## Addition, Subtraction, Multiplication and Division: Bonkers BODMAS

\(\left.$$
\begin{array}{|l|l|l|}\hline \begin{array}{l}\text { Aim: } \\
\text { Use their knowledge of the order of operations } \\
\text { to carry out calculations involving the four } \\
\text { operations. } \\
\text { I can correctly use the order of operations to } \\
\text { carry out calculations. }\end{array} & \begin{array}{l}\text { Success Criteria: } \\
\text { I know the order of operations. } \\
\text { I can use the order of operations to work out } \\
\text { and check calculations. }\end{array} & \begin{array}{l}\text { Resources: } \\
\text { Lesson Pack }\end{array}
$$ <br>
Scissors <br>

Glue sticks\end{array}\right]\)|  | Key/New Words: <br> BODMAS, brackets, order, division, <br> multiplication, addition, subtraction. |
| :--- | :--- | | Preparation: |
| :--- |
| Multiplication Mayhem Square - one per pair |
| BODMAS Calculation Cards - one per pair |
| BODMAS Matching Activity Sheet - one per |
| child |
| BODMAS Calculation Activity Sheet - one |
| per child |
| Extra Challenge Activity Sheet - as required |

Prior Learning:
It will be helpful if children are familiar with methods of calculations for the four main operations (addition, subtraction, multiplication and division).

## Learning Sequence

Matiplication Mayhem: The children work in pairs to find missing numbers and correct mistakes on the Multiplication
Mayhem Activity Sheet. They are given one minute to complete as much as they can.


Picture This: As a whole class, children choose a calculation to complete using BODMAS. If the calculation answer is correct, part of a picture is revealed. Can the children correctly guess the picture before the calculations are complete?

## Exploreit

Makeit: Children create their own poster to demonstrate BODMAS using this as a guide.
Completeit: Practise BODMAS by completing this challenging
Createit: Children create a game that allows players to practise BODMAS by answering a series of questions.


## Maths

## Addition, Subtraction, Multiplication and Division

## Bonkers BODMAS



## Aim

- I can correctly use the order of operations to carry out calculations.


## Success Criteria

- I know the order of operations.
- I can use the order of operations to work out and check calculations.


## Multiplication Mayhem

In pairs, fill in the missing numbers on the Multiplication Mayhem Square. How many can you complete in one minute?


## Missing Multiplication

Here are the answers:


## What Is BODMAS?

What do you think the answer to $45+9 \times 5$ is?


## What Is BODMAS?

What do you think the answer to $45+9 \times 5$ is?


## What Is BODMAS?

## Let's meet the BODMAS Squad.



## What Is BODMAS?

Let's meet the BODMAS Squad.


## What Is BODMAS?

## Let's meet the BODMAS Squad.



## What Is BODMAS?

## Let's meet the BODMAS Squad.



## What Is BODMAS?

## Let's meet the BODMAS Squad.



## What Is BODMAS?

## Let's meet the BODMAS Squad.



## What Is BODMAS?

So here we are: The BODMAS Squad. Brackets, Orders, Division, Multiplication, Addition and Subtraction.


## What Is BODMAS?

$45+9 \times 5$


## What Is BODMAS?

Let's try some more calculations.


## What Is BODMAS?

Let's try some more calculations.


## What Is BODMAS?

Let's try some more calculations.


## Correct Calculation

Which calculation gives the answer 75 ?


## Correct Calculation

Which calculations give the answer 252?


## Correct Calculation

Which calculation gives the answer 20?


## Bonkers BODMAS

Use your marvellous maths skills to complete these activities:


## Diving into Mastery

Dive in by completing your own activity!


## Picture This

Choose a calculation to complete using BODMAS as a class.


## Picture This

Choose a calculation to complete using BODMAS as a class.


## Aim

- I can correctly use the order of operations to carry out calculations.


## Success Criteria

- I know the order of operations.
- I can use the order of operations to work out and check calculations.



## Regent Studies|www.regentstudies.com

## BODMAS Calculation

I can correctly use the order of operations to carry out calculations.

