

Name: _____

Date:

Key Concept 1: Experimental investigations can be designed to test the effects of forces such as gravity, friction, or magnetism on objects.

Passage

As scientists, sometimes we need to figure out answers to our questions. We carefully plan _________ to find these answers. Experimental investigations can be designed to help us learn about many types of forces, such as _________ to test how things fall to the ground, _________ to test how surfaces rub against each other, and even magnetism to see how certain materials are ________ to each other. Think of how you might design these experimental investigations to test the types of forces. Are there different ways to answer the same question?

Illustration: Sketch an experiment testing friction.

Key Concept 2: Forces can change the movement, shape, or position of objects.

Passage

Forces change an object's movement: Push it, ______ it, push it, pull it, Speed it up or ______ it down, Inside out or outside in, ______ it over or flip it back.

Forces change an object's _____: Stretching, flattening, wrinkling, Compressing, or inflating, The _____ has been altered, There is no debating.

Illustration: Draw an object with an applied force that undergoes a change in position.

Key Concept 3: The effects of force can change depending on the amount and type of force applied to the object.

Passage

Forces are not all created equal. Faster, stronger forces tend to have _______effects on objects than lesser forces of the same type. For example, if someone slowly and ______touches a pencil point to the side of an orange, it might not even create a tiny hole. If the same pencil point is jammed into the orange ______ and firmly, it might reach all the way through, or at least pierce the ______ of the orange. Think about other forces you have seen that affect objects and those same forces that seem to show no visible effects.

Illustration: Show an object with little force applied, and show the same object with a greater force applied.