



Joyfulmathswithruth

FREE home ed
maths lessons
for exams

Functional Skills and GCSE Foundation

Edexcel

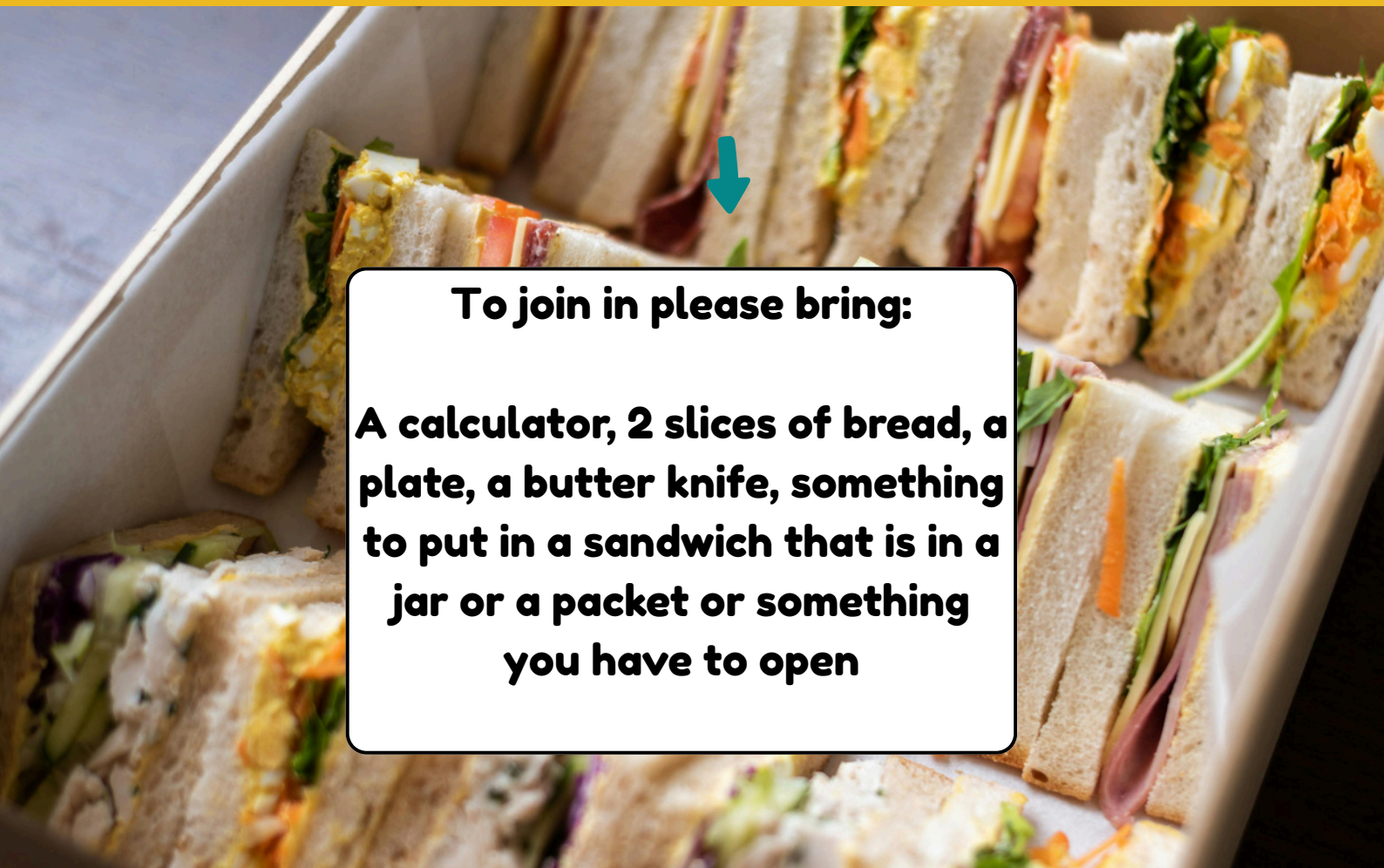
Unit 1: Number
Lesson 8 - Order of
operations

