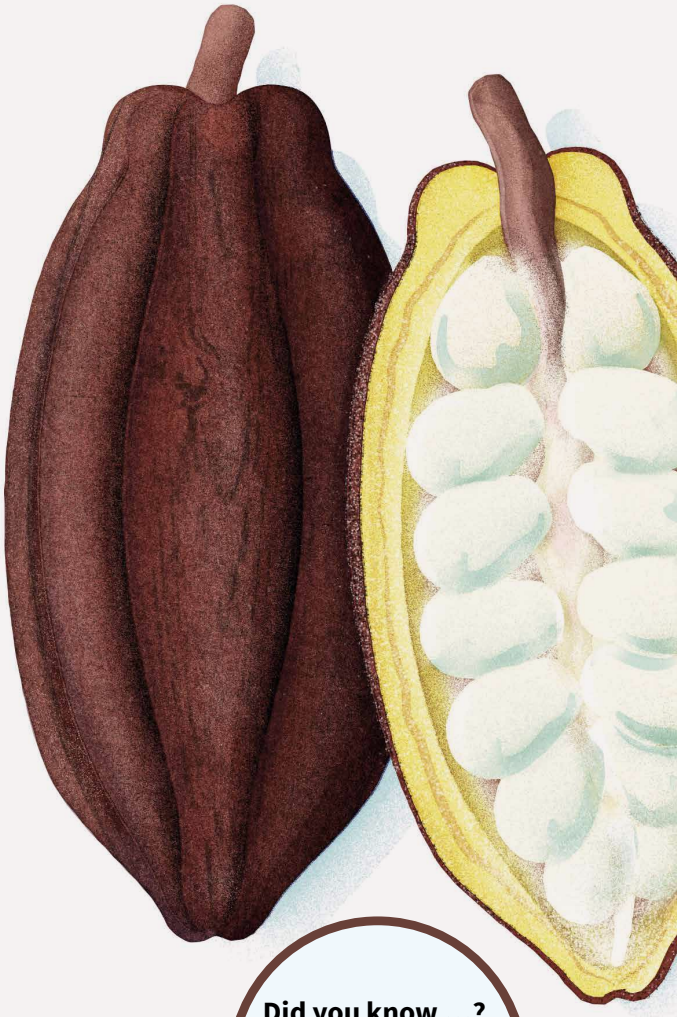
Melting chocolate

Did you know chocolate begins to **melt** at a **temperature** lower than that of the human body? That's why when you put some in your mouth it begins to melt.

So what is the **melting point** of chocolate? There isn't an exact point. There's a **range**, because it's a **mixture**.

