

The background is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered in the middle of the page.

BALANCING CHEMICAL EQUATIONS

WITHOUT THE CHEMISTRY

A COMPLEX OR SIMPLE EQUATION



We will come back to this at the end....

MATHS VS CHEMISTRY

MATHS

$$A + B = C$$

CHEMISTRY





BIG NUMBERS AND LITTLE NUMBERS

All heard of O_2 ?

What about $2O$?

So what is the difference ?



BUILDING BICYCLES



Let's consider a simple bike made from two Wheels and a frame.

Written as a word formula

FrameWheels₂

Shortened ie. Wheel = W and Frame = F

We end up with FW₂

So If a bike is represented by FW_2 , we can build a bike from its parts.

$$F + 2W \square FW_2$$

How would this look if we could only buy wheels in packets of 2?

A GOAT



DIFFERENT SUPPLIERS

The formula for a bike cannot be changed and we can only build whole bikes with no bits left. What if the supplier only sold wheels and frames with the following options.

1. 2 Wheels, 2 Frames
2. 4 Wheels, 1 Frame
3. 2 Wheels, 3 Frames
4. 3 Wheels, 2 Frames

THE PROBLEM WITH WHEELS

- Rather than wheels being simply described as W it would be possible to describe them as a Tyre, Rim and four spokes.
- TyreRimmSpokes₄ or TRS₄
- So what is the new formula for a bike? Does this cause a problem?

- Try to balance the following using the new formula for a wheel.
- 3 Wheels and 2 frames.

BIT OF CHEMISTRY?

