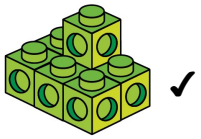
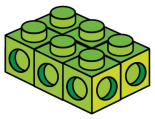
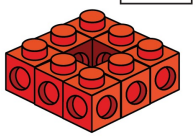
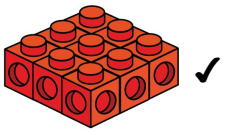
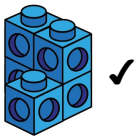
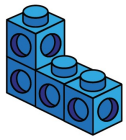
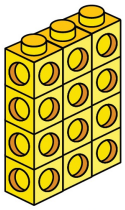
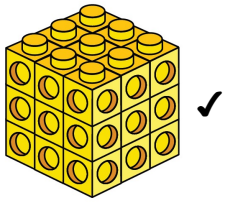
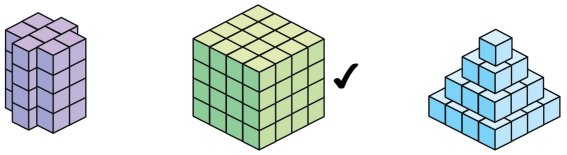
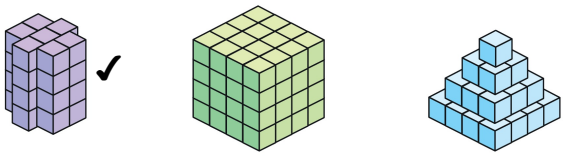
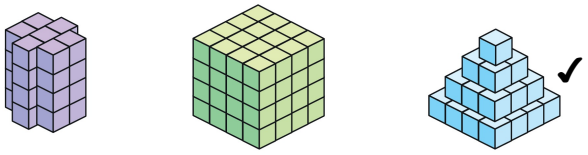
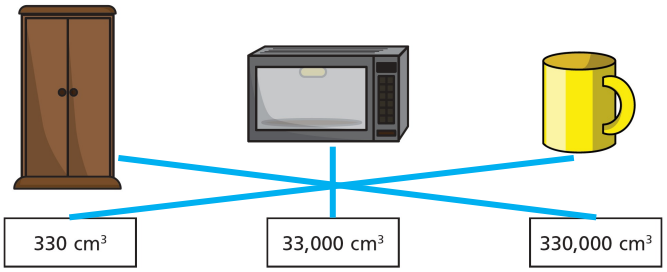
Y5 – Summer – Block 5 – Step 1 – What is volume? Answers

Question	Answer
1	a) They all use 5 cubes. If they get different answer, children can make the shapes and count the cubes. b) The cubes are arranged differently. c) 5 cubes
2	a) 3 cubes b) 4 cubes c) 5 cubes d) 4 cubes e) 9 cubes f) 6 cubes
3	No. There are 7 cubes visible, but there might be a hidden 8th cube, so it could be 7 or 8.
4	a) 10 cm^3 b) 6 cm^3
5	a) A 8 cubes B 18 cubes C 24 cubes b) A 8 cm^3 B 18 cm^3 C 24 cm^3
6	a) child's shapes made with 10 cubes b) child's drawings of their shapes c) 10 cubes d) All the shapes have the same volume, but the cubes are arranged differently.

