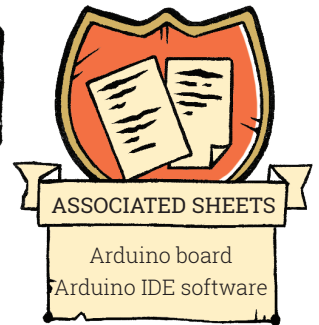# TEST YOUR BOARD

Make your board flash to check that everything works!

EASY

NECESSARY HARDWARE

– an Arduino board
– a USB cable
– a computer
(necessary for the Challenges)

ASSOCIATED SHEETS

Arduino board
Arduino IDE software

INSTALL THE ARDUINO SOFTWARE

You need software that allows dialogue between your computer and your Arduino board. For this, go to the reference site **www.arduino.cc**, and click on the tab "software". The Arduino IDE is open and free; install it using the installer that corresponds to your computer.

CONNECT YOUR ARDUINO BOARD

Once the installation is over, use the USB cable to connect your Arduino board to your computer. The board must be recognized by the computer. If it is, the Arduino IDE software should recognize your board. To test this, open the software and open the "Tools" menu. There are two settings to check in this menu, the type of board and the port. The setting "board" must correspond to the board you are using (Uno). The setting "port" must correspond to the port that the board is connected to (for example "COM 11: Arduino/Genuino Uno" if you are using Windows or "\dev\tty. usbmodem … (Arduino Uno)" on an Apple computer. If these two settings are not configured correctly, communication cannot be established.

SEND A PROGRAM TO THE BOARD

The programs are written on the computer then sent to the Arduino board. To check the connection with your board, you will send a test program. Open the File menu; choose Examples, Basics and the program "Blink".

CHALLENGE — **TEST YOUR BOARD**

```
// the setup function runs once when you press reset or power the board
void setup() {

  // initialize digital pin LED_BUILTIN as an output.
  pinMode(LED_BUILTIN, OUTPUT);
}

// the loop function runs over and over again forever
void loop() {
  digitalWrite(LED_BUILTIN, HIGH);   // turn the LED on (HIGH is the voltage level)
  delay(1000);                       // wait for a second
  digitalWrite(LED_BUILTIN, LOW);    // turn the LED off by making the voltage LOW
  delay(1000);                       // wait for a second
}
```

UPLOAD

Send the program on the Arduino board by clicking on the "Upload" icon of the software. Your computer will transform the program into Arduino understandable instructions and send them to the board through the USB cable. Once installed on your board (this may take several seconds), the program will execute on repeat.

Board reset button. It resets the board and restarts the program that is installed on it.
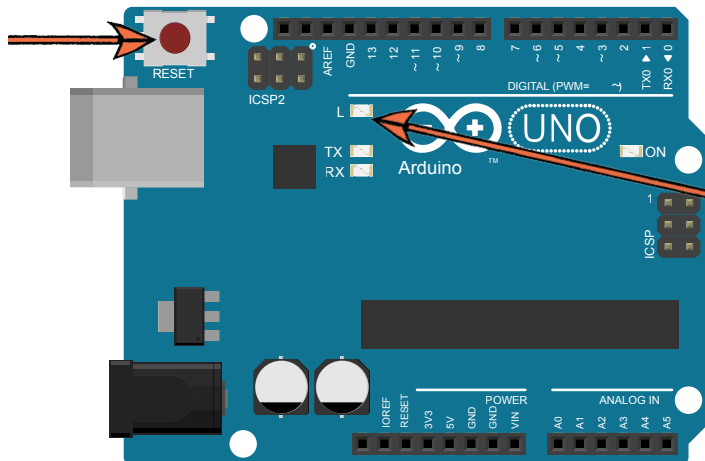
Small test light-emitting diode (LED). This LED is connected to digital port 13 on the majority of Arduino boards.

This program makes the test LED flash. If the LED on your board is flashing: well done! Everything is fine, you have succeeded in communicating with your board.

IN CASE OF PROBLEMS

– Check that you have correctly configured the type of Arduino board and the COM port used by the software (Tools menu);
– Disconnect the board, stop the Arduino software then reconnect the board before restarting the program. If it still doesn't work, restart your computer and begin again from step 1.