

At each station described below, draw diagrams and explain what is happening to the objects involved in each situation.

Station 1: Coin and Card Trick

- Place the card on the cup, and place the coin on top of the card.
- Quickly pull the card horizontally.
- Describe the motion of the coin, and explain why this motion occurs.

Station 2: Cart Pulling

- Using a spring scale, pull an empty cart at a constant acceleration.
- Add mass to the cart, and pull with the same acceleration.
- How do the forces applied to the two carts compare? Explain.

Station 3: Spring Scale Comparison

- Attach two spring scales to one another.
- You and a partner will each pull on one scale.
- How do the readings on the two scales compare? Explain.

Station 4: Scooter Pull

- You and a partner will each sit on a scooter.
- You will each take the opposite ends of a rope, and pull so that you move toward one another.
- How does the motion of the heavier person compare to the lighter person? Explain.

Station 4: Scooter Pull

- How does the force experienced by the heavier person compare to the force experienced by the lighter person? Explain.

Station 5: Bowling Ball vs. Basketball

- Push the bowling ball with a certain force to get it moving.
- Push the basketball with the same force.
- How does the motion of the bowling ball compare to the motion of the basketball?

Station 6: Stunt Car Driver

- Place the “stunt car driver” on top of the cart, and position it at the top of the incline.
- Release the cart from rest, and allow it to roll down the incline and strike the end stop.
- What happens to the stunt car driver after the cart strikes the stop? Explain.

	Question(s)	Answers/Observations	Newton's Law(s) That Apply
Station 1: Coin and Card Trick	Describe the motion of the coin and explain why this motion occurs.		
Station 2: Cart Pulling	How do the forces applied to the two carts compare? Explain.		

	Question(s)	Answers/Observations	Newton's Law(s) That Apply
Station 3: Spring Scale Comparison	How do the readings on the two scales compare? Explain.		
Station 4: Scooter Pull	How does the motion of the heavier person compare to the lighter person? Explain. How does the force experienced by the heavier person compare to the force experienced by the lighter person? Explain.		
Station 5: Bowling Ball vs. Basketball	How does the motion of the bowling ball compare to the motion of the basketball? Explain.		
Station 6: Stunt Car Driver	What happens to the stunt car driver after the cart strikes the stop? Explain.		