Innovation in Climate Change Education
INNO EDU CO2

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EXPERIMENTANDUM

BONBON PROTOCOL...COCKLES!

What you need?

- 100g dark chocolate
- Cockle shapes (3D printed)
- Cling film
- Glass bowl
- Dessert spoons
- Spatula
- Thermometer
- Microwave

How to do it?

1. Break the chocolate into small pieces and place in a glass bowl.

2. Place the bowl in the microwave for 20 seconds at a time and stir at intervals until the chocolate is almost all melted, with only a few solid pieces left.

3. Remove the chocolate from the microwave when it has reached the point mentioned above and stir so that the mixture is homogeneous and the temperature with the aid of a thermometer.

4. Coat the 3D-printed cockle moulds with cling film.

5. Pour the melted chocolate into the moulds.

6. Place the moulds in the fridge for 10 minutes.

7. Remove from the moulds with the help of cling film. If you've got the tempering point right, they'll be solid and won't melt easily in your hand, otherwise they'll start to melt as soon as you pick them up.

Co się stało?

In order to work chocolate, it needs to be tempered, i.e. brought to the ideal temperature for working. This process is what gives chocolate its main characteristics: shine; resistance to room temperature; a rigid structure that snaps when broken; shrinkage when it cools, which makes it easier to unmould.

The crystals of cocoa butter contained in chocolate are responsible for the temperature of chocolate. Cocoa butter can crystallise into five different types of crystals during its transition from liquid to solid, with different properties and melting points: α1, α2, α3, α4, which melt between 17°C and 28°C. The β crystal is the most stable of them all and gives chocolate its best characteristics.

The aim is for the β crystals to contaminate the rest of the cocoa butter so that when it cools and solidifies, no other crystals form. The β crystals begin to disappear after 32°C.

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