Homework/Extension Step 6: Cube Numbers

National Curriculum Objectives:

Mathematics Year 5: (5C5d) <u>Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)</u>

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)

Developing Complete the maze by moving from cube number to cube number. Includes the first 5 cube numbers.

Expected Complete the maze by moving from cube number to cube number. Includes the first 12 cube numbers.

Greater Depth Complete the maze by moving between cube and square numbers. Includes the first 12 cube numbers and knowledge of square numbers.

Questions 2, 5 and 8 (Varied Fluency)

Developing Join three matching pairs to find the odd one out. Includes calculations involving the first 5 cube numbers.

Expected Join three matching pairs to find the odd one out. Includes calculations involving the first 12 cube numbers.

Greater Depth Join three matching pairs to find the odd one out. Includes calculations involving the first 12 cube numbers and knowledge of square numbers.

Questions 3, 6 and 9 (Reasoning and Problem Solving)

Developing Explain if given statements describe even numbers. Statements include the first 5 cube numbers.

Expected Explain if given statements describe even numbers. Statements include the first 12 cube numbers.

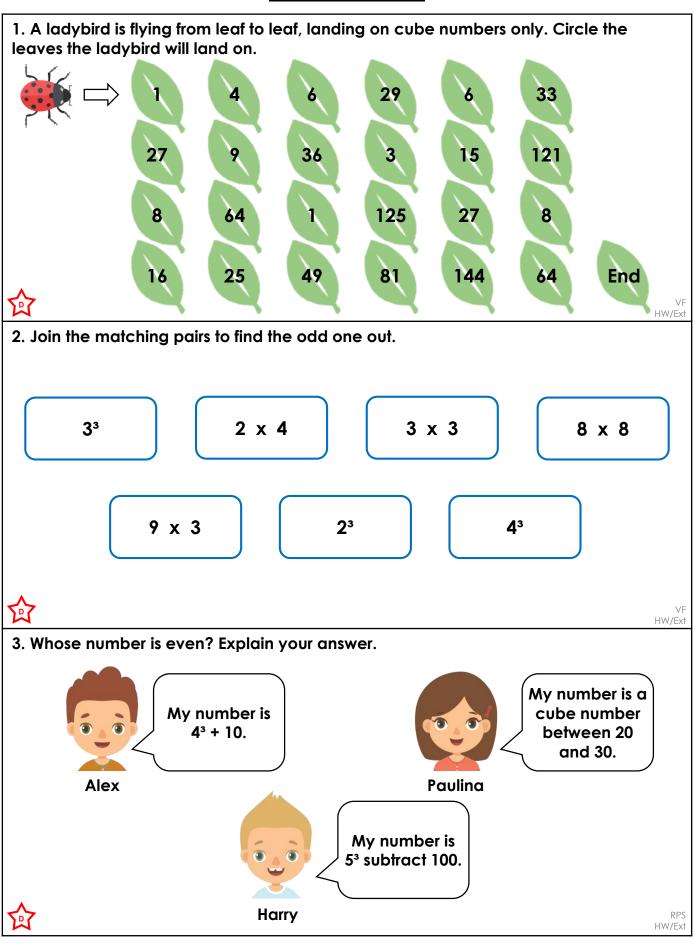
Greater Depth Explain if given statements describe even numbers. Statements include the first 12 cube numbers and knowledge of square numbers.

More Year 5 Multiplication and Division resources.

Did you like this resource? Don't forget to <u>review</u> it on our website.



Cube Numbers



Cube Numbers

4. A butterfly is flying from flower to flower, landing on cube numbers only. Circle the flowers the butterfly will land on.



