## Prompt—Polymer Investigation

A student performed the following investigation to test four different polymer plastics for stretchability.

Procedure:

1. Take a sample of one type of plastic, and measure its length.
2. Tape the top edge of the plastic sample to a table so that it is hanging freely down the side of the table.
3. Attach a clamp to the bottom edge of the plastic sample.
4. Add weights to the clamp and allow them to hang for five minutes.
5. Remove the weights and clamp, and measure the length of the plastic types.
6. Repeat the procedure exactly for the remaining three plastic samples.
7. Perform a second trial (T2) exactly like the first trial (T1).

The student recorded the following data from the investigation.

Data Table:

|  |  |  |
| --- | --- | --- |
| **Plastic Type** | **Amount Stretched  (mm)** | |
| **T1** | **T2** |
| A | 10 | 12 |
| B | 22 | 23 |
| C | 14 | 13 |
| D | 20 | 20 |

1. Draw a conclusion based on the student’s data.
2. Describe two ways the student could have improved the experimental design and/or validity of the results.