Homework/Extension
Step 13: Order of Operations

National Curriculum Objectives:

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

Differentiation:

Question 1, 4 and 7 (Varied Fluency)
Developing Identify incorrect calculations using knowledge of the order of operations to solve calculations that include two operations. Use of all four operations and times-tables knowledge up to 12 x 12.
Expected Identify incorrect calculations using knowledge of the order of operations to solve calculations that include up to three operations. Use of all four operations, brackets and times-tables knowledge up to 12 x 12.
Greater Depth Identify incorrect calculations using knowledge of the order of operations to solve calculations that include up to three operations. Use of all four operations, brackets, indices and times-tables knowledge up to 12 x 12.

Question 2, 5 and 8 (Varied Fluency)
Developing Complete the statements using <, > and = using knowledge of the order of operations to solve calculations that include two operations as described for Question 1.
Expected Complete the statements using <, > and = using knowledge of the order of operations to solve calculations that include up to three operations as described for Question 4.
Greater Depth Complete the statements using <, > and = using knowledge of the order of operations to solve calculations that include up to three operations as described for Question 7.

Question 3, 6 and 9 (Reasoning and Problem Solving)
Developing Complete the calculation using given digit cards and using knowledge of the order of operations to solve calculations that include two operations as described for Question 1.
Expected Complete the calculation using given digit cards and using knowledge of the order of operations to solve calculations that include two operations as described for Question 4.
Greater Depth Complete the calculation using given digit cards and using knowledge of the order of operations to solve calculations that include three operations as described for Question 7.

More Year 6 Four Operations resources.

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

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Order of Operations

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1. Which of the calculations below are incorrect?

$$A. \quad 16 + 8 \div 2 = 20$$

$$B. \quad 18 - 6 \times 2 = 24$$

$$C. \quad 22 \div 2 - 9 = 2$$

$$D. \quad 20 + 8 \div 4 = 7$$

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2. Complete the statements below using <, > or =.

A.	$24 \div 2 - 5$	☐	$20 - 6 \times 2$
B.	$16 \div 2 + 4$	☐	$3 \times 2 + 6$
C.	$15 \div 3 \times 2$	☐	$7 + 6 \div 2$
D.	$12 \times 4 \div 2$	☐	$25 \div 5 + 10$

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3. Arrange the digit cards below to complete the calculation. Use each digit card once only. Find two different calculations.

2	1	6	4	8	1

☐☐ **+** ☐ **÷** ☐ **=** ☐☐

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Homework/Extension – Order of Operations – Year 6 Developing
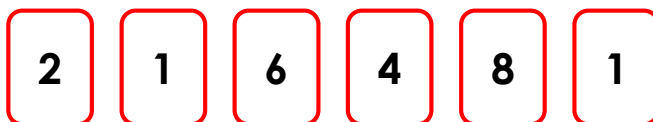
Order of Operations

4. Which of the calculations below are incorrect?

$$\text{A.} \quad 12 \times (6 - 4) = 68$$

$$\text{B.} \quad 16 + 9 \times 7 = 79$$

$$\text{C.} \quad 14 + 8 \div (2 \times 2) = 11$$

$$\text{D.} \quad 11 + 18 \div 6 = 14$$

5. Complete the statements below using <, > or =.

A. $\qquad 24 + 8 \times 3 \qquad \boxed{} \qquad 12 \times (6 - 2)$

B. $\quad 12 \div 2 \times (4 + 6) \qquad \boxed{} \qquad 12 \times 8 \div 2$

C. $\qquad 16 + 4 \times 3 \qquad \boxed{} \qquad 4 \times 7 + (9 - 2)$

D. $\quad (99 - 66) \div 11 \qquad \boxed{} \qquad 12 \times 9 - 20$

6. Arrange the digit cards below to complete the calculation. Use each digit card once only.
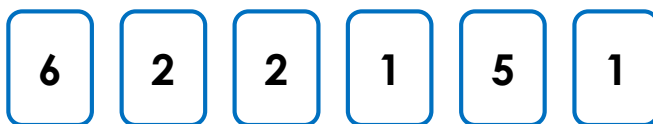
$$\boxed{6} \quad \boxed{2} \quad \boxed{2} \quad \boxed{1} \quad \boxed{5} \quad \boxed{1}$$

$$\boxed{} \; + \; \boxed{} \; \div \; \boxed{} \; = \; \boxed{}$$

Explain how brackets could be added so that the calculation gives a different answer.

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Homework/Extension – Order of Operations – Year 6 Expected

Order of Operations

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7. Which of the calculations below are incorrect?

$$\text{A.} \quad 48 \div 4 + 6 \times 2 = 9$$

$$\text{B.} \quad 9^2 - 18 \div 9 = 7$$

$$\text{C.} \quad (8 \times 5) \div 10 + 16 = 20$$

$$\text{D.} \quad 7^2 + 14 \div 7 = 9$$

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HW/Ext

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8. Complete the statements below using <, > or =.

A. $\quad 24 \div 2 + 11^2$ ☐ $\quad \dfrac{1}{4} \times 10^2$

B. $\quad (12 \times 4) - 6^2$ ☐ $\quad 9 \times 8 - 6^2$

C. $\quad 0.5 \times 16 + 9$ ☐ $\quad 9^2 - 8^2$

D. $\quad 12^2 - 6^2$ ☐ $\quad 10^2 \div 4 + 30$

VF
HW/Ext

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9. Arrange the digit cards below to complete the calculation. Use each digit card once only.

1	2	6	1	2	2

$$\boxed{2} - \boxed{} \times \boxed{} = \boxed{}$$

Explain how brackets could be added so that the calculation gives a different answer.

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Homework/Extension – Order of Operations – Year 6 Greater Depth

Developing
1. **B and D**
2. **A <; B =; C =; D >**
3. **16 + 4 ÷ 2 = 18 and 18 + 6 ÷ 1 = 24**

Expected
4. **A, B and C**
5. **A =; B >; C <; D <**
6. **12 + 6 ÷ 2 = 15**
Brackets could be added to make the calculation: (12 + 6) ÷ 2 = 9

Greater Depth
7. **A, B and D**
8. **A >; B <; C =; D >**
9. **6^2 − 12 x 2 = 12**
Brackets could be added to make the calculation: (6^2 − 12) x 2 = 48