Making an organised list to account for all possibilities

Can you canoe?

Kid Kongo is building a canoe to use on the Limpopo River. The new canoe has three seats, one at the front, one in the middle and one at the back. He has invited Victoria and Jinja to join him on the journey. How many different seating arrangements are there for Kid Kongo, Victoria and Jinja in the canoe?

Solution

Creating an organised list is one strategy for solving this problem.
One method is to list one character first, for example Kid Kongo, and add the two possibilities to the list. Then list the second character, Victoria, and add the two possibilities to the list. Finally, list Jinja, and add the two possibilities to the list.

The solutions are–
Kid Kongo, Victoria and Jinja
Kid Kongo, Jinja and Victoria

Victoria, Kid Kongo and Jinja
Victoria, Jinja and Kid Kongo

Jinja, Victoria and Kid Kongo
Jinja, Kid Kongo and Victoria

So there are six different ways the characters can sit in the canoe.

1 Guessing and checking	6 Checking for relevant and irrelevant information
2 Constructing a table, chart or graph	7 Identifying smaller tasks within a larger problem
3 Drawing a picture or diagram, or making a model	8 Making an organised list to account for all possibilities ✔
4 Acting out the problem	9 Solving a similar or simpler problem
5 Identifying a pattern or using a rule	10 Working backwards

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Have a go!

Lady Mombassa, Lionel and Fez have built their own canoe. They are going to race it against the others.

List all the different seating arrangements there could be for Lady Mombasa, Lionel and Fez.

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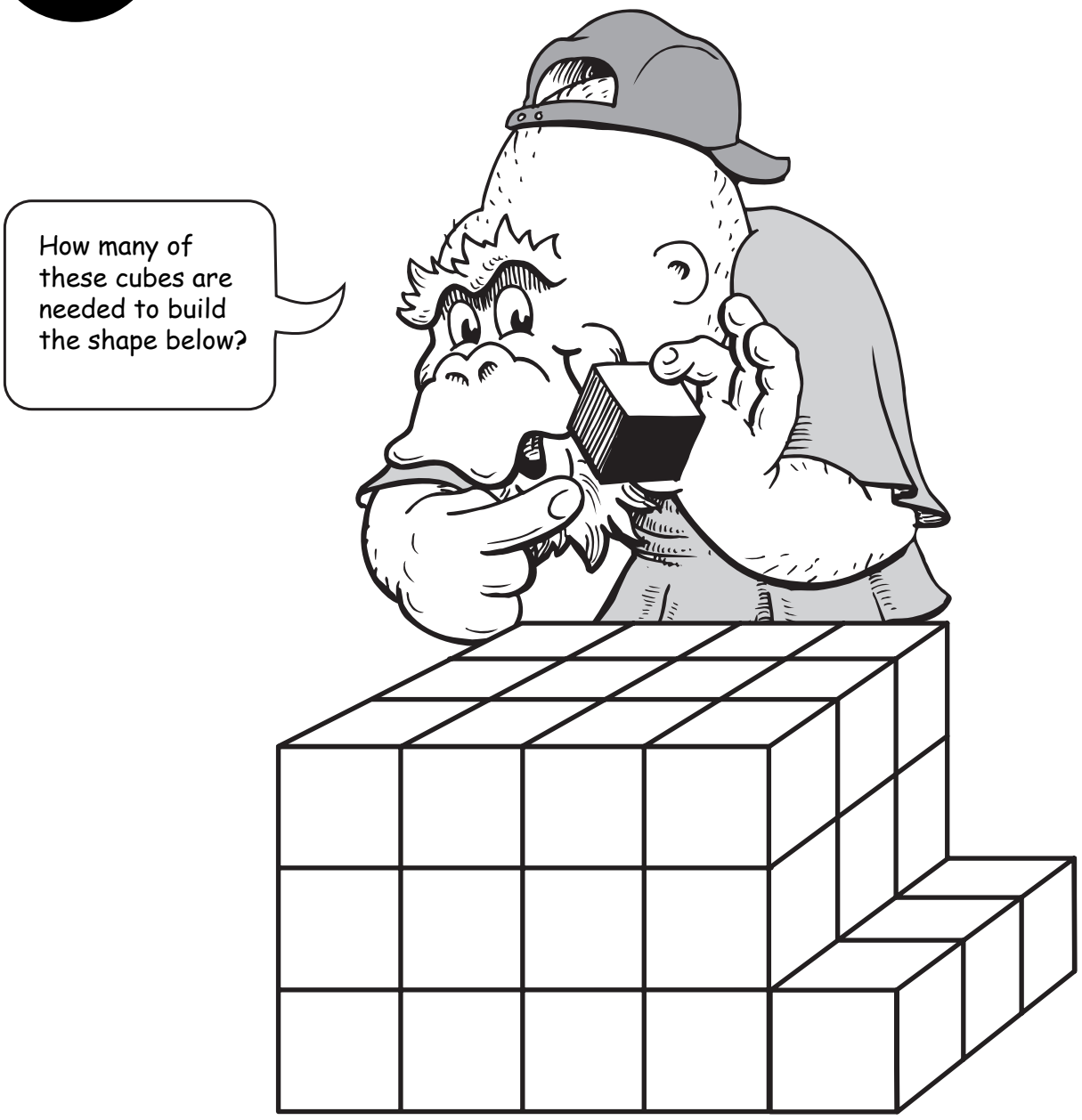
15 Counting cubes



Try this

If I painted the outside of the shape completely, including the underneath, how many of the cubes would remain unpainted on all of its six faces?

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JIGSAW MATHS 5
PROBLEM SOLVING TASK CHECKLIST

Task	Which strategies used?	Completed and checked (✔)
1 Fez's feast		
2 An old adage		
3 Jungle library		
4 Heads and legs		
5 Bone narrow		
6 Number finder		
7 Shuffle 1, 2, 3, 4		
8 A bunch of fives		
9 Nine magic numbers		
10 Double trouble		
11 Fenced in		
12 Triangular trouble		
13 Triangular tricks		
14 Triangular tribulations		
15 Counting cubes		
16 Flippin' shapes		
17 Mirror image		
18 Kid Kongo's paving		
19 Lionel's direction		
20 Area.net		

Task	Which strategies used?	Completed and checked (✔)
21 Overcharged		
22 Capital punishment		
23 Kid Kongo's high five		
24 Which coin?		
25 The Kid's saving plan		
26 Bathroom drips		
27 Menu meal deal		
28 Victoria's time to fly		
29 Jogging time		
30 Bridge crossings		
31 Eggsact recipe		
32 What did I see?		
33 The fisher lion		
34 Fishy figures		
35 Stacking cranes		
36 Lionel's task		
37 Four friends arranged		
38 Clothes cupboard		
39 Fibonacci's flowers		
40 Money split		

The strategies are numbered to help you in completing the ***Which strategies used?*** box in the Task Checklist above. Simply write the numbers of the strategies you used in the space next to the task. Your teacher will tick (✔) the problem when it has been completed and checked.

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