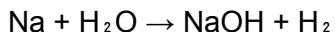


When balancing a chemical equation, you are trying to make the reactant and product contain the same number of atoms because of the Law of Conservation of Mass which states the mass of a system must remain the same without any quantities being added or taken away.

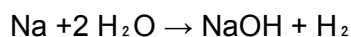
Let's start with our equation



To start solving I prefer to make a chart with the number of each element of each side of the equation

	Reactant	Product
Na	1	1
H	2	3
O	1	1

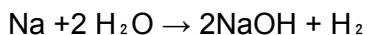
Currently, the Hydrogen is the only element unbalanced so we need to put coefficients in front of the  $\text{H}_2\text{O}$  on the reactant side of the equation



This will leave us with

	Reactant	Product
Na	1	1
H	4	3
O	2	1

Because both the Hydrogen and Oxygen are unbalanced now, we need to put a coefficient in front of the  $\text{NaOH}$  on the product side.

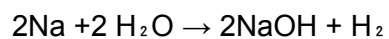


This will leave us with

	Reactant	Product
Na	1	2

H	4	4
O	2	2

The last thing left to will be balancing the Na. We will put a coefficient on the Na in the reactant.



This will leave us with a balanced equation

	Reactant	Product
Na	2	2
H	4	4
O	2	2