

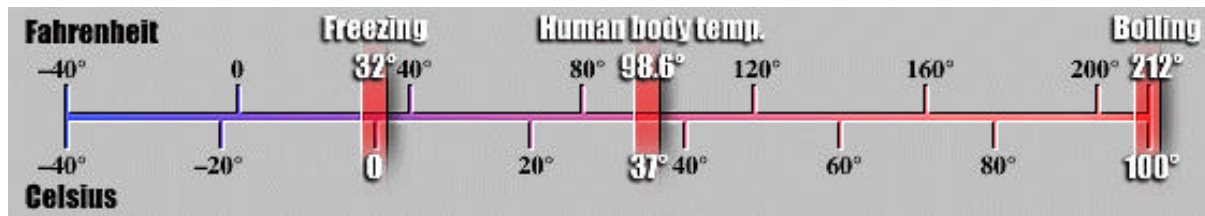
# Celsius and Fahrenheit

Did you know that most of the world uses Celsius instead of Fahrenheit to measure temperature? If you ever travel to another country, it will be very useful for you to know how to change from Celsius to Fahrenheit and viceversa. In this lesson you will practice doing temperature conversions and learn a little history in the process.

## I) GO TO:

<http://www.athena.ivv.nasa.gov/curric/weather/fahrrels.html>

Look at the thermometer indicated and answer the questions below. I've copied the thermometer here in case you need to refer to it later.



(USA Today)

Answer these questions: (Use the correct labels when you answer)

- 1) What is the freezing point in the Celsius scale? \_\_\_\_\_ In the Fahrenheit scale? \_\_\_\_\_
- 2) What is the normal body temperature in the Celsius scale? \_\_\_\_\_ In the Fahrenheit scale? \_\_\_\_\_
- 3) Knowing the body normal temperature in the Celsius scale, would a person with a body temperature of 40 degrees Celsius have a fever? Why? \_\_\_\_\_  
\_\_\_\_\_
- 4) When water boils, what is the temperature in the Fahrenheit scale? \_\_\_\_\_  
What is it in the Celsius scale? \_\_\_\_\_
- 5) At what temperature is the Celsius and Fahrenheit scale the same? \_\_\_\_\_
- 6) Looking at the scale above, estimate the temperature in Fahrenheit when it's 60 degrees Celsius? \_\_\_\_\_  
Explain here how you came up with your estimate:  
\_\_\_\_\_
- 7) Estimate the temperature in Celsius when it's 60 degrees Fahrenheit? \_\_\_\_\_  
Explain here how you decided on your best estimate:  
\_\_\_\_\_

II) NOW SCROLL DOWN AND READ “WHAT IS THE DIFFERENCE BETWEEN THE FAHRENHEIT AND CELSIUS TEMPERATURE SCALES?” AND ANSWER THESE QUESTIONS:

**Please use complete sentences!!!**

1) How are both scales similar?

2) Who invented the Fahrenheit scale? When?

3) Who invented the Celsius scale? When?

4) What other scale do scientists use? \_\_\_\_\_

\*5) Why DO YOU think scientists use another scale?

6) What is **absolute zero** and what happens at that temperature?

III) CONVERSIONS (CHANGING FROM ONE SCALE TO THE OTHER)

A shortcut to change Fahrenheit to Celsius: take your Fahrenheit number, subtract 32, divide by 9 and multiply by 5.
---

1) Use the above instructions to change these Fahrenheit temperatures to Celsius:

a) 70 F = \_\_\_\_\_

d) 32 F = \_\_\_\_\_

b) 85 F = \_\_\_\_\_

e) 15 F = \_\_\_\_\_

c) 20 F = \_\_\_\_\_

To change from Celsius to Fahrenheit:  
Multiply your Celsius temperature by 9  
divide by 5 and  
Add 32

2) Answer these questions:

a) Is 20 C a comfortable temperature for taking a walk? Why or why not?

b) Is 3 C a good temperature for your refrigerator? Why or why not?

IV) Now, check your answers to Part III with this online conversion calculator and put a "C" if you did them correctly:

**GO TO:** <http://www.intmed.mcw.edu/clincalc/wtmeas.html>

Use the Fahrenheit/Celsius conversion calculator on the left. We may use the pounds to kilograms conversion calculator another time.

The instructions given before can be changed to formulas in algebra:

The formula for changing Fahrenheit to Celsius is:

$$C = \frac{5}{9} (F - 32)$$

The formula for changing Celsius is:

$$F = \frac{9}{5} C + 32$$

We will work with these formulas when you take algebra.