Physics 112
Monday, December 18/17

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1. Return -> FA: $W = \Delta E_g$

2. Answers:
    Worksheet - Types of Energy and Work-Energy Theorems

3. FA - Elastic Potential Energy

4. U3-S4 - Systems and Conservation of Energy

5. Systems

6. The Law of Conservation of Energy

7. Examples - Conservation of Energy Problems - To Be Continued

8. Demo - Popsicle Chain Reaction

9. Worksheets

10. SA - U3: S2&3 -> Thursday, Dec. 21/17

FA ->   W =$_\Delta$ E$_g$ Dec. 15/17

On Planet X a 0.50 kg space rock falls a distance of 2.5 meters and
loses 20 J of energy. What is the magnitude of the acceleration due
to gravity on Planet X?

$h_i = 2.5\,m$ ▭

$\Delta E = -20\,J$

$m = 0.50\,Kg$

$h_f = 0m$ ↓ ref. level → $E_{g_f} = 0J$, $h_f = 0m$

$\Delta E_g = E_{g_f} - E_{g_i}$
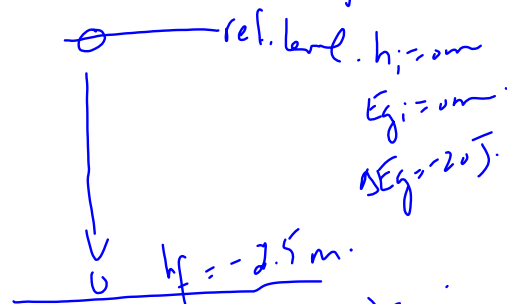
$\Delta E_g = --mgh_i$

$g = \dfrac{\Delta E_g}{-mh_i}$

$g = \dfrac{-20}{-(0.50)(2.5)}$ ▱ #8

$g = 16\,m/s^2$

〜〜 The magnitude of the
acc. due to gravity is 16m/s².

—○——— ref. level. $h_i = 0m$

$E_{g_i} = 0m$

$\Delta E_g = -20\,J$

↓ $h_f = -2.5\,m$.

$\Delta E_g = E_{g_f} - E_{g_i}$

$\Delta E_g = mgh_f$

$g = \dfrac{\Delta E_g}{m h_f}$

$g = \dfrac{-20\,J}{(0.50)(-2.5)}$

$g = 16m/s^2$.

_____

$W = -20\,J$ ⟵ $W = \Delta E_g$

$mgd = E_{g_f} - E_{g_i}$

Physics 122
Monday, December 18/17

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1. SA - U3 S1: Electrostatics - <u>   Wed   </u> ⟶
                                              MC/Prob.

2. Resistance to Flow of Charge - Continue

3. Worksheet - Textbook: C15, Page 708, #16-20

4. Ohm's Law - To Be Continued

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5. Power

6. Worksheet - Textbook: C15, Page 714, #21-25

7. Worksheet - Textbook: Page 737, #40-42
                                 Page 744, #46-50

8. Series Circuits

9. VIR Chart

10. Textbook: Page 719, C15 - PP#27-31

11. Parallel Circuits

12. Textbook: Page 724, C15 - PP#32-35

13. Combination/Complex Circuits

14. Textbook: Page 728, C15 PP#36-37

Physics 122
SA - U3S1

- electrostatics

- types of charge

- transfer of charge

- charging by: friction, conduction and induction

- Law of Conservation of Electric Charge

- electrostatic force (attractive/repulsive)

- Coulomb's Law: 2 charges, 3 charges

- electric fields: diagrams - 1 source charge

                    2 source charges

                    2 charged plates

- electric field strength/intensity

- electric potential energy: E_Q , joule

- electric potential difference (voltage): V, volt

Science 10
Monday, December 18/17

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1. Optional Assignment - Graphing Characters (max 2 -20 pts each)
   - Submit before Christmas break.

2. Questions?
   Review: SA - Physics #2

3. SA - Physics #2 - Tomorrow: Tuesday, Dec. 19/17

4. Types of Physical Quantities: Scalars and Vectors - Continue

5. Direction

6. Position and Displacement

7. Video Clip and 100 Acre Wood Exercise - P5

8. Velocity

9. Calculating Velocity - P4

10. Resultant Displacement

11. Calculating Average Velocity

12. Worksheet: Constant and Average Velocity Problems

13. Position vs Time Graph

14. Worksheets: Position vs. Time Graphs

15. Velocity vs Time Graphs

16. Worksheet - Velocity vs Time Graphs

17. Acceleration

18. Comparing Directions of Velocity and Acceleration

19. Sample Problems -Acceleration

Topics - SA: Physics #2

1. Plot and label points in the four quadrants.

2. Write the coordinates of a plotted point.

3. Determine the slope of a line using:

$$m = \frac{rise}{run} \quad \text{OR} \quad m = \frac{y_2 - y_1}{x_2 - x_1}$$

4. Draw and label a distance vs. time graph.

5. Be able to determine the speed of an object from a distance vs. time graph.

6. Match a graph to a story/interpret a graph.

7. Identify the type of motion of an object (uniform motion or uniformly accelerated motion).

8. Answer questions about distance vs. time graphs.

9. Solve average speed problems. (3) ✗ not on review