FS1

FS2

GCSE

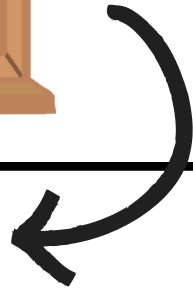
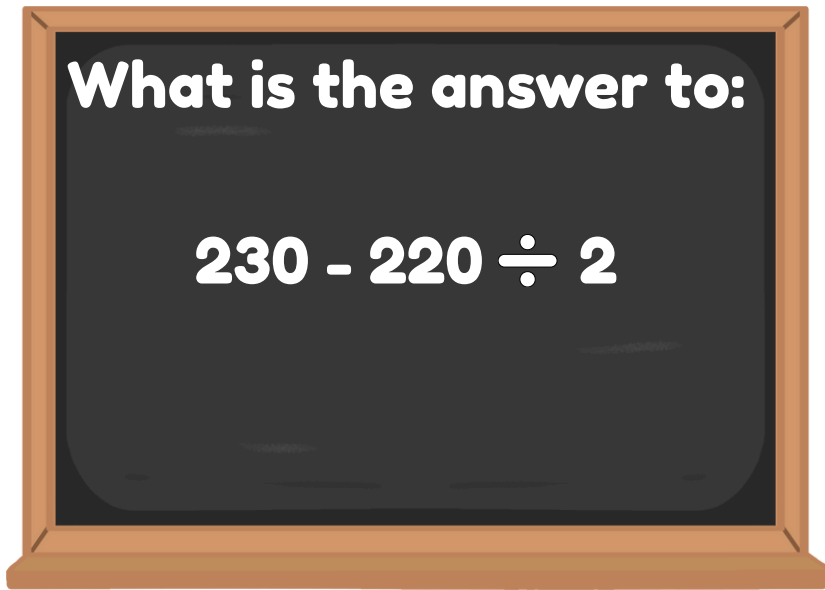
iGCSE



To join in please bring:

**A calculator, 2 slices of bread, a
plate, a butter knife, something
to put in a sandwich that is in a
jar or a packet or something
you have to open**

Start thinking:



Order of operations



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FS1	<input checked="" type="checkbox"/>
FS2	<input checked="" type="checkbox"/>
GCSE	<input checked="" type="checkbox"/>
iGCSE	<input checked="" type="checkbox"/>

Order of operations

What about multiplication?

- $3 + 4 \times 5$

- $4 \times 5 + 3$

- $(3 + 4) \times 5$

- $4 \times (5 + 3)$

Let's try some

Brackets

Multiplication and
Division

Addition and
Subtraction

$$10 + 2 \times 2$$

$$100 - 40 \times 2$$

$$60 \div (1+5)$$

$$21 - 9 \div 3$$

Recap

What is 7^2

What is $\sqrt{49}$

Indices

$(2 + 5)^2$

$50 - 2^2 \times 4$

Order of operations



Brackets ()

Indices $\sqrt{\quad}$ x^2

Multiplication and
Division \times \div

Addition and
Subtraction $+$ $-$



Same or different?

Brackets
Indices
Division and
Multiplication
Addition and
Subtraction

Same

Different

Same

Different

Same

Different

Same or different?

Brackets
Indices
Division and
Multiplication
Addition and
Subtraction

Same

Different

Same

Different



I only have
time to do 3
questions

At home:

1. **Work out:**

$$16 - 5 \times 2$$

$$(16 - 5) \times 2$$

Why are the answers different?

2. **Work out:**

$$9 \times 2 + 20 \div 2^2$$

$$9 \times 2 + (20 \div 2)^2$$

Why are the answers different?

3. **Add in brackets to make these true**

$$10 \times 3 + 5 = 80$$

$$10 + 10 \div 10 = 2$$

$$9 + 4^2 - 3 \times 5 = 10$$



At home:

Using 4, 4's and the operations +, -, x, ÷, brackets and indices, make all the numbers 1 - 20

Example: $4 \times 4 - (4 + 4) = 8$

This is just one of the calculations I could do to get 8, there will be multiple ways to do it for every number

1 =

2 =

3 =

4 =

5 =

6 =

7 =

8 =



At home:

9 =

10 =

11 =

12 =

13 =

14 =

15 =

16 =

17 =

18 =

19 =

20 =



Practice questions

At home:

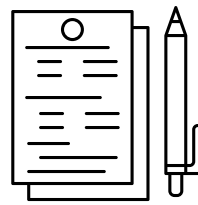
**** For Functional Skills 1 you do not have to be able to use indices so feel free to just practice what you need to from these ****

You can find some practice at different levels online in Transum [here](#)

And a game you could play [here](#)

Corbett maths has some great practice questions [here](#) - I would head straight to the Apply section for something a bit more interesting, but do feel free to use the rest if you want to do lots of practice

Remember that 5 questions thought about really deeply is waaaaaay better than 30 questions whizzed through.



Exam questions

At home:

FFS 1 and 2 and GCSE and iGCSE:

Here are a set of real past exam questions taken from the GCSE by Kenneth Stafford

Answers here

And if you want more exam style questions, you can get them at Maths Genie here

Answers here