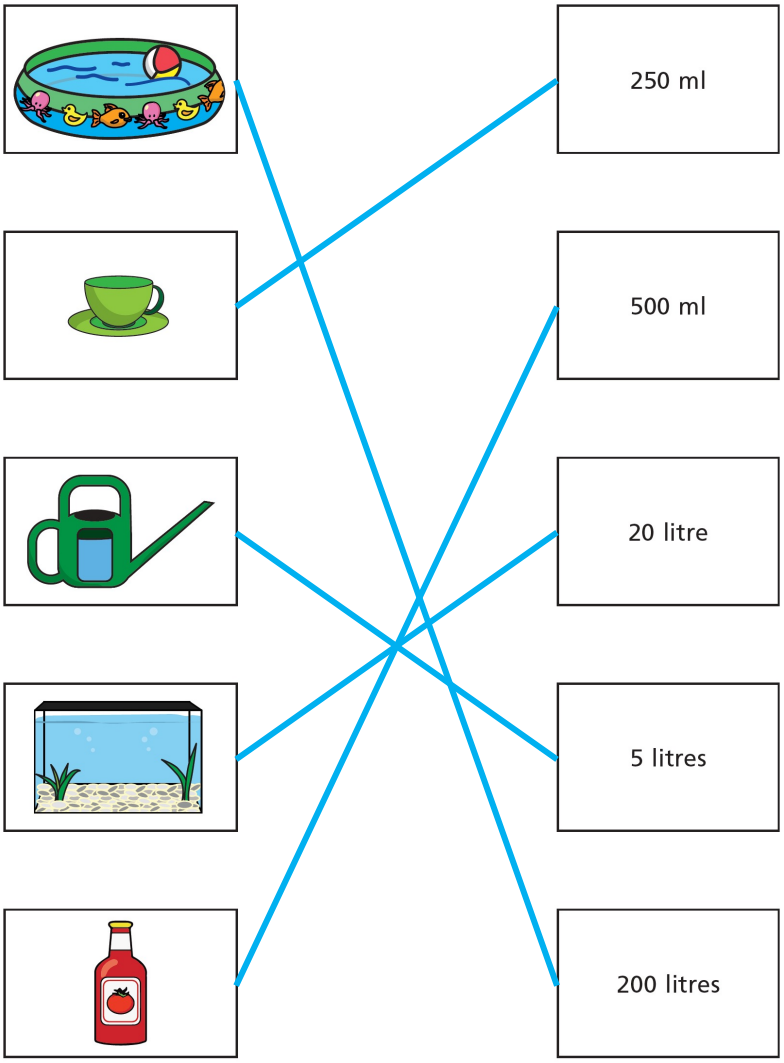
Y5 – Summer – Block 5 – Step 2 – Compare volume Answers

Question	Answer
1	a) 6 cm^3 b) 7 cm^3 c) Tommy The volume is given by the number of cubes, and Tommy's shape has a greater number of cubes.
2	a)  volume = 7 cm^3  volume = 6 cm^3 b)  volume = 8 cm^3  volume = 9 cm^3 c)  volume = 5 cm^3  volume = 4 cm^3 d)  volume = 12 cm^3  volume = 27 cm^3
3	a) = b) >
c) <
4	E C D A B
5	No. Dora's cubes are smaller. About eight of Dora's cubes make one of Tommy's cubes, so Tommy's shape has a greater volume.
6	a) 18 cm^3 b) 24 cm^3 c) multiple possible answers, e.g.: 20 cm^3 Students could give any answer greater than 18 cm^3 and less than 24 cm^3

Y5 – Summer – Block 5 – Step 3 – Estimate volume Answers

Question	Answer
1	a) The cubes make approximately the same shape as the triangular prism. b) 72 cm^3 c) The shape made using cubes is not exactly the same shape and size as the triangular prism. d) The shape made by the cubes is neither fully inside or fully outside the triangular prism. Students could say either more or less. They need to justify their answer.
2	a)  64 cm^3 b)  28 cm^3 c)  30 cm^3
3	a) 25 cm^3 b) greater The cubes would not fill the entire space inside the cylinder.
4	child's estimate of volumes of classroom objects
5	 The wardrobe has the greatest volume and the mug has the smallest volume.
6	18,400 cm^3 No. Fridges are available in lots of different sizes.

Y5 – Summer – Block 5 – Step 4 – Estimate capacity Answers

Question	Answer
1	 Children may have different answers, as containers can come in different sizes.
2	500 ml Some children may say that the glass is slightly under half full, since the top of the glass is wider than the bottom. So their estimate would be just over 500 ml.
3	2,000 ml 2 l Some children may say that the jug is slightly under a quarter full, since the top of the jug is wider than the bottom. So their estimate would be just over 2 l.

Question	Answer
4	multiple possible answers, e.g.: a) 400 ml b) 800 ml c) 600 ml d) 280 ml e) 820 ml f) 260 ml Children's answers will differ depending on what proportion of the glass they estimate is filled with juice. Their answers for parts d), e) and f) will also depend on how the shape of the glass affected their estimate.
5	160 ml
6	16.8 litres more The bottles have not quite filled the fish tank.
7	child's estimate of capacities of classroom objects