# Identities

### Prior Knowledge:

To know that multiplication is a short way of writing repeated addition.

### Check:

Write the following in a simpler form:

### Prior Knowledge:

To know that powers are a way of writing repeated multiplication

To know how to say these out loud

### Check:

**Vocabulary:**

Convention

Algebra

**Motivation:**

I weigh 9kg more than my sister. Ten years ago we were both 21kg lighter and she weighed three fifths what I did then. How much do I weigh now.

Try this problem for 2 minutes.

Teacher demonstration of how to solve it by forming and solving an equation.

### Aims:

To know the terminology of algebra

### Activities:

Notes:

We use a letter (often , written ‘curly’) to represent an unknown number. It’s called an unknown or a variable.

Discussion:

Why do you think these we use these names?

Notes:

A set of variables and numbers, combined with operations (for example ) is called an expression.

The x is curly and the z is crossed.

If two expressions always give the same value, no matter what the variable (eg. ), we say they form an identity and use three lines to show this.

### Aims:

To know how we write expressions using algebra

### Activities:

Notes:

Instead of we write ,

We write division as a fraction so

With multiplication numbers before letters, (usually) alphabetical order.

What confusion could be caused by putting numbers after letters?

Coefficients nearly always written as fractions so not

Section A

Notes

Section B

Notes

Instead of we write (“g squared”)

Similarly, (“q to the 4”)

Section C

Notes

l

Practice: Section D

### Aims:

To interpret written expressions as algebra

### Activities:

Examples

Double can be written as

Five more than can be written as

The difference between and can be written as or .

Section E

### Aims:

To add the symbols back in

### Activities:

Section F

### Checking understanding:

Section G