

Where do you think PM comes from?

Background Information: Basic Electronics

Particulate Matter (PM) Sensor: This image shows how the PM sensor works. Since warm air rises, a heater causes air to flow through the sensor. This is why the sensor must be mounted vertically. An LED shines light on the particles and the amount of light that is deflected by the particles is measured by a light receptor. This type of particle detection generally sees particles greater than 1 micrometer, which makes the sensor more sensitive to larger particles like dust and less sensitive to very small particles formed in smoke.

Image: www.shinyei.co.jp

LED: Inside each LED is a small bit of chemical that when electrons are passed through, it emits radiation (i.e., light). Be aware that an LED is a diode, meaning that it is polarized. Current can only go from the anode (positive end) to the cathode (ground, or negative end)... Note that the two wires on the LED are different lengths.

The longer wire is always + and the shorter is -.

Image: <https://www.societyofrobots.com/>

Resistor: If there is too much current the LED will glow too brightly and will be damaged. The battery will also run out very quickly. The resistor

Arduino: This is an Arduino; it is a mini computer that will be used to run our project. It is an open source platform which means the code and specifications are open and free to the public and people are allowed to