

Grade: 10-12

Distance Learning Module 1:

Week of: 3/30

Content Area: Physics

Modified from [Unit #5 - Momentum & Impulse, Work, Energy & Power](#)

Targeted Goals from Stage 1: We are initially starting off with older material, which has similar units and ideas to what we will be moving onto next. This is to help students ease into the transition of online learning, and gain some footing with 'familiar' content for the first half of the week. The remainder of the week, students will begin on the new unit, which will include having them review notes online, which have videos attached to them. Students will be analyzing and creating models of work, when its being done on an object, and more.

Content Knowledge: Students will demonstrate Knowledge of the following:

- in order to change the energy of an object, work must be done on the object.
- kinetic and potential together are the mechanical energy energy of an object
- potential energy is stored energy and can be chemical, nuclear, elastic or gravitational
- non conservative forces can remove mechanical energy from an object and convert it to heat
- work can be positive or negative ; it can add or remove mechanical energy of an object
- the total energy of an object is conserved if only conservative forces act on the object

Vocabulary:

Momentum, impulse, work, displacement, direction of motion

Skills: Students will demonstrate the following skills:

- calculate gravitational potential energy, elastic potential energy and kinetic energy of an object
- use the conservation of energy to solve problems
- use the work energy theory to analyze objects that have friction acting on them

- apply kinematics and force principles to predict the motion of objects involving transfer of energy

Expectation: Completing of notes, participation in Zoom as possible/elsewise e-mailing or reaching out to teacher as needed, completion of UTexas

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
<p>Monday: Students will begin working towards completing the UTexas</p>	<p>UTexas</p> <p><i>Crash Course Physics Videos: (Slow down to 0.75 speed perhaps)</i></p> <p><u><i>Collisions</i></u></p> <p><i>Flipping Physics Videos:</i></p> <p><u><i>Page with all links to all of their momentum & impulse videos</i></u></p> <p><i>Khan Academy Physics Videos:</i></p> <p><u><i>Specific to Momentum Unit</i></u></p> <p><i>The Physics Classroom tutorials</i></p> <p><u><i>Momentum and its conservation page directory</i></u></p>	<p>Students completing at least a couple of problems/attempting problems on UTexas</p> <p><i>Participation in Zoom classroom learning as available and needed</i></p>
<p>Tuesday: Students will continue working on the review problems, but will be requested to send a</p>	<p>UTexas UTexas</p>	<p><i>Participation in Zoom classroom learning as available and needed</i></p>

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
<p>problem that they're struggling with in via a Google Form</p>	<p><i>Crash Course Physics Videos: (Slow down to 0.75 speed perhaps)</i></p> <p><u><i>Collisions</i></u></p> <p><i>Flipping Physics Videos:</i></p> <p><u><i>Page with all links to all of their momentum & impulse videos</i></u></p> <p><i>Khan Academy Physics Videos:</i></p> <p><u><i>Specific to Momentum Unit</i></u></p> <p><i>The Physics Classroom tutorials</i></p> <p><u><i>Momentum and its conservation page directory</i></u></p>	<p><i>Greater than 75 % earned on University of Texas on-line Homework and Assessment (accounts required)</i></p> <p><u><i>Quest Assessment</i></u></p>
<p>Wednesday: If students are still struggling with review problems, they need to alert the teacher to re-open the UTexas for them and work with them. Students should be moving on to the next unit: Work, Energy, and Power. Students are expected to begin working on the "Work" portion of the notes.</p>	<p>UTexas</p> <p><i>Crash Course Physics Videos:</i></p> <p><u><i>Work, energy, and power video</i></u></p> <p><i>Flipping Physics Videos:</i></p> <p><u><i>Work, energy, and power page directory</i></u></p> <p><i>Khan Academy Physics Videos:</i></p>	

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
	<u>Work and Energy unit</u> <i>The Physics Classroom tutorials</i> <u>Work, energy, and power page directory</u>	
Thursday: Students will begin transitioning to the next unit	UTexas <i>Crash Course Physics Videos:</i> <u>Work, energy, and power video</u> <i>Flipping Physics Videos:</i> <u>Work, energy, and power page directory</u> <i>Khan Academy Physics Videos:</i> <u>Work and Energy unit</u> <i>The Physics Classroom tutorials</i> <u>Work, energy, and power page directory</u>	
Friday: Same as above	UTexas <i>Crash Course Physics Videos:</i> <u>Work, energy, and power video</u> <i>Flipping Physics Videos:</i>	<i>Greater than 75 % earned on University of Texas on-line Homework and Assessment (accounts required)</i>

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
	<u>Work, energy, and power page directory</u> Khan Academy Physics Videos: <u>Work and Energy unit</u> The Physics Classroom tutorials <u>Work, energy, and power page directory</u>	

Week criteria for success (attach student checklists or rubrics): *Greater than 75 % earned on University of Texas on-line Homework and Assessment (accounts required), checking in with teacher regarding Zoom/e-mail as needed*

Supportive resources and tutorials for the week (plans for re-teaching): Khan Academy, PhET, Physics Classroom Tutorials, Flipping Physics videos, teacher made videos, Crash course physics videos, textbook