***Lesson Plans for the Week of: 1/30/17 Teacher: Hough Course: Physical Science Period: 1,2,7/8***

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| Elements of  a Lesson | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| Objective/  Focus/  Essential  Question | SNOW DAY—LESS TAUGHT ON TUESDAY  PS.1i-k,m-n;10a  Investigate the relationship between an object’s motion and a distance-time graph (at constant acceleration)  Interpret d vs t graph | TAUGHT ON WEDNESDAY  PS. 1i-k,m-n ;10a  Finish work from previous day | TAUGHT ON THURSDAY  PS.10a  --recognize that acceleration occurs when an object’s speed or direction changes  --Interpret motion map for acc. | TAUGHT ON THURSDAY—MERGED WITH PREVIOUS LESSON  PS.1i,m;10a  --Interpret a distance vs time graph to determine if an object is accelerating | PS.1f,i,j  ~~6.8a,b~~  ~~Review for SOL test:~~  ~~Review planets of the solar system and their relative distances~~  Make a graph of data that is in a data table |
| Lesson/Act.  Type of Presentation | Bellwork: calculate the speed of a given object  Return work; go over some items  Whole group:  Explain the beginnings of the Moving Man Phet simulation; demonstrate how it works and what the initial instructions mean  Individual:  Students work through Moving Man simulation to investigate how object’s motion is shown on d vs t graph  After students are finished with guided worksheet, they then do a final evaluation worksheet that alternates using the computer and not using the computer | Whole group:  Complete previous day’s activity investigating the relationship between motion and d vs t graph (see previous day’s plan)  Whole group:  a) Introduce the idea of motion map  b) qualitatively show the difference between the motion map for a fast object and that of a slow object | Individual:  Bellwork: Interpret motion map where the arrows are not constant length  Whole group:  a) Use motion map to introduce the idea of acceleration  b) define acceleration  c) emphasize that “changing velocity” means changing speed OR changing direction—thus objects moving in a circle are accelerating, even if they are moving at constant speed  c) provide examples and have students identify them as acceleration or not  d) review the motion map of the accelerating object  Individual:  e) Bellwork to identify whether given examples illustrate acceleration or not | Whole group:  Utilize Moving Man Phet simulation to contrast how the graph looks when an object is going at a constant speed and how it looks when an object is accelerating  Remainder of day: catch up  Individual:  Exit pass differentiating distance vs time graphs of constant speed and accelerating objects | ~~Whole group:~~  ~~Use solar system poster to review the fact that the planets revolve around the sun~~  ~~Identify the 8 planets; group them into the inner planets and the gas giants~~  Whole group:  Teacher models how to identify independent variable on a data table, then how to convert titles on data table to those on a line graph; then graph the data  Demonstrate drawing a conclusion from the graph  Individual:  Students will correctly graph data that is presently in a data table, including writing the graph and axis titles on graph correctly |
| Evaluation | Post-activity worksheet | See previous day’s lesson | Student motion maps  Acceleration exit pass | Exit Pass | Exit pass: correctly graph data, identify independent and dependent variables, and draw conclusion from graph |
| Extension/  Homework |  |  |  |  |  |
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MATERIALS:

Monday: Phet simulation <https://phet.colorado.edu/en/simulation/legacy/moving-man> plus accompanying worksheets

Tuesday: same as Monday

Wednesday: spinning object (rubber duckie?)

Thursday: Moving Man Phet simulation (same as Monday); motion maps

Friday: pre-made Planet poster, objects, rulers for comparison, mnemonic for the planets (Know locations, sizes, and names of known dwarf planets in case it comes up)