Objective

By the end of this lesson, the student will be able to describe how contact and non-contact forces affect an object's motion in the physical world.

Materials and Prep

- No materials are required for this lesson.
- Prior knowledge of basic physics concepts would be helpful.

Activities

- Activity 1: Push and Pull

  Have the student observe different objects around the house and identify examples of contact forces. They can then try pushing or pulling those objects to see how the force affects their motion.

- Activity 2: Magnet Experiment

  Provide the student with a magnet and various objects made of different materials. Ask them to predict which objects will be attracted to the magnet and test their predictions by bringing the magnet close to each object. This will help them understand the concept of non-contact forces.

- Activity 3: Balloon and Static Electricity

  Show the student how rubbing a balloon against their hair or a fabric can create static electricity. Then, have them experiment with the balloon by bringing it close to different objects and observing the effects of the non-contact force.

Talking Points

- Contact forces are those that require direct physical contact between two objects. For example, when you push or pull an object, you are applying a contact force.

- Non-contact forces, on the other hand, do not require physical contact. They can act over a distance. Examples of non-contact forces include magnetism and static electricity.

- When a contact force is applied to an object, it can change its motion. For instance, pushing a toy car will make it move forward.

- Non-contact forces can also affect the motion of objects. For example, a magnet can attract certain objects towards it without any physical contact.

- It is important to understand the difference between contact and non-contact forces because they play a significant role in how objects move and interact in the physical world.