***PhET’s Net Force Guided Worksheet***

<https://phet.colorado.edu/en/simulations/forces-and-motion-basics/activities>

Before beginning, make sure to have “sum of forces, values, and speed” checked.

Start by placing the 1 small blue person on the left side of the cart. Hit Go!

1. **What is the net force on the cart?**
2. **Are the forces on the cart balance or unbalanced?**
3. **Did the cart accelerate? Why?**

Click on “**RETURN**” to reset the simulation.

Place 1 small red person on the right side of the cart. Hit Go!

1. **What is the net force on the cart?**
2. **Are the forces on the cart balance or unbalanced?**
3. **Did the cart accelerate? Why?**

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Click on the **orange circular arrow** to start all over.

Before beginning, make sure to have “sum of forces, values, and speed” checked.

Place 1 medium blue person on the left and 1 large red person on the right side. Hit Go!

1. **What is the net force on the cart?**
2. **Are the forces on the cart balance or unbalanced?**
3. **Did the cart accelerate? Why?**

Click on “**RETURN**” to reset the simulation.

Hit “**GO**”, but hit “**PAUSE**” after 5 seconds.

1. **If you add 1 large blue person to the left side, predict what will happen. (Be specific)**

Add 1 large blue person and check your prediction.

1. **Was your prediction correct or incorrect? If it was incorrect, please write down what really occurred.**
2. **What is the net force of the cart?**

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Click on the **orange circular arrow** to start all over.

Before beginning, make sure to have “sum of forces, values, and speed” checked.

Place 1 small blue person on the left side.

Hit “**GO**”, but hit “**PAUSE**” after 5 seconds.

1. **Predict what will happen if you add 1 small red person on the right side.**

Add 1 small red person and check your prediction.

1. **Was your prediction correct or incorrect? If it was incorrect, please write down what really occurred.**
2. **Does balance forces mean not moving? Can an object still move, but have balance forces acting on it?**