



Chocolate Welding

(Suggested Ages: 8+)



Gather

- Hershey chocolate bars- full work the best
- Glass bottle that your adult will fill with hot water

Let's Experiment!

1. Have an adult fill a glass bottle with hot water.
2. Hold the edge of 2 chocolate bars to the side of the hot bottle until it starts to melt.
3. Press the edges of the chocolate bars to each other at a 90° angle and hold until they stay together.
4. Carefully stand the chocolate bars on a plate and put into the refrigerator to cool.
5. Repeat steps 2 through 4 with 2 more chocolate bars.
6. Using the same method melt the edges of both 90° angle and press them together to form a rectangular box.

How Does it Work?

The melting point of milk chocolate is between 86°F and 90°F. This is the point when the molecules in the chocolate gain enough heat energy that they move faster and far enough apart that they can slide around each other. At normal room temperature, milk chocolate will hold its shape, but leave it in a hot car on a summer day and you will have a soupy mess!

Welding is the process of joining materials (usually metals) together using high heat to melt the parts together and allow them to cool.

Take it Further!

Experiment with a chocolate bridge and weights. How much weight can one bar of chocolate hold? How much weight can a chocolate box-channel bridge hold?

To learn more about the history of welding, visit:

<http://gowelding.org/articles/history-of-welding/>