**COLD WATER TEST**

The Cold Water Test can also be used along with a thermometer for the most accurate results.

For the **Cold Water Test**: 1/2 to 1 teaspoon of the syrup (candy mixture) is dropped from a clean spoon into a small bowl of very cold water (not ice cold). Quickly examine and/or carefully pick up the sugar from the cold water.
The firmness of the sugar indicates the highest temperature the syrup reached.
The higher the temperature the sugar syrup reached the harder the mixture will be after it cools.

**Step 1: Test Thermometer for Accuracy**

If you do have a thermometer you need to test its accuracy.
First bring a pot of water to a boil and add your thermometer.
Make sure the bottom of the thermometer is not resting on the bottom of the pot or your results not be as accurate.
Boil the water for at least 10 minutes and note the temperature.
Water, at sea level, will boil at 212° F (100° C).
For every 500 feet you are above sea level the boiling point will approximately be decreased by 1 F.
If after 10 minutes your thermometer does not read 212 F (100 C) note the difference.
When following a candy recipe add the amount of the difference to the temperature the recipe calls for.

For example my water boiled at 211 F so when I make candy I make sure my candy reaches 1 degree higher that the temperature called for in the recipe. If a recipe reads to bring the syrup to 235 F I will wait until my thermometer reads at least 236 F.

## Step 2: Simple Syrup

The syrup (candy mixture) I am using to show the Cold Water Test is a simple syrup.

Simple syrup is:
2 part sugar
1 part water

For this example I used;
1 cup sugar (use pure cane sugar as other sugars such as beet sugar have different melting points and will react differently)
1/2 cup water

The mixture will start out cloudy.
Once the mixture is clear, all of the sugar is dissolved and you have simple syrup.

Simple syrup is great for lemonade, cocktails, sweetening your ice tea, in ice cream/sorbet making and many other uses.

## Step 3: Soft Ball Stage 235 F (118 C)

Soft-Ball Stage is 235 F to 240 F (118 C to 120 C)

Soft ball: Using a clean spoon, when a small amount of syrup dropped into chilled water it forms a soft, flexible ball.  The ball will flatten out after a few moments in your hand.  The ball is very soft, hence the name soft ball stage.

## Step 4: Hard Ball Stage 250 F (125 C)

Hard Ball Stage is 250 F to 265 F (125 C to 133 C)

 Hard ball: Using a clean spoon when the syrup is dropped into cold water it may be formed into a hard ball.
The ball will hold its shape in your hand but it is still flexible enough that you squish it easily.

## Step 5: Soft Crack Stage 270 F (135 C)

Soft Crack Stage is 270 F to 290 F (135 C to 145 C)

Soft Crack Stage: The bubbles on the top of the syrup become smaller, thicker and much closer together.
With a clean spoon, when the syrup dropped into cold water it separates into hard but pliable threads.
The threads will bend slightly before breaking.

## Step 6: Hard Crack Stage 300 F (150 C)

Hard Crack Stage is 300 F to 310 F (150 C to 155 C)

Hard Crack: With a clean spoon, when the syrup dropped into ice water it separates into hard, brittle threads that break when bent.
You can actually hear a crack when the syrup hits the cold water.  Once you take the syrup out of the cold water you can feel how brittle and sharp it is.  Be careful not to poke yourself.

## Step 7: Congratulations!

You can now making candy even if you do not own a candy thermometer.

There are many wonderful candy recipes posted on Instructables:
Apple Jellies Candy <http://www.instructables.com/id/Apples-Jellies-Candy/>
Easy Decorated Marshmallows <http://www.instructables.com/id/Easy-Decorated-Marshmallows-Taste-like-Peeps/>
Peanut Butter Candy <http://www.instructables.com/id/Fast-Peanut-Butter-Candy/>
English Toffee <http://www.instructables.com/id/English-Toffee/>

You don't even need a thermometer or the cold water test to make the first two.

So go out and make some candy!!!

Reference: http://www.instructables.com/id/Candy-Making-without-a-Thermometer-Cold-Water-Tes/?ALLSTEPS