Materials:

- Arduino Uno
- LCD
- Real-Time Clock (RTC) Module
- DHT11 Temperature and Humidity Module

Background & Set-Up:

DHT11 contains a capacitive humidity sensor and a thermistor for temperature. It communicates over single data line and uses an available library. For more info and a tutorial: https://learn.adafruit.com/ds1307-real-time-clock-breakout-board-kit

The RTC Module provides real time-date clock data across power cycles. It communicates using I2C. For more info and a tutorial: https://learn.adafruit.com/ds1307-real-time-clock-breakout-board-kit

The LCD screen uses a special form of parallel communications. You will need to use the LiquidCrystal library. For more info and a tutorial:
https://learn.adafruit.com/adafruit-arduino-lesson-11-lcd-displays-1
https://learn.adafruit.com/adafruit-arduino-lesson-12-lcd-displays-part-2

Goal:

We want to create a weather station using our Arduino. The Arduino will retrieve actual time and date information and display it on the screen. It will also retrieve the temperature and humidity from the DHT11 module.