

# Practice Test 1

## HTML, Forms & JavaScript

You are to recreate the example form located here:

<https://wcss.emmell.org/emmell/ics4u/2021-jsTest/>

In the original Test, a folder had been created for you containing all relevant images. You will need to download the relevant images into your practice folder

[See next page for marking guide.](#)

### Key points

- If a temperature in Celsius has been entered, and no Fahrenheit value, the Fahrenheit value should automatically populate with a converted temperature.
- Likewise, if a temperature in Fahrenheit has been entered and no Celsius value, then the Celsius value should populate with a converted temperature.
  - There is no need to handle the case when there are two different temperatures entered that do not agree.
- On the right-hand side of the page, you will need to output the appropriate title, current temperature in C with windchill calculated (see below), and image as selected by 'current conditions'.
  - The Temperature displayed in this portion is rounded to the nearest whole number and is the temperature adjusted for windchill.
    - You will likely be interested in the `Math.round()` function here
  - The possible current conditions are: Sunny, Partly Cloudy, Cloudy, Rain, Snow
    - These are matched with the pictures found in your folder.
- The "Clear" button will empty all fields as demonstrated in the example.
- Calculations:
  - To convert a temperature in Celsius to Fahrenheit:  $temp F = temp C * \left(\frac{9}{5}\right) + 32$
  - To convert a temperature in Fahrenheit to Celsius:  $temp C = (temp F - 32) * \left(\frac{5}{9}\right)$
  - To calculate windchill using degrees Celsius (T) and wind speed in km/h (V):
    - $windchill = 13.12 + (0.6215 * T) - (11.37 * V^{0.16}) + (0.3965 * T * V^{0.16})$
    - NOTE: Windchill only applies if the temperature is less than 5 °C
    - NOTE: Windchill only applies if the windspeed is 5km/h or greater
    - You will likely be interested in the `Math.pow()` function here

## Marking Guide:

### Level 1:

- The form has been wholly created and matches the example shown

#### Part A:

- "Clear" button properly resets the page
- "Process Information" button
  - Populates title

#### Part B:

- "Process Information" button
  - Updates temperatures
  - Populates windchill

#### Part C:

- "Process Information" button
  - Populates correct image

**Level 2:** All of level 1 requirements, and complete any one of parts A/B/C

**Level 3:** All of level 1 requirements, and complete any two from parts A/B/C

**Level 4:** All of level 1 requirements, and complete all three parts A/B/C

As for all programming tests, functionality determines the overall grade level – commenting, formatting, variable & function names determine the +/- for that level.

- Example: Completing all the requirements above constitutes a level 4, but poor variable/function names and a total lack of commenting reduce the mark to a 4-
- Example: Completing any two from parts A/B/C constitutes a level 3 mark, but excellent naming, spacing and commenting increases the mark to a 3+

## Examples & Test Cases:

Temp C	Temp F	Windspe ed	Temp with Windchill (in C)
10	50	10 kph	10
-10	14	10 mph	-17
5	41	50 kph	5
4	39.2	50 kph	-3
-10	14	4 kph	-10

### Temperature

Celsius:

Fahrenheit:

### Other Details

Windspeed:

Current Conditions:

## Conditions for today

Temp with windchill (C): 12



### Temperature

Celsius:

Fahrenheit:

### Other Details

Windspeed:

Current Conditions:

## Conditions for today

Temp with windchill (C): -27

