

## What's Going On?

**Checking In**

F.F.M.

**Minds on**

Mingle, Mingle, Mingle

**Action!**

The Exponent Laws

**Consolidation**

It's a Race!

**Learning Goal - I will understand the 3 exponent laws!**

## Checking In

### Rules

1. A negative number to an even exponent is always positive.
2. A negative number to an odd exponent is always negative.
3. Any number to the exponent zero is always one.

**Minds on**

Mingle Mingle Mingle!

At my signal, unleash hell!

By which I mean get up and find your group. (Put your puzzle together)

You should be in groups of 3.

## Minds on

# Mingle Mingle Mingle!

With your group...

Look at your three slips.  
All three of these things are equal!

Try and figure out your "rule"

**Action!**

# The Exponent Laws

1. The Product Rule
2. The Quotient Rule
3. The Power of a Power Rule

## The Product Rule

$$3^2 \times 3^5 = 3^{2+5} = 3^7$$

When you multiply powers of the

same base you add

the exponents.

## The Quotient Rule

$$5^7 \div 5^4 = 5^{7-4} = 5^3$$

When you divide powers of the

same base you subtract the

exponents.

## The Power of a Power Rule

$$(4^4)^3 = 4^{4 \times 3} = 4^{12}$$

When you have a power to a ~~power~~ <sup>an exponent</sup> you

multiply the exponents.