

Activity: Chocolate Chip Biscuits

On SCOPE's Measurement episode, you saw Julia make some chocolate chip biscuits. Here's how she did it:



What you need:

Mixing bowl
Wooden spoon
Measuring cups
Measuring spoons
Scales
Oven tray lined with baking paper
 $\frac{1}{2}$ cup castor sugar
 $\frac{1}{2}$ cup brown sugar
150g butter
1 teaspoon vanilla extract
1 egg
 $1\frac{3}{4}$ cups plain flour
 $\frac{1}{2}$ cup milk chocolate chips
 $\frac{1}{2}$ cup white chocolate chips
Oven
Oven mitts

What to do:

*Young scientists will need an adult to help them with this experiment!

1. Set the oven to 160° Celsius.
2. Measure $\frac{1}{2}$ cup of castor sugar and $\frac{1}{2}$ cup of brown sugar, and add to the mixing bowl.
3. Using the scales, measure 150g of butter and add to the bowl.
4. Measure 1 teaspoon of vanilla essence and add to the bowl.
5. Mix all the ingredients in the bowl until smooth.
6. Crack an egg on the side of the bowl and add it to the mixture (try not to get any egg shell in the bowl!).
7. Measure $1\frac{3}{4}$ cups of plain flour, $\frac{1}{2}$ cup of milk chocolate chips and $\frac{1}{2}$ cup of white chocolate chips, and add it all to the mixture.
8. Spoon the mixture onto the oven tray lined with baking paper.
9. Place the tray in the oven for about 15 minutes or until the biscuits are golden brown!
10. When they are done, use some oven mitts to take the tray out of the oven.
11. The biscuits will be very hot so wait 10 minutes before tasting your yummy experiment.

What's happening?

At first you might not think there is much science in making chocolate chip biscuits, but it is a great way to use measurements like volume, weight, temperature and time! We used temperature by setting the oven to 160°Celsius, which is the same as 320°Fahrenheit or 433 kelvin! We used a lot of cup measurements throughout the recipe. 1 cup has a volume of 250ml and $\frac{1}{2}$ cup has a volume of 125ml. A teaspoon is a lot smaller than a cup; it has a volume of 5ml and four of those make one tablespoon. We used scales to measure the weight of the butter, which was 150g, or

150,000mg or 0.15kg. And finally, we used time to measure how long the biscuits had to stay in the oven, which was 15 minutes or one quarter of an hour or 900 seconds! Who knew science could taste so good?!