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**Experimental Design- Activity 1.1.3**

1. **Identify the problem:** Does height of which the blood falls, determine the diameter of the blood spatter?
2. **Formulate a hypothesis:** The higher the blood falls from the victim, the greater diameter the blood spatter will have.
   * + 1. **Independent Variables:** The heights of the blood being dropped.
       2. **Dependent Variables:** The diameters of the blood spatters.
3. **Design the procedure to be used to test the hypothesis:**
4. **Take any safety concerns into consideration such as**: Wearing PPE (gloves, goggles, lab coats, etc.) to protect you from any contamination that could occur while analyzing blood spatters.
5. **Gather materials:**

* Ring Stand
* Metal Clamp
* Blood
* Pipet
* Ruler
* White Paper
* Dropper (optional)
* Graphing Chart

1. **Step by Step:**
   * + 1. **Move the metal clamp to 2cm from the base of the ring stand.**
       2. **Drop one drop of blood from that height.**
       3. **Move the metal clamp to 4cm from the base of the ring stand.**
       4. **Drop one drop of blood from that height.**
       5. **Repeat steps 1-2 going up in 2cm increments.**
       6. **Measure the diameter (in mm) of each blood spatter**
       7. **Record results on graphing chart.**

**4.) Control Group:** A control within this experiment would be to be sure you use the same amount of blood in each drop.

**5.) Environmental Conditions:** Some environmental conditions within this experiment would be the temperature of the room, and any type of wind.

**6.) How to collect data:** Collect the data and record the data in a graphing chart to determine the relationship between the heights that the blood is dropped and the diameters of the blood spatters.

**7.) How many trials will be performed?:** Normally you would carry out any experiment at least three times. But in this case, because of time, we will only be conducting the experiment once.

1. **Carry out the experimental procedure**
2. **Analyze the data and observations:** Each time the height increased by 2cm, the diameter of the blood spatter increased by about 1cm.
3. **Draw Conclusions:** The higher the blood is dropped, the larger the diameter of the blood spatter.