

## Physics Remote Learning Packet

*There is no need to submit this packet at the end of the week. Enjoy your summer break!*

### **Week 9: May 25-29, 2020**

**Course:** 11 Physics

**Teacher:** Miss Weisse [natalie.weisse@greatheartsirving.org](mailto:natalie.weisse@greatheartsirving.org)

### **Monday, May 25**

*Happy Memorial Day! No School! Relax and have fun!*

### **Tuesday, May 26 - Friday May 29**

You never had the pleasure of performing a conservation of momentum experiment; the type of experiment in which you have objects crash into each other. To correct this injustice, for your last week's work, complete the labs below! No writeup necessary! Enjoy! (I think the second procedure is particularly enjoyable.)

#### *Conservation of Momentum Lab*

- **Materials:** Objects with free-moving wheels (not attached to a motor) *or* balls of varying sizes *and* possibly a water balloon.
- **General Procedure 1:** Create a collision using two objects on wheels or two balls (of the same or different size and mass). **Notice how the *motion and direction* of the two objects change.**

Here are some possible scenarios, each can :

- ◆ Head-on collision with object facing each other
    - One object still and the other is moving *OR* both objects are moving
  - ◆ One object colliding with the other from behind
    - One object still and the other is moving *OR* both objects are moving
  - ◆ Objects are both moving but traveling at some angle from each other
- **General Procedure 2:** Choose two or more balls (a water balloon can be used as one of the balls). Drop each ball from the same height and notice how high each bounces – they will not all bounce the same height. Think about where the momentum is going. Once you've observed each ball individually, stack two or more balls on top of each other, and drop the stack from the same height. Observe how high each ball bounces now. Try to explain!
  - [Video Explanation of Procedure 2](#)

*Have a wonderful, wonderful summer!  
I miss you all dearly, and eagerly look forward  
to chatting with you again next year!*