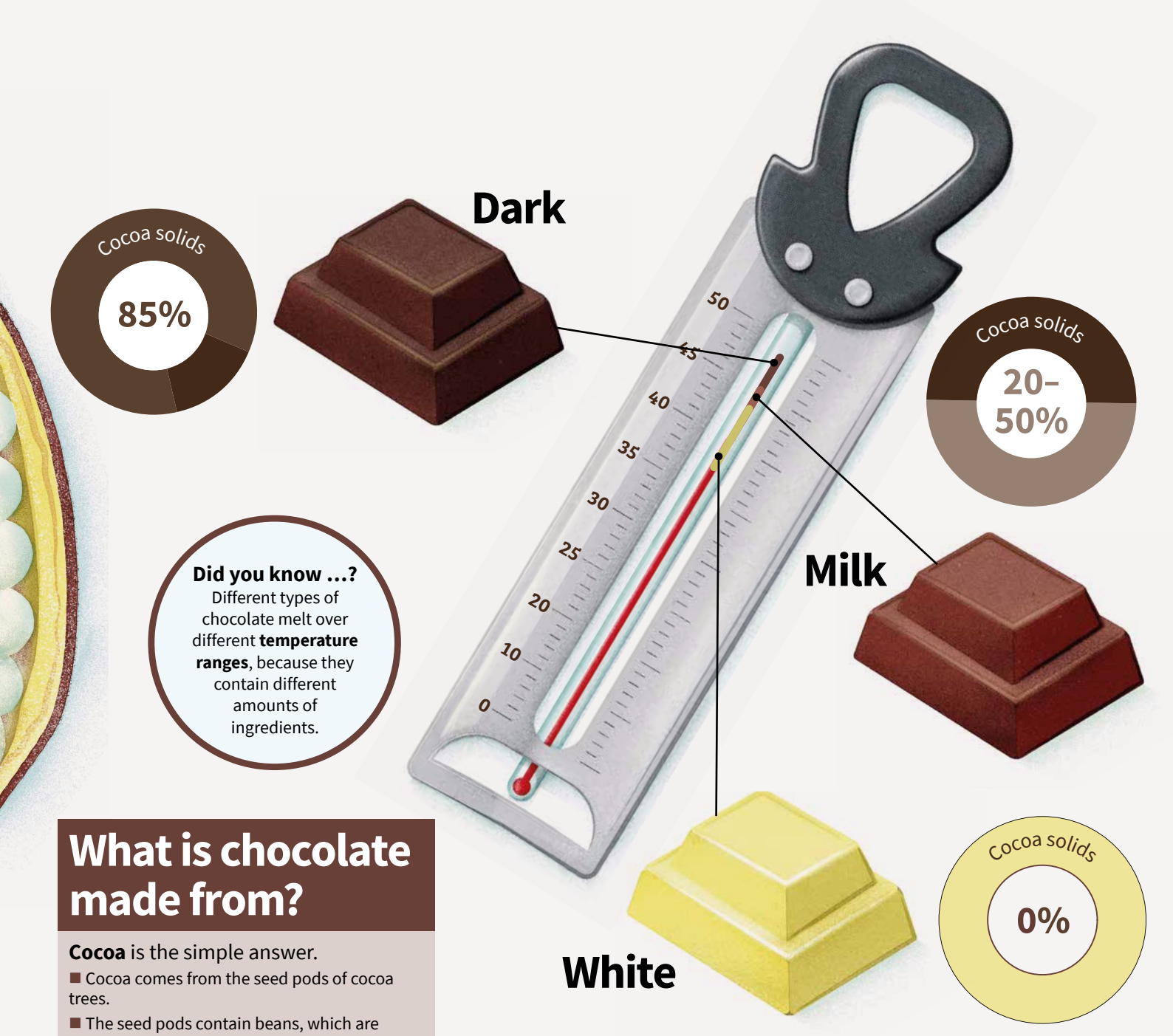


Did you know ...?
Dark chocolate contains theobromine, which is **toxic for dogs**. So don't give them any!

Tempering

To make chocolate melt in your mouth, chocolatiers try to maximise the amount of Type V crystals in their creations using a process called **tempering**. This involves:

- **Heating** the chocolate to about 40 °C to make sure all the various crystal forms are melted.
- **Cooling** it gradually to 28 °C to give a mixture of Type IV and Type V crystals.
- **Heating it again**. This time to 32 °C to melt the Type IV crystals, leaving only Type V. It is then poured into moulds where it sets.



Did you know …?
Different types of chocolate melt over different **temperature ranges**, because they contain different amounts of ingredients.

What is chocolate made from?

Cocoa is the simple answer.

- Cocoa comes from the seed pods of cocoa trees.
- The seed pods contain beans, which are fermented, roasted and processed.
- Other ingredients, such as **sugar and milk**, are added to make the finished chocolate.
- The beans from the cocoa tree contain roughly 50% **cocoa butter**, which is **chocolate's main ingredient**.
- Cocoa butter is made up of three fats in roughly equal amounts. The **ratio of these fats** strongly affects **chocolate's melting range**.

Crystallisation

The **fats in cocoa butter** can form **six different types** of crystals, which melt at different temperatures:

Type	Melts at	Taste notes
I	17.3 °C	Soft, crumbly
II	23.3 °C	Crumbly, melts easily
III	25.5 °C	Firm but melts easily
IV	27.3 °C	Firmer but melts easily
V	33.8 °C	**Best for eating:** melts near body temperature, crisp snap
VI	36.3 °C	Too hard

The melting range of chocolate depends on the types of crystals that chocolatiers create in the mixture.

Did you know …?
Chocolate with Type VI crystals is sometimes used to make **heat-resistant** chocolate for army survival packs.

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