Year 6 Investigations – Order of Operations
Teacher Guide

National Curriculum Objectives:

Mathematics Year 6: (6C9) Use their knowledge of the order of operations to carry out calculations involving the four operations

Teaching notes:

This investigation is about manipulating numbers by using the order of operations.

Use the question prompts if your pupils require some hints.

More Year 6 Maths Investigation resources.

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

classroomsecrets.com

Year 6 Investigations – Order of Operations

1. Make the numbers from 1 – 30 using the digits 1, 2, 3 and 4 and the symbols +, –, x and ÷. All four digits must be used in each equation.

Ideas for concrete resources to provide:

- Digit cards
- Scrap paper or whiteboards and pens for calculations
- Table to record findings for each number (tables to 20 and 30 are included)

Question prompts:

- What is the correct order of operations?
- What happens when you multiply or divide a number by 1?

Answers:

Answers for all numbers have been provided in this pack. Please note that the number 29 may require the use of indices (see example answers).

Investigation 6 – Order of Operations

Number to make	Calculation
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

Investigation 6 – Order of Operations

Number to make	Calculation
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	

classroomsecrets.com

Investigation – Order of Operations – Year 6

Investigation 6 – Order of Operations

Number to make	Possible answers include:
1	$((4 + 2) \div 3) - 1 = 1$
2	$(1 + 2 + 3) - 4 = 2$
3	$((4 \times 1) - 3) + 2 = 3$
4	$(2 \times 4) \div (3 - 1) = 4$
5	$((2 + 1) \times 3) - 4 = 5$
6	$(4 \times 3) \div (2 \times 1) = 6$
7	$((4 \times 3) \div 2) + 1 = 7$
8	$(2 + 3 + 4) - 1 = 8$
9	$(2 + 3 + 4) \times 1 = 9$
10	$1 + 2 + 3 + 4 = 10$
11	$(4 \times 2) + (3 \times 1) = 11$
12	$(4 \times 2) + 3 + 1 = 12$
13	$(4 \times 3) + (2 - 1) = 13$
14	$((4 \times 3) + 2) \times 1 = 14$
15	$(4 \times 3) + 2 + 1 = 15$
16	$(1 + 3 + 4) \times 2 = 16$
17	$((4 + 1) \times 3) + 2 = 17$
18	$((4 + 2) \times 3) \times 1 = 18$
19	$((2 + 3) \times 4) - 1 = 19$
20	$(2 + 3) \times (4 \times 1) = 20$
21	$((2 + 3) \times 4) + 1 = 21$
22	$((4 \times 3) - 1) \times 2 = 22$
23	$((4 \times 3) \times 2) - 1 = 23$
24	$(1 + 2 + 3) \times 4 = 24$
25	$(1 + 4) \times (2 + 3) = 25$
26	$((4 \times 3) + 1) \times 2 = 26$
27	$((4 \times 2) + 1) \times 3 = 27$
28	$(1 + (2 \times 3)) \times 4 = 28$
29	$(4 - 1)^3 + 2 = 29$
30	$(2 \times 3) \times (4 + 1) = 30$