You've no doubt experienced chocolate melting on a hot day, so let's do some experiments to recreate these conditions as well as a few others before comparing results and coming to some conclusions.

Melting Chocolate

Task

At what temperature does chocolate go from a solid to a liquid? Is it different for white and dark chocolate? Give this fun science experiment a try and find out!

What's happening?

- At a certain temperature your chocolate pieces undergo a physical change, from a solid to a liquid (or somewhere in between).
- On a hot day, sunlight is usually enough to melt chocolate, something you might have unfortunately already experienced.
- You can also reverse the process by putting the melted chocolate into a fridge or freezer where it will go from a liquid back to a solid.
- The chocolate probably melted quite fast if you tried putting a piece in your mouth, what does this tell you about the temperature of your body?
- For further testing and experiments you could compare white chocolate and dark chocolate, do they melt at the same temperature?
- How about putting a sheet of aluminum foil between a paper plate and a piece of chocolate in the sun, what happens then?

Method

1.Put one piece of chocolate on a paper plate and put it outside in the shade.
2.Record how long it took for the chocolate to melt or if it wasn't hot enough to melt then record how soft it was after 10 minutes.
3.Repeat the process with a piece of chocolate on a plate that you put outside in the sun. Record your results in the same way.
4.Find more interesting locations to test how long it takes for the chocolate pieces to melt. You could try your school bag, hot water or even your own mouth.
5.Compare your results, in what conditions did the chocolate melt? You might also like to record the temperatures of the locations you used using a thermometer so you can think about what temperature chocolate melts at.

Peer/Family Feedback

Once you have completed your experiments you must stick a photo of carrying out the task, complete the table and a summary of your findings.

Chocolate Test	Time Taken
Chocolate Test Shade	
Chocolate Test Sun	
Chocolate Test Mouth	
Chocolate Test Own Location	

Key Question

Use the space below to research and explain what is meant by the term Chocolate Tempering, Give examples of temperatures.