Use the order of operations to complete the following calculations. Once completed, switch your activity sheet with another member of your group and check their work.
Did your partner get their calculations correct?
a) $(483 \times 54) \div 100=$ $\qquad$
b) $154 \times 112 \div 7=$ $\qquad$
c) $14+12^{2}-81=$ $\qquad$
d) $583-(43 \times 4)=$ $\qquad$
e) $4 \times 67 \div 5=$ $\qquad$
f) $15^{2} \times 3+325=$ $\qquad$
g) $583-54 \times 6=$ $\qquad$
h) $52.7+538 \div 10=$ $\qquad$
i) $235 \times 45 \div 5=$ $\qquad$
j) $684.67+385.75 \times 3=$ $\qquad$


## BODMAS Calculation Answers

| Question |  |
| :---: | :--- |
|  | Use the order of operations to complete the following calculations. |
| a $(483 \times 54) \div 100=260.82$ |  |
| b $154 \times 112 \div 7=2464$ |  |
| c $14+12^{2}-81=77$ |  |
| d $583-(43 \times 4)=411$ |  |
| e $4 \times 67 \div 5=53.6$ |  |
| f $15^{2} \times 3+325=1000$ |  |
| g $583-54 \times 6=259$ |  |
| h $52.7+538 \div 10=106.5$ |  |
| i $235 \times 45 \div 5=2115$ |  |
| j $684.67+385.75 \times 3=1841.92$ |  |

I can correctly use the order of operations to carry out calculations.

Cut, sort and glue the calculation cards into true or false statements.

| True |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |
|  |
|  |


$14 \times 5-60=10$


$$
129 \div 3 \times 2=86
$$

$120-56+44=109$


$$
25+108 \div 9=37
$$

$$
183-45 \div 5=27.6
$$

$$
50-49 \div 7=43
$$

$$
5+54 \div 6=45
$$



I can correctly use the order of operations to carry out calculations.

Match the calculation to the correct answer using your knowledge of BODMAS.
One calculation has been done for you.

| $72+46 \times 7=$ | 37 |
| :---: | :---: |
| $512 \div 8-27=$ | 407 |
| 1505-732-498= | 281 |
| $9 \times 828 \div 92=$ | 806 |
| $37 \times 43-1184=$ | 394 |
| $598+424-759=$ | 81 |
| $9^{2} \times 3+38=$ | 685 |
| $582+28 \times 8=$ | 34 |
| 396-234-128= | 275 |
| $1000-45 \times 7=$ | 263 |



## BODMAS Matching Answers



1) $(8 \times 6)+12=60$
$81 \div(6-3)=27$
$(19+14) \times 6=198$
$36-(14+9)=13$
2) $13 \times(5-2)=(3 \times 15)-6$
$181-(27 \div 3)=17 \times(29-19)+2$
3) Adam has moved from left to right in this calculation, ignoring the order of operations. The correct answer is 28.
Adam has taken 4 away from 6 then added the answer to $24 \div 3$. The correct answer is 44 .
4) a) $30 \div(6+4)$ is the correct answer.
b) Each group will consist of 10 children ( 6 boys +4 girls). We need to divide the total number of children in the class by the number of children in a whole group. This means there will be 3 groups of 10.
5) $a$


Accept: $2 \times(5+10)=30,2 \times(6+9)=30$ and $2 \times(7+8)=30$


Accept: $3 \times(5+9)=42$ and $3 \times(6+8)=42$
c)


Accept: $4 \times(6+8)=56$ and $4 \times(5+9)=56$
2)


Multiple answers possible, for example:
$3 \times(6+9)=45$
$4 \times(5+8)=52$
$4 \times(6+9)=60$

1) Add one pair of missing brackets to each of these calculations to make them correct:
$8 \times 6+12=60$
$81 \div 6-3=27$
$19+14 \times 6=198$ $36-14+9=13$
2) Add two pairs of missing brackets to each of these calculations to make them correct:
$13 \times 5-2=3 \times 15-6$
$181-27 \div 3=17 \times 29-19+2$

| Brackets | B | B | Brackets |
| ---: | :--- | :--- | :--- |
| Orders | O | I | Indices |
| Division | D | D | Division |
| Multiplication | M | M | Multiplication |
| Addition | A | A | Addition |
| Subtraction | S | S | Subtraction |

1) Adam has carried out the following calculations.

