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| **Popcorn Explosion!**   * Tightly wrap a piece of popcorn with just enough tinfoil to cover the kernel (too much and it won’t pop!) * Put on a pair of sunglasses. * Focus the beam of sunlight onto the popcorn with the lens for several minutes, and try to not look at the bright light.   On the upper half of your lab notes square draw a picture of what it looks like while you are doing this.  Explain in the bottom square what is happening and why the popcorn popped or didn’t pop using the vocab words **DIRECT** and **INDIRECT**. | **Water Balloon**   * Get a Frenzel lens and a water balloon. * Put on a pair of sunglasses! * Focus the beam of sunlight onto the balloon for several minutes, and try to not look at the bright light.   In the upper half of your lab notes draw a picture of what it looks like while you are doing this.  Explain at the bottom what is happening and why the balloon popped or didn’t pop using the vocab words **DIRECT** and **INDIRECT**. |
| Angle of the Sun   * You will need a protractor, a ruler, and a weighted string. * Have a group member point at the sun (don’t look at it!). * Have a partner place the protractor upside down on their arm and hold the string so it hangs down. * Measure the angle on the protractor where the string hangs.   Write down the angle of the sun and draw a picture of how you got this angle. | **Black Lids**   * You will need 4 lids, an infrared thermometer, and a protractor * Set up the lids so that all are generally facing the sun * Measure each angle with the protractor and temperature of each lid with the infrared gun  |  |  |  | | --- | --- | --- | |  | Angle | Temperature | | Lid 1 |  |  | | Lid 2 |  |  | | Lid 3 |  |  | | Lid 4 |  |  | |