

What's My Weight?



The picture above shows four equal weights on one side of the scale and an apple on the other side.

What can you say that is true about the apple and the weights?

If the apple weighs $180g$, how heavy must one weight be?

If the apple weighed $375g$, how heavy would one weight be?

If the apple was a giant one and weighed a full kilo and the weights were each $250g$, what would the scale look like? How do you know? Can you prove it?

THINK ABOUT:

Which weighs most - the apple or the weights?

How many weights are there? So, what is a quarter of that?

If the weights have to be heavier than a quarter of the apple what do you think is a likely weight for them to be?

SOLUTION

From the picture of the scales, the apple must weigh less than the four weights altogether.

If the apple weighs $180g$, for the scale to be balanced the weights would have to be $45g$ each because there are four of them. But we know from the picture that the apple weighs less than the weights put together, so each weight must be more than $45g$.

If the apple weighed $375g$, then for the scale to be balanced, each weight would be $93,75g$. So, for the weights to be heavier than the apple, each one must be more than $375g$.

One kilo is $1000g$ and four $250g$ weights would also weigh $1000g$ altogether so the scale would be balanced.