Look carefully at his calculations and describe the errors he has made with the order of operations.
$20-4 \times 2+16=48$
$\qquad$
$\qquad$
$6 \times(24 \div 3)-4=10$
$\qquad$
$\qquad$
2) a) Yan is solving this word problem. Which of these calculations correctly shows the problem? Explain your reasoning. A class of 30 children are going on a school trip. The teacher is organising the children into small groups. She decides that each group will be made up of 6 boys and 4 girls.
$30 \div 6+4$
$30 \div(6+4)$
$\qquad$
$\qquad$
b) How many groups of children will there be?
$\qquad$
$\qquad$
$\qquad$


| Set 1 | Set 2 | Set 3 |
| :---: | :---: | :---: |
| $2,3,4$ | $5,6,7$ | $8,9,10$ |

1) Use a number from each of the sets above to complete the number calculations below:

b) Number Number Number
from Set 1 from Set 2 from Set 3

c)

2) Use a number from each set to find out possible calculations that have an answer between 40 and 60 .

3) Add one pair of missing brackets to each of these calculations to make them correct:

$8 \times 6+12=60$
$81 \div 6-3=27$
$19+14 \times 6=198$
$36-14+9=13$
4) Add two pairs of missing brackets to each of these calculations to make them correct:
$13 \times 5-2=3 \times 15-6$
$181-27 \div 3=17 \times 29-19+2$

| Brackets | B | B | Brackets |
| ---: | :--- | :--- | :--- |
| Orders | O | I | Indices |
| Division | D | D | Division |
| Multiplication | M | M | Multiplication |
| Addition | A | A | Addition |
| Subtraction | S | S | Subtraction |

1) Adam has carried out the following calculations.

Look carefully at his calculations and
 describe the errors he has made with the order of operations.
$20-4 \times 2+16=48$
$6 \times(24 \div 3)-4=10$
2) a) Yan is solving this word problem. Which of these calculations correctly shows the problem? Explain your reasoning.

A class of 30 children are going on a school trip. The teacher is organising the children into small groups. She decides that each group will be made up of 6 boys and 4 girls.

$$
\begin{aligned}
& 30 \div 6+4 \\
& 30 \div(6+4)
\end{aligned}
$$

b) How many groups of children will there be?


1) Add one pair of missing brackets to each of these calculations to make them correct:
$8 \times 6+12=60$
$81 \div 6-3=27$
$19+14 \times 6=198$
$36-14+9=13$
2) Add two pairs of missing brackets to each of these calculations to make them correct:
$13 \times 5-2=3 \times 15-6$
$181-27 \div 3=17 \times 29-19+2$

| Brackets | B | B | Brackets |
| ---: | :--- | :--- | :--- |
| Orders | O | I | Indices |
| Division | D | D | Division |
| Multiplication | M | M | Multiplication |
| Addition | A | A | Addition |
| Subtraction | S | S | Subtraction |

1) Adam has carried out the following calculations.

Look carefully at his calculations and
 describe the errors he has made with the order of operations.
$20-4 \times 2+16=48$
$6 \times(24 \div 3)-4=10$
2) a) Yan is solving this word problem. Which of these calculations correctly shows the problem? Explain your reasoning.

A class of 30 children are going on a school trip. The teacher is organising the children into small groups. She decides that each group will be made up of 6 boys and 4 girls.
$30 \div 6+4$
$30 \div(6+4)$
b) How many groups of children will there be?


1) Use a number from each of the sets to complete the number calculations:

| Set 1 | Set 2 | Set 3 |
| :---: | :---: | :---: |
| $2,3,4$ | $5,6,7$ | $8,9,10$ |

a)

b)

2) Use a number from each set to find out possible calculations that have an answer between 40 and 60.


