ACTIVITY: How many calories are in an almond?

STEPS:

1. Make a simple stand out of bent large paperclip
2. Stick a raw almond on the stand and place on fire-proof aluminum foil mat
3. Have students light the almond with large matches. (Four students in a group means there should be four matches under the almond at the same time.)
4. Just prior to lighting the almond, you should prepare a 3 oz. PAPER Dixie-cup to hold 30-40 ml of water and take the ‘start’ temperature (Do not do this too soon or the cup becomes soggy)
5. The cup should be held just above the flame using a large clothes pin.
6. Take the ‘end’ temperature just before the almond burns out.

Data sheet:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GROUP | ***X*** |  | ***Y*** |  | ***X-Y=Z*** |  | ***Z*** X water |  |
|  | end |  | start |  | rise in |  | amount |  |
|  | temp. |  | temp. |  | temp. |  | e.g. |  |
|  | degree C |  | degree C |  | degree C |  | *Z* ***X 40 ml*** |  |
| **A** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **B** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **C** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **D** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **E** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **F** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

1. Once they calculate RISE in temperature multiply by AMOUNT of water in cup (30 or 40 ml). This will give 'heat calorie' i.e. the unit of measurement to raise the temperature of ONE ml of water by 1 degree Celsius Then divide by 1,000 to get Kilo-Calorie (Food calorie)