

Distance Learning Plan-  
9th grade Physical Science

**Office Hours-** I will be available electronically 8-10am and 1-3pm checking email and google classroom- all inquiries will be responded to by 3pm each day Mon- Friday. Inquiries made after 3pm will be responded to the following day.

These are the same assignments posted on March 16th. If you did not work on them, complete the assignments and turn them into Google Classroom by Friday, April 3 at the end of the day.

**To turn in the document, you will find the assignment posted in Google Classroom. Please upload your document to submit the assignment.**

Don't forget to log your attendance each day with Mrs. Halama-- Have you not done it? You can use the link here:

<https://forms.gle/iCbmwRY7PiFukv4B9>

9th Grade Independent Learning Project Guidelines:

**Topic 1-** Simple Machines (Levers)

**Resource-** [Ch.14 Work, Power, and Machines.pptx \(Slideshow\)](#)

Video: <https://www.youtube.com/watch?v=n7dUtwejenQ>

[Levers.pdf](#)

**Task-** Go through the Powerpoint Slides available on Google Classroom. Copy the notes from slides 31-39 into your notebook.

Watch the video and answer the following questions:

1. What happened as the load (object being lifted) was moved closer to the fulcrum?
2. What class of lever is represented in this video?
3. What tool was given as an example of this type of lever?
4. How might you modify this tool to make it easier to transport a heavy load?

## **Topic 2-** Mechanical Advantage of Levers

**Resource-** [Mechanical Advantage of Levers \(Word doc\)](#)

**Task-** Review the mechanical advantage document. Answer the questions on the document.

Additional assistance with this topic will be provided on Tuesday from 1-2pm on [Zoom](#).

## **Topic 3-** Wheel/Axle and Inclined Plane

**Resource-** [Ch. 14 Work, Power, and Machines.pptx \(Slideshow\)](#)

Inclined Plane Video: [https://www.youtube.com/watch?v=5c4J\\_PW9wsg](https://www.youtube.com/watch?v=5c4J_PW9wsg)

Wheel/Axle Video: <https://www.youtube.com/watch?v=vYoWCn5r3rQ>

**Task-** Go through the Powerpoint Slides available on Google Classroom. Copy the notes from slides 40-42 into your notebook.

Watch the videos and answer the following questions:

Inclined Plane

1. Based on the observations made in the video, how would you alter an inclined plane in order to reduce the amount of force needed to move an object?
2. Give an example of how you may use an inclined plane and not realize it.
3. An inclined plane that is rotated around an object is referred to as what?

Wheel Axle

1. What is the difference between a wheel and axle?
2. What problem did using logs under the bricks pose for the example of a solution to the building of the pyramids?

## **Topic 4-** Wheel/Axle and Inclined Plane Mechanical Advantage

**Resource-** [Mechanical Advantage of Wheel/Axle and Inclined Planes \(Word doc\)](#)

**Task-** Review the mechanical advantage document. Answer the questions on the document.

Additional assistance with this topic will be provided on Thursday from 1-2pm on [Zoom](#).

## **Topic 5-** Wedge, Pulleys, and Screws

**Resource-** [Ch.14 Work, Power, and Machines.pptx \(Slideshow\)](#)

Wedge Video: <https://www.youtube.com/watch?v=No5Df2231YA>

Pulley Video: <https://www.youtube.com/watch?v=r3Ru1zZjvug>

Screw Video: <https://www.youtube.com/watch?v=4oPPQpF7bHY>

**Task-** Go through the Powerpoint Slides available on Google Classroom.  
Copy the notes from slides 43-48 into your notebook.

Watch the videos and answer the following questions:

Wedge:

1. Wedges can be useful in many circumstances. Give 2-3 examples of wedges.
2. Predict what might make a better wedge-- wide or narrow? Give a rationale to support your prediction.

Pulley:

1. How does the number of pulleys affect how easy it is to lift the weight?
2. Given the readings from the spring scale, how does the number of pulleys or the number of ropes supporting the weight mean affect the mechanical advantage?