Scattering and Absorption

*Directions: You will be conducting an experiment comparing pure crushed ice or snow to crushed ice or snow with soot. Make detailed observations and measurements. Following the experiment, you will be writing a lab report.*

**Materials:**

* 2 Trays
* Crushed ice or snow
* 2 Thermometers
* Light source
* Soot
* Data table
* Stop watch, watch or clock
* Scale

**Procedure:**

1. Obtain required materials
2. Place equal amounts of crushed ice or snow in each tray (use the scale)
3. In one tray, mix in soot
4. Place both trays under the light source
5. Take temperature measurements of both samples before turning the lamp on
6. Record measurements in the data table, along with physical observations (Time 0:00)
7. Turn lamp on and begin timing
8. Take temperature measurements every 2 minutes and record in the data table
9. Continue for 30 minutes
10. Record physical observations between temperature measurements

**Data Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Time**  **(in minutes)** | **Temperature Without Soot (in °C)** | **Temperature With Soot (in °C)** | **Physical Observations** |
| **0:00** |  |  |  |
| **2:00** |  |  |  |
| **4:00** |  |  |  |
| **6:00** |  |  |  |
| **8:00** |  |  |  |
| **10:00** |  |  |  |
| **12:00** |  |  |  |
| **14:00** |  |  |  |
| **16:00** |  |  |  |
| **18:00** |  |  |  |
| **20:00** |  |  |  |
| **22:00** |  |  |  |
| **24:00** |  |  |  |
| **26:00** |  |  |  |
| **28:00** |  |  |  |
| **30:00** |  |  |  |