

An Experiment in Cooking that Uses Degree Minutes

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"In the United States, the mean (max + min)/2 daily temperature in Fahrenheit and a temperature of 65 °F (18 °C) is used.

- If the mean daily temperature is 65 °F, no degree days are counted.
- If the mean daily temperature is below 65 °F, the mean degrees Fahrenheit below 65 °F are counted as the heating degree day.
- If the mean daily temperature is above 65 °F, the mean degrees Fahrenheit above 65 °F are counted as the cooling degree day.

The heating and cooling degree days are tallied separately to calculate monthly, seasonal, and yearly total heating and cooling degree days. Heating and cooling degree days closely correlate with heating and cooling demand. " (Excerpt source: https://en.wikipedia.org/wiki/Degree_day)

As an experiment I used degree minutes when I baked two different foods at the same time. From the packages of frozen food I discovered that when baking in an oven,

the codfish required	425°	for	27 minutes and
the crab cakes required	375°	for	17 minutes.

The codfish and crab cakes on a baking tray were both put in the oven at the same time at 375°.

After 17 minutes, I removed the cooked crab cakes and returned the codfish to continue cooking at 425°.

I used the following calculation to compute the remaining cooking time for the codfish:

$425^{\circ} * 27 \text{ min.} = 11475^{\circ} \text{ min.}$ (cooking requirement for the codfish)

$375^{\circ} * 17 \text{ min.} = \underline{6375}^{\circ} \text{ min.}$ (crab cakes fully cooked and removed from the oven)

$425^{\circ} * X = 5100^{\circ} \text{ min.}$ (calculation for the codfish where X = the number of minutes remaining for the codfish to cook at 425°)

Thus $X = 5100^{\circ} \text{ min.} / 425^{\circ}$
 $X = 12 \text{ min.}$ (remaining minutes to finish cooking the codfish)

The codfish cooked as expected. (Codfish cooking time of 17 + 12 = 29 min. instead of 27 min.)