**Thumb Wrestling**

**Problem:** What trait is best to help someone win a thumb war tournament?

**Hypothesis:**

**Materials:**

**Procedures:** To play the game, a player hooks the four fingers of their right hand to the four fingers of the other player’s right hand and clasps firmly. To start the game both students say, “One, two, three, four, I declare a thumb war.” Both students try to trap, pin, or capture the opponents thumb for three seconds to win. Females play females and males play males. Twisting your opponent’s arm, use of the opposite hand, or use of the index finger is not allowed. When the thumb is pinned, the counting should be at the same speed.

**Experiment Data**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Wrist  circumference | Thumb circumference | Thumb length |
| Your measurement |  |  |  |
| Male winner |  |  |  |
| Female winner |  |  |  |
| Class average |  |  |  |

What is the independent variable(s) in this experiment?

What is the dependent variable(s) in this experiment?

What thumb trait is the most important for winning?

What were experimental errors in this lab?

Compare your results with a few classmates, did everyone agree on the same trait?

**Analysis:** Create a bar graph with the wrist, thumb length, and thumb circumference of male winner, female winner, and the class average. The graph should be titled, axis labeled, and include a legend/key.

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