1) Use a number from each of the sets to complete the number calculations:

| Set 1 | Set 2 | Set 3 |
| :---: | :---: | :---: |
| $2,3,4$ | $5,6,7$ | $8,9,10$ |

a)

b)

c)

2) Use a number from each set to find out possible calculations that have an answer between 40 and 60.


## Extra Challenge

I can correctly use the order of operations to carry out calculations.

Use the order of operations to match each calculation to the correct answer.

| $18^{2} \times(48.45+48.4)=$ |
| :---: |
| $474+30736 \div 68=$ |
| $30970 \div(54+41)=$ |
| $19 \times\left(7^{2}+49\right)=$ |


| 1862 |
| :---: |
| 326 |
| 926 |
| 31379.4 |

Think of two possible calculations using the order of operations that would give the answer shown.

1) 485
a) $\qquad$
b) $\qquad$
2) 297
a) $\qquad$
b) $\qquad$
3) 1038
a) $\qquad$
b) $\qquad$
4) 25.5
a) $\qquad$
b) $\qquad$



Extra Challenge Answers

| Question | Answer |  |
| :---: | :---: | :---: |
|  | Use the order of operations to match each calculation to the correct answer. |  |
|  |  | 1862 <br> 326 <br> 926 <br> 31379.4 |

Think of two possible calculations using the order of operations that would give the answer shown.

Multiple answers possible.

## Multiplication Mayhem

Fill in the missing multiples. Included in the multiplication square are some incorrect numbers; colour these in to show the errors.

| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 2 | 3 | 4 | 5 |  | 7 | 8 | 9 | 10 | 11 | 13 |
| 2 | 2 | 4 | 6 | 8 | 10 | 13 | 14 | 16 | 18 |  | 21 | 24 |
| 3 | 3 | 6 | 10 | 12 | 15 | 18 | 20 |  |  | 30 | 34 | 36 |
| 4 | 4 | 8 | 12 |  | 20 | 23 | 28 | 32 |  | 40 | 44 | 48 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 46 | 50 |  | 60 |
| 6 | 6 | 12 |  | 23 |  |  | 42 | 47 | 54 | 60 | 67 | 72 |
| 7 | 7 | 14 | 20 | 28 | 35 |  | 49 | 56 |  | 70 | 77 |  |
| 8 | 9 | 16 | 24 |  |  |  | 56 | 65 |  | 81 | 88 | 96 |
| 9 | 9 | 18 | 27 | 35 | 45 | 54 |  | 72 | 82 | 90 | 99 | 108 |
| 10 | 10 | 20 | 30 |  | 50 | 60 | 70 | 80 | 90 | 101 | 110 | 120 |
| 11 | 11 | 21 | 33 | 44 | 55 | 66 | 76 | 88 | 99 |  | 122 |  |
| 12 | 12 | 24 |  | 49 |  | 74 |  | 96 |  | 120 | 132 | 144 |

## Multiplication Mayhem

Fill in the missing multiples. Included in the multiplication square are some incorrect numbers; colour these in to show the errors.

| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 2 | 3 | 4 | 5 |  | 7 | 8 | 9 | 10 | 11 | 13 |
| 2 | 2 | 4 | 6 | 8 | 10 | 13 | 14 | 16 | 18 |  | 21 | 24 |
| 3 | 3 | 6 | 10 | 12 | 15 | 18 | 20 |  |  | 30 | 34 | 36 |
| 4 | 4 | 8 | 12 |  | 20 | 23 | 28 | 32 |  | 40 | 44 | 48 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 46 | 50 |  | 60 |
| 6 | 6 | 12 |  | 23 |  |  | 42 | 47 | 54 | 60 | 67 | 72 |
| 7 | 7 | 14 | 20 | 28 | 35 |  | 49 | 56 |  | 70 | 77 |  |
| 8 | 9 | 16 | 24 |  |  |  | 56 | 65 |  | 81 | 88 | 96 |
| 9 | 9 | 18 | 27 | 35 | 45 | 54 |  | 72 | 82 | 90 | 99 | 108 |
| 10 | 10 | 20 | 30 |  | 50 | 60 | 70 | 80 | 90 | 101 | 110 | 120 |
| 11 | 11 | 21 | 33 | 44 | 55 | 66 | 76 | 88 | 99 |  | 122 |  |
| 12 | 12 | 24 |  | 49 |  | 74 |  | 96 |  | 120 | 132 | 144 |

