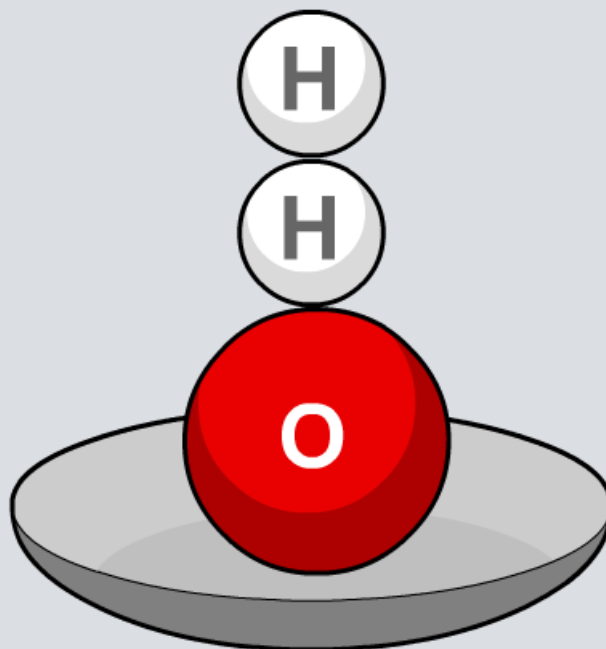


## Relative Formula Mass



# How is a compound's mass measured?



Most substances are made of molecules, not individual atoms. Molecules are really small too, so can we figure out their masses in the same kind of way?

Of course! The mass of a molecule is called the **relative formula mass**. This is calculated by adding up the relative atomic masses of all the atoms in the molecule.



# How is relative formula mass calculated?

To find the **relative formula mass** of a compound, add up the relative atomic masses of all the atoms in its formula.

**Step 1:** Write down the formula of the molecule.

**Step 2:** Find the r.a.m. of each type of atom in the molecule.

**Step 3:** Multiply each r.a.m. by the number of atoms of that element and add these values together.

What is the relative formula mass of water?

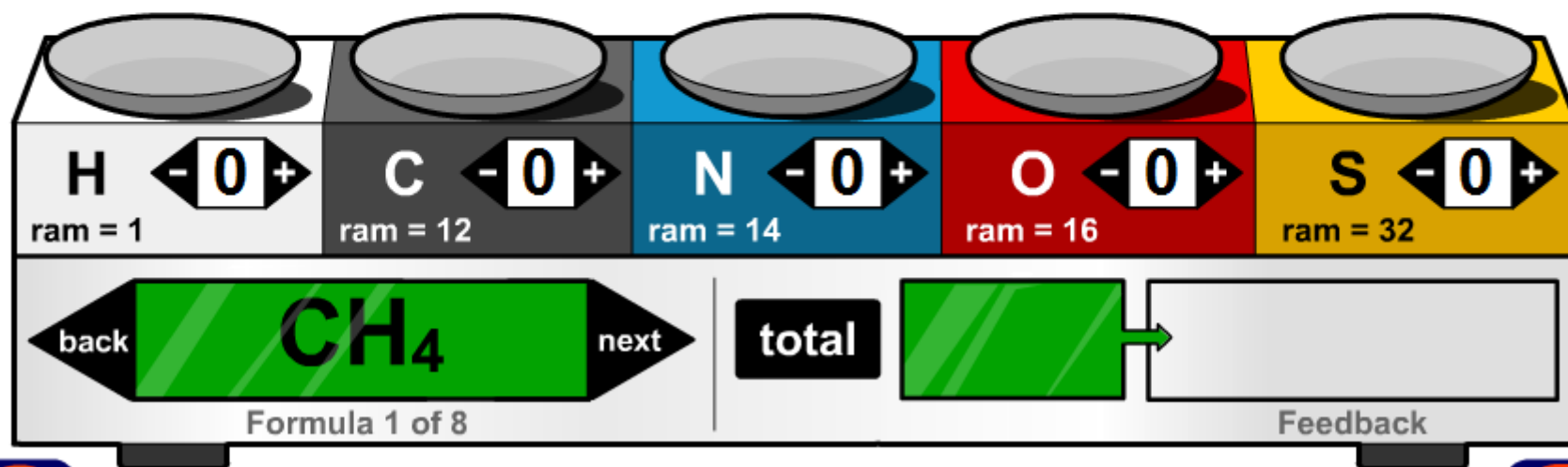
Step 1: formula of water is  $\text{H}_2\text{O}$

Step 2: r.a.m. values: hydrogen = 1, oxygen = 16

Step 3: relative formula mass =  $(2 \times 1) + (1 \times 16) = 18$



What is the relative formula mass?



The calculator interface features five columns for element selection, each with a weighing pan on top and a control panel below. The control panels include a minus sign, a zero, and a plus sign. The elements and their relative atomic masses (ram) are: H (ram = 1), C (ram = 12), N (ram = 14), O (ram = 16), and S (ram = 32). A green display shows the current formula CH4 with 'back' and 'next' navigation arrows. A 'total' button is followed by a green display and a 'Feedback' input field.

Element	ram
H	1
C	12
N	14
O	16
S	32

Formula 1 of 8

total

Feedback



# Calculating relative formula mass



What is the relative formula mass of each substance?

Substance	Formula	Relative formula mass
iodine	$I_2$	?
sodium chloride	$NaCl$	?
aluminum oxide	$Al_2O_3$	?
potassium nitrate	$KNO_3$	?
ammonium carbonate	$(NH_4)_2CO_3$	?

43

96

58.5

254

69

36.5

102

127

101

?

C

solve

↶