



Y5-6 Maths Homework

29 / 4 / 2022

Reasoning and Problem Solving – Volume – Year 5



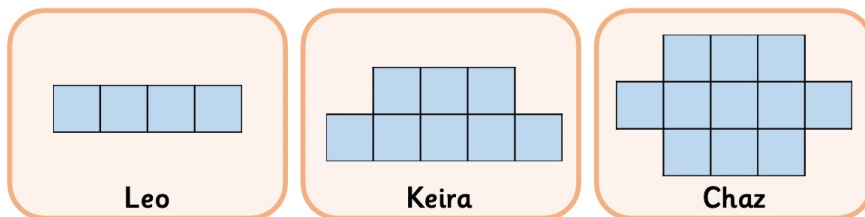
Leo, Keira and Chaz are representing their school at the West Valley Design and Technology Competition. Each student has designed a potential entry for each round. Decide which design should be used in each round so they have the best chance at winning the prestigious West Valley D&T Trophy!



Round 1

For their first task, each team is given twenty 1cm blocks to build the tallest solid shape they can. Every layer of each shape must be identical, and they must use as many blocks as possible; however, they only have ten seconds to build their shape.

1. These are the top views of the shapes each child has designed for this round. If everyone used as many blocks as possible, who built the tallest shape?



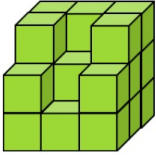
2. Leo's shape's volume is 20cm^3 . Chaz's is 11cm^3 . Keira's shape's volume is greater than Chaz's but smaller than Leo's. What is the volume of Keira's shape?

3. Who's design should the team submit for this round? Why?

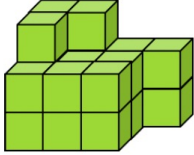
Volume – Counting Cubes

4. Tick the shape that has a volume of 19cm^3 . Each cube has a volume of 1cm^3 .

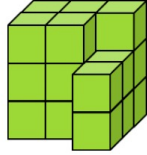
A.



B.



C.

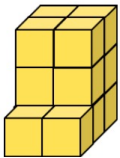


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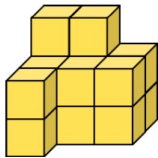
VF
HW/Ext

5. Complete the bar models for the shapes below if each cube has a volume of 1cm^3 .

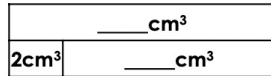
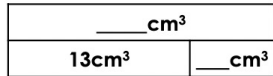
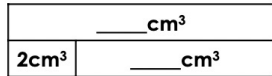
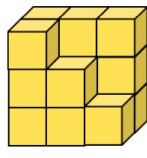
A.



B.



C.



Not to scale

VF
HW/Ext

6. Byron and Tabitha are discussing the volume of the shapes below. Each cube has a volume of 1cm^3 .



Byron

Shape A has the smallest volume.

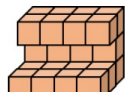
A.



B.



C.



Tabitha

Shapes B and C have the same volume.

Who is correct? Explain your answer.



Not to scale

RPS
HW/Ext