Surface Areas and Volume of a Cuboid and Cube Ex 18.2 Q25

Answer :

Let,

$n \rightarrow$ Number of days the water will last for

One villager requires $150\,\text{litres}$ of water per day.

Population of the village is 4000

Measurement of the tank is $20\,\text{m} \times 15\,\text{m} \times 6\,\text{m}$

We need to find for how many days the water of the tank will last

The requirement of water for all 4000 villagers for n days,

$$V = (150 \times 4000 \times n)\,\text{litres}$$

$$= 150 \times 4000n \times \frac{1}{1000}\,\text{m}^3 \qquad \{1\,\text{m}^3 = 1000\,\text{litres}\}$$

$$= (600n)\,\text{m}^3$$

But we are given;

$$V = 20\,\text{m} \times 15\,\text{m} \times 6\,\text{m}$$

$$600n = 1800\,\text{m}^3$$

$$n = 3$$

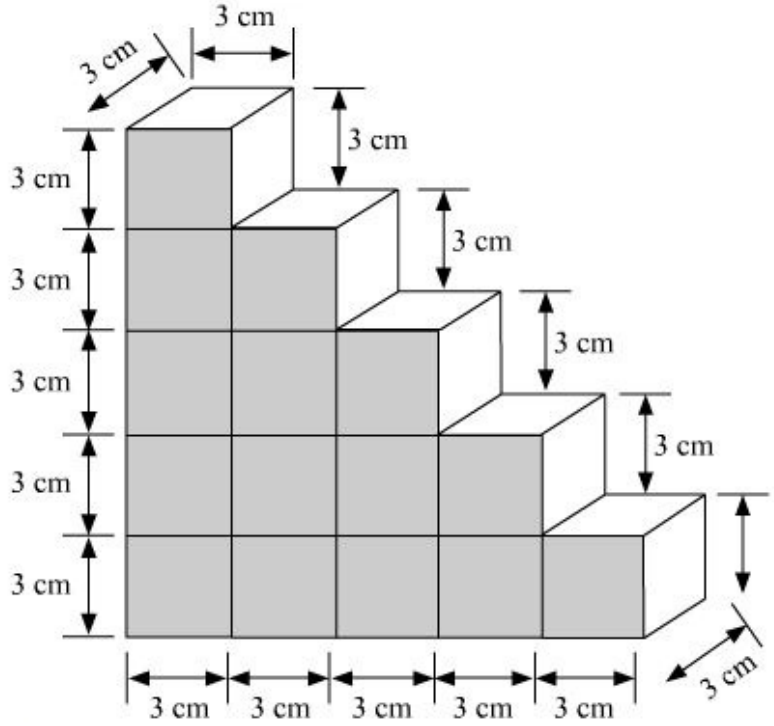
The water of this tank will last for $\boxed{3\,\text{days}}$.

Surface Areas and Volume of a Cuboid and Cube Ex 18.2 Q26

Answer :

We have,

Number of boxes $(n) = 15$



In the above structure we need to find the total volume

Edge of each cube $(a) = 3\,\text{cm}$

Volume of each cube $(v) = a^3$

$= 3^3$

$= 27\,\text{cm}^3$

Hence, total volume of the structure,

$V = n \times v$

$= 15 \times 27$

$= 405\,\text{cm}^3$

The volume of the structure built by the child is $\boxed{405\,\text{cm}^3}$.

********** END **********