5. Join the matching pairs to find the odd one out.

8³

10 x 100

10³

432 ÷ 2

686 ÷ 2

7³

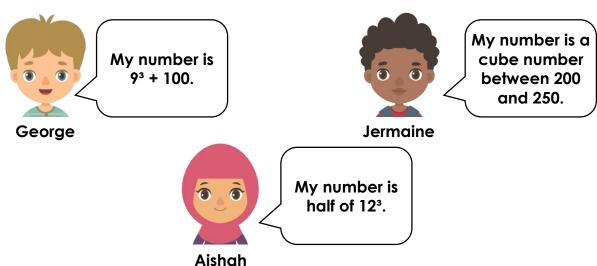
63



HW/Ext

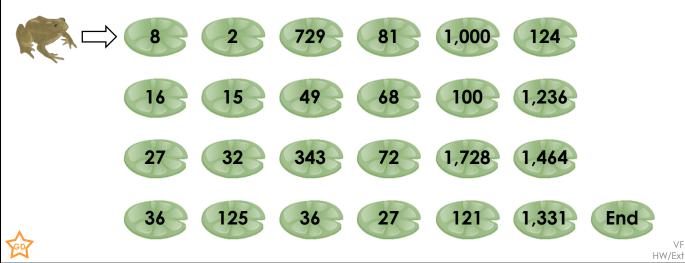
HW/Ext

6. Whose number is even? Explain your answer.

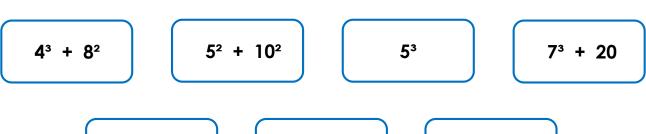


Cube Numbers

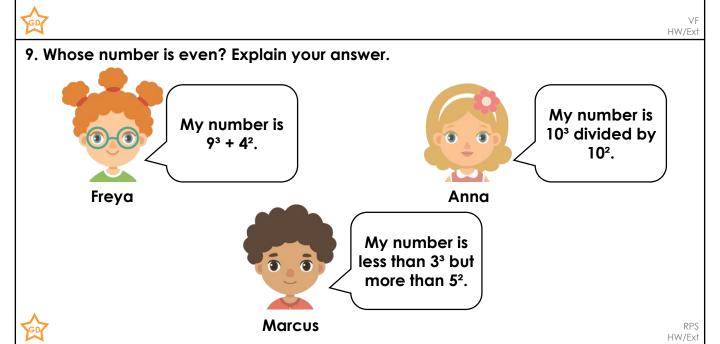
7. A frog is jumping from lily pad to lily pad, landing on cube numbers and square numbers alternately. Circle the lily pads the frog will land on.



8. Join the matching pairs to find the odd one out.



 $8^3 \div 2$ 2 2×4^3 11² $\times 3$



Homework/Extension Cube Numbers

Developing

- 1. 1, 27, 8, 64, 1, 125, 27, 8, 64
- 2. 3 x 3 is the odd one out $(3^3 = 9 \times 3; 2^3 = 2 \times 4; 4^3 = 8 \times 8)$.
- 3. Only Alex has as even number (64 + 10 = 74). Paulina's number is 27 because this is the only cube number between 20 and 30, and Harry's number is 25 (125 100).

Expected

- 4. 1, 27, 512, 125, 64, 343, 216, 729, 1,000, 1,331, 8, 512, 1,728
- 5. 8³ is the odd one out (10³ = 10 x 100; 6³ = 432 \div 2; 7³ = 686 \div 2).
- 6. Jermain and Aishah both have even numbers. Jermain's number must be 216 as this is the only cube number between 200 and 250, and Aishah's number is 864 (half of 1,728). George's number is 829 (729 + 100).

Greater Depth

- 7. 8, 16, 27, 36, 125, 36, 343, 49, 729, 81, 1,000, 100, 1,728, 121, 1,331
- 8. $8^3 \div 2$ is the odd one out $(4^3 + 8^2 = 2 \times 4^3; 5^2 + 10^2 = 5^3; 7^3 + 20 = 11^2 \times 3)$
- 9. Anna and Marcus both have even numbers. Anna's number is 10 (1,000 \div 100) and Marcus' number must be 26 (3 3 = 27 and 5 2 = 25). Freya's number is 745 (729 + 16).