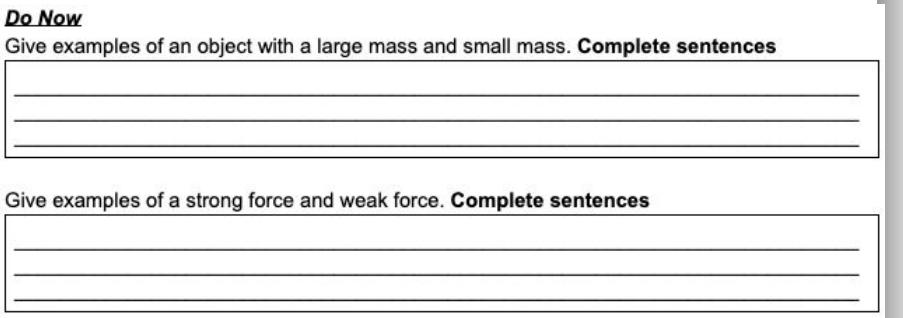
# 8th Science: Amplify Unit 1 Lesson 2.3 Change in Velocity

Mr. Sumner

Sept 13, 2019

# Do Now

- Expectations, **ALL SILENT (VL = 0)**
  - Grab packet from green bin
  - Go to assigned seat
  - Put backpack on desk hook
  - Work on ***Do Now*** questions



***Do Now***

Give examples of an object with a large mass and small mass. **Complete sentences**

Give examples of a strong force and weak force. **Complete sentences**

# Do Now: Turn and Talk


- Topic:

***Do Now***

Give examples of an object with a large mass and small mass. **Complete sentences**

_____
_____
_____

Give examples of a strong force and weak force. **Complete sentences**

_____
_____
_____

- Expectations
  - ***Turn your shoulders to partner***
  - Make eye contact
  - Stay on topic!
  - Shorter name goes first!

  ****Cold calling 2+ for share out after****

# Today's Objective

- I can use my understanding of the relationship between mass and force to predict the change in velocity of two objects.

*****FIRST SCIENCE TEST NEXT FRIDAY*****

**Last day for late work (1.2, 1.3, 1.4) next Weds.**

# Today's Schedule

1. Change in Velocity
2. Prediction
3. Peer Review
4. Google Forum
5. Class Review

# Vocabulary

Mass

- How much matter (stuff) is inside an object
- Mass never changes but weight can (like on the moon)

# Vocabulary

- Force
  - A push or pull upon an object


# Vocabulary

- Change in velocity
  - How much the velocity of an object has sped up, slowed down, and/or changed direction
  - Example: If a car slowed down from 60 mph to 40 mph then there was a change in velocity of 20 mph

# Change in Velocity: Question 1

- Work with table to find the change in velocity for both Object A and B
- VL = 1.5, **cold calling after**


Object A was moving at 6 mph to the right then changed direction to 2 mph left after a force was applied. Object B was moving at 10 mph to the right then slowed down to 6 mph right after a force was applied. What would the change in velocity of each object be?

| ***Object A*** | ***Object B*** |
| --- | --- |
| | |

# Change in Velocity: Question 1

- Share out

Object A was moving at 6 mph to the right then changed direction to 2 mph left after a force was applied. Object B was moving at 10 mph to the right then slowed down to 6 mph right after a force was applied. What would the change in velocity of each object be?

| ***Object A*** | ***Object B*** |
| --- | --- |
| | |

# Change in Velocity: Question 2

- VL = 0
- **Cold calling after**


If I wanted an object to be able to change velocity quickly, would I want it to have a heavier or lighter mass and why? **Complete sentences**

_____

_____

_____

# Turn and Talk


- Topic:

  If I wanted an object to be able to change velocity quickly, would I want it to have a heavier or lighter mass and why? **Complete sentences**

  _____

  _____

  _____

- Expectations
  - ***Turn your shoulders to partner***
  - Make eye contact
  - Stay on topic!
  - Shorter name goes first!

  ***Cold calling 2+ for share out after***

# Change in Velocity: Question 3

- VL = 0
- **Cold calling after**


If object A had a large mass and object B had a small mass and both had the same size force applied, which would have the larger change in velocity and why? **Complete sentences**

_____

_____

_____

# Turn and Talk


- Topic:

If object A had a large mass and object B had a small mass and both had the same size force applied, which would have the larger change in velocity and why? **Complete sentences**

_____

_____

_____

- Expectations
  - ***Turn your shoulders to partner***
  - Make eye contact
  - Stay on topic!
  - Shorter name goes first!

  ****Cold calling 2+ for share out after****

# Criteria for a 4

- Here is the rubric for your exit ticket
  - What you need to get a 4! (on back use it)

| Criteria | Did they meet? Yes or No |
|---|---|
| Student picked the correct object | |
| Student justified their answer (gave a reason) using scientific evidence | |
| Student wrote in complete sentence(s) and used proper grammar | |

# Exit Ticket, Prediction: Mass and Change in Velocity

1) Which object will have a greater change in velocity if the same force is applied and why?
   - Semi truck or small car?

2) Which object will have a greater change in velocity if the same force is applied and why?
   - Bowling ball or tennis ball?


- **Answering independently at VL = 0 for next 5 min**

# Peer Review


- Use the rubric to grade your partner from 1 - 4
  - Will not be there actual grade so be honest!!
  - Picking a few to share with the class after

Review Question #1

| Criteria | Did they meet? Yes or No |
|---|---|
| Student picked the correct object | |
| Student justified their answer (gave a reason) using scientific evidence | |
| Student wrote in complete sentence(s) and used proper grammar | |

What grade would you give your peer and why?

_____
_____
_____
_____

# Relationship: Mass and Change in Velocity

Q: What is the relationship between mass and the change in velocity? If something has more mass is it easier or harder to change its velocity than an object with less mass? Explain the relationship and give an example.

- **Criteria for a 4**

| Criteria | Did they meet? Yes or No |
|---|---|
| Student explained the relationship accurately | |
| Student gave an example that matches the relationship they explained | |
| Student wrote in complete sentence(s) and used proper grammar | |

# Relationship: Mass and Change in Velocity

- **ON MY GO**
  - Go to mistersumner.weebly.com
  - Click on 4) Google Forum LINK Relationship: Mass and the Change in Velocity
  - Answer in google forum, will display answers!

| Criteria | Did they meet? Yes or No |
|---|---|
| Student explained the relationship accurately | |
| Student gave an example that matches the relationship they explained | |
| Student wrote in complete sentence(s) and used proper grammar | |

# Google Forum Review

- With your table partner
  - What do you think this answer earned (1-4)?
  - Be prepared to share your answer

| Criteria | Did they meet? Yes or No |
|---|---|
| Student explained the relationship accurately | |
| Student gave an example that matches the relationship they explained | |
| Student wrote in complete sentence(s) and used proper grammar | |

# 2 +'s and 1 Δ

| +'s | Δ |
| --- | --- |
| | |