## Multiplication Mayhem Answers

| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 13 |
| 2 | 2 | 4 | 6 | 8 | 10 | 13 | 14 | 16 | 18 | 20 | 21 | 24 |
| 3 | 3 | 6 | 10 | 12 | 15 | 18 | 20 | 24 | 27 | 30 | 34 | 36 |
| 4 | 4 | 8 | 12 | 16 | 20 | 23 | 28 | 32 | 36 | 40 | 44 | 48 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 46 | 50 | 55 | 60 |
| 6 | 6 | 12 | 18 | 23 | 30 | 36 | 42 | 47 | 54 | 60 | 67 | 72 |
| 7 | 7 | 14 | 20 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 |
| 8 | 9 | 16 | 24 | 32 | 40 | 48 | 56 | 65 | 72 | 81 | 88 | 96 |
| 9 | 9 | 18 | 27 | 35 | 45 | 54 | 63 | 72 | 82 | 90 | 99 | 108 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 101 | 110 | 120 |
| 11 | 11 | 21 | 33 | 44 | 55 | 66 | 76 | 88 | 99 | 110 | 122 | 132 |
| 12 | 12 | 24 | 36 | 49 | 60 | 74 | 84 | 96 | 108 | 120 | 132 | 144 |

Addition, Subtraction, Multiplication and Division | Bonkers BODMAS

| I can correctly use the order of operations <br> to carry out calculations. |  |  |
| :--- | :--- | :--- |
| I know the order of operations. |  |  |
| I can use the order of operations to work out <br> and check calculations. |  |  |

Addition, Subtraction, Multiplication and Division |
Bonkers BODMAS

| I can correctly use the order of operations <br> to carry out calculations. |  |  |
| :--- | :--- | :--- |
| I know the order of operations. |  |  |
| I can use the order of operations to work out <br> and check calculations. |  |  |

Addition, Subtraction, Multiplication and Division | Bonkers BODMAS

| I can correctly use the order of operations <br> to carry out calculations. |  |  |
| :--- | :--- | :--- |
| I know the order of operations. |  |  |
| I can use the order of operations to work out <br> and check calculations. |  |  |

Addition, Subtraction, Multiplication and Division |
Bonkers BODMAS

| I can correctly use the order of operations <br> to carry out calculations. |  |  |
| :--- | :--- | :--- |
| I know the order of operations. |  |  |
| I can use the order of operations to work out <br> and check calculations. |  |  |

Addition, Subtraction, Multiplication and Division | Bonkers BODMAS

| I can correctly use the order of operations <br> to carry out calculations. |  |  |
| :--- | :--- | :--- |
| I know the order of operations. |  |  |
| I can use the order of operations to work out <br> and check calculations. |  |  |

Addition, Subtraction, Multiplication and Division | Bonkers BODMAS

| I can correctly use the order of operations <br> to carry out calculations. |  |  |
| :--- | :--- | :--- |
| I know the order of operations. |  |  |
| I can use the order of operations to work out <br> and check calculations. |  |  |

Addition, Subtraction, Multiplication and Division | Bonkers BODMAS

| I can correctly use the order of operations <br> to carry out calculations. |  |  |
| :--- | :--- | :--- |
| I know the order of operations. |  |  |
| I can use the order of operations to work out <br> and check calculations. |  |  |

Addition, Subtraction, Multiplication and Division | Bonkers BODMAS

| I can correctly use the order of operations <br> to carry out calculations. |  |  |
| :--- | :--- | :--- |
| I know the order of operations. |  |  |
| I can use the order of operations to work out <br> and check calculations. |  |  |

