**Exploring Friction with a Spring Balance**

**Before you begin:**

Friction is a force that opposes the motion of an object. It occurs when two surfaces come into contact. In this experiment, you will explore how friction affects the movement of a block of wood using a spring balance and slotted weights.

**Fill in the Blank**: Fill in the blank with the correct words.

balance, opposes, slotted, lower, spring

1. Friction is a force that ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** the motion of objects.
2. A ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** balance measures force in Newtons (N).
3. Adding ***\_\_\_\_\_\_\_\_\_\_\_\_\_*** weights increases the force needed to move the block of wood.
4. The smoother the surface, the ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** the friction.
5. The block of wood is pulled by attaching a spring ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** to it.

Multiple choice questions:

1. What is the purpose of the spring balance in this experiment?
   * A) To measure time
   * B) To measure force
   * C) To measure temperature
   * D) To measure length
2. What do you think will happen to the friction when you add more slotted weights to the block of wood?
   * A) Friction decreases
   * B) Friction remains the same
   * C) Friction increases
   * D) Friction disappears
3. Which of the following surfaces would produce the most friction?
   * A) Ice
   * B) Sandpaper
   * C) Glass
   * D) Polished wood
4. Why is a hook used in this experiment?
   * A) To measure time
   * B) To attach the spring balance to the block
   * C) To weigh the block
   * D) To add more weight

**Variables:**

Independent (*Choose either mass or surface type):*

Dependent:

Controlled:



Materials (*include quantity, size and only what is used directly in the investigation)*

Method (*the steps taken during your investigation)*