

Grade 5 Measurements & Data Answer Sheet

1. An aquarium has a rectangular base that is 16 in. long and 18 in. wide. What should be the minimum height of the aquarium if the fish requires 576 in^3 of water and there are 6 fish in the aquarium?

Solution:

$576 \div (16 \times 18) = 576 \div 288 = 2.$

Then, the minimum height of the aquarium if there are 6 fishes in the aquarium $= 2 \times 6 =$ 12

2. Find the volume of a reading table whose length is 9 ft, width is 8 ft, and height is 10 ft.

Solution:

9 ft $\times$ 8 ft $\times$ 10 ft $=$ 720 ft^3

3. The area of the base of a rectangular prism is 112 cm^2 and its height is 3 cm. Find the volume of the rectangular prism.

Solution:
112 cm^2 $\times$ 3 cm
$=$ 336 cm^3

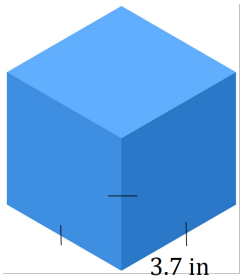
4. Find the dimensions of a cubical oil tank that can hold 27 ft^3 of oil.

Solution:
3 ft $\times$ 3 ft $\times$ 3 ft

5. How many cubic meter of water can a cuboidal tank with a length of 5 m, width of 6 m, and a height of 7 m can hold?

Solution:
$(5 \times 6 \times 7) = 210$ **m^3**

6. Find the volume and the surface area of the square prism shown below.



Solution:

Volume of a cube $= (3.7)^3 = 50.653\ in^3$
Surface Area of a cube $= 6(3.7)^2 = 82.14\ in^2$

7. Find the volume of each of the following cubes having the side length given below.

a. $3\ m$	$(3)^3 = 27\ m^3$
b. $2.5\ cm$	$(2.5)^3 = 15.625\ cm^3$
c. $6\ in$	$(6)^3 = 216\ in^3$