***Lesson Plans for the Week of: 2/6/17 Teacher: Hough Course: Physical Science Period: 1,2,7/8***

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| Elements ofa Lesson | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| Objective/Focus/Essential Question | PS.10b,dUnderstant Newton’s 3rd Lawgive examples of Newton’s 3rd Law | PS.1b;10b,cUnderstand that all objects pull on each other due to gravityexplain the difference between mass and weight | PS.10c,dUnderstand --direction of friction force--types of friction--recognize common examples of friction | PS.10a,b,c,dReview force for test | PS.10a-dForce Test |
| Lesson/Act.Type of Presentation | Whole group:a) Show 2 kids/ falling shelf video that was used for 1st law; ask why the shelf fell down(use the vocabulary terms contact force and noncontact forces)b) Discuss why it happens. Extend: Is it the same when one person pushes from the wall?c) Define Newton’s 3rd Lawd) Give additional examples: rocket taking off, releasing an unsealed inflated balloon, hammer and naile) review examples of Newton’s other lawsIf time permits:Student histogram interpretation | 1. bellwork: students identify unit of mass and tool for measuring force
2. have students explain why a pen drops if you let go of it; teacher extends that to remind students that gravity keeps the planets revolving around the sun and the moon revolving around the earth
3. After confirming that students recognize Jupiter as the largest planet (317x the mass of Earth, 2.5x the surface gravity of Earth), ask if a pen would fall if dropped on Jupiter. Faster or slower? (Alternative: moon gravity 1/6 that of Earth
4. Ask if a person has the same mass on Earth as on Jupiter
5. Define weight as the force of gravity on an object; has units of newtons because it is a force
6. Emphasize that weight differs on different planets
7. no differentiation
 | Whole group:a) bellwork: students give an example of frictionb) notes: types of friction (sliding, rolling, fluid); common examples of friction (air resistance, wheels on surface [ice vs asphalt]c) video showing how wind (air resistance, a type of fluid friction) affects a vehicle’s motiond) demonstration: Phet motion video?Individual:e) Fill in the rest of the pre-assessment | Whole group:a) Return pre-assessment, with correctionsb) go over review guide | Individual:Test about forcePre-assessment about energy |
| Evaluation | Newton’s Law examples exit pass | Student results |  |  |  |
| Extension/Homework |  | --no homework |  |  |  |
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MATERIALS:

Monday: teacher-made exit pass; YouTube 2 kids/tablecloth/falling shelf

Tuesday:

Wednesday: review guide; videos: <https://www.youtube.com/watch?v=CCGxoVxO86Q> ; <https://www.youtube.com/watch?v=rKUipxR3bDc> ; <https://www.youtube.com/watch?v=a_-mCPA_Gk0> pertinent info before 2:38; article: http://physicsbuzz.physicscentral.com/2011/02/betrayed-by-heat-sr-71-blackbird.html

Thursday: teacher-made notes; teacher-made homework worksheet; air track with 2 gliders

Friday: Mythbusters video: Phone Book Friction; teacher-made worksheet