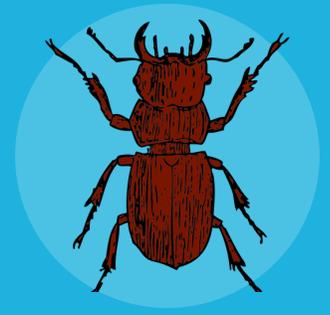


# Bess Beetle Tractor Pull



## LESSON PLAN INFORMATION

Let's Conduct an Experiment to Learn an Adaptation of the Bess Beetle - Super Strength!

Keywords: Adaptation, Hypothesis, Experiment

Remember to Handle the Bess Beetles Gently & Stop the Experiment when your Beetle Stops Pulling.

Beetles are the Strongest Creatures in the Animal Kingdom, Relative to their Size!



## MATERIALS

- Bess Beetles
- Rough Surface (paper towel, textured paper, felt)
- Dental Floss or Thin String
- 30 Paperclips
- Tape

## Bess Beetle Strength

**What is an animal adaptation?** An adaptation is a characteristic of an animal that helps it survive! Camouflage for blending in, blubber for warmth, and fins for swimming are examples of adaptations. **What adaptations do you think the bess beetle has?** Strong and slick bodies that are adapted to create tunnels and squeeze through small openings in wood are one of the adaptations of the bess beetle!

**We are going to conduct an experiment to measure the pulling power of our bess beetle.** We will determine how many paperclips the beetle will pull. Bess beetles weigh approximately 1 gram and a paper clip weighs 1 gram. To have the most accurate data, you can weigh your bess beetles & paper clips if a scale is available!

**Lets create a hypothesis - How many paper clips do you think the bess beetle will pull? Do you think the bess beetle can pull its own body weight or more?**

## Procedure

- Secure your rough surface (paper towel) to a table with tape
- Cut a long piece of floss or string (about 1 ft.), and create two slip knots on both ends. The first slip knot will act as a harness and attach to the beetle. Loosely place the slip knot around the beetle's body, behind the first set of legs (have an adult do this part & the knot does not need to be pulled tight)
- Place your beetle on the rough surface for traction. The bess beetle should be pulling the floss behind it's body as it walks
- The second slip knot is to attach the paperclips. Open one end of a paperclip and hook it onto the second knot. Observe how the beetle moves while it pulls the paperclip.
- Keep adding paperclips to the knot to see how many the beetle will pull!

## Conclusion

How many paperclips did your bess beetle pull? Was your hypothesis correct? Can the bess beetle pull more than it's body weight? How much more? Did this experiment surprise you?