



Name: _____

Fundamentals of Chemistry & Physics: **Week 22 HOMEWORK CHECKLIST**

ALL GRADES

Due on March 19th

*******Checklist must be signed by a parent to confirm that the homework was completed throughout the week to receive homework credit. Ten points will be taken off if the homework is checked off but is missing a signature.**

_____ **(20 points) Quarter 3 Test**

_____ **Study for your test.** Look at pages 56-88 in your lab notebook paying attention to the definitions and review pages. Be familiar with the different types of forces and the simple machines. You can also review using the flashcards or Jeopardy-style review game with the Factile link posted on the class webpage. A pdf of the Factile questions will also be posted.

_____ **Take the Quarter 3 Test.** After taking the time to study, take your Quarter 3 test out of the envelope and set the envelope aside. Have a parent proctor (watch you) while you take your test. **HAVING YOUR TEST PROCTORED IS REQUIRED AND THEY MUST SIGN YOUR TEST FOR IT TO BE ACCEPTED.** You are not allowed to use notes or reading lessons for this test. There is an extra credit section that does not count against you if you get an answer wrong so don't skip over this section! When you have completed the test AND your parent has signed it, put it back in the envelope and seal it shut with the adhesive strip. Put it in your binder so it is ready to turn in when we return from break.

_____ **(10 points) Simple Machines Kit**

You were given a paper bag with various parts to construct a few simple machines: pulley, wheel/axle, lever, inclined plane (depending on how you set them up). Spend at least 10-15 minutes constructing two simple machines to lift or move an object. Fill the bucket with something of weight and see if you can construct a pulley or lever to move the load. Challenge yourself to construct all 3 classes of levers using page 83 in your lab notebook as reference. Another challenge would be to add your own household items and see if you can move the filled bucket from one place to another using a variety of simple machines (up an inclined plane to a pulley to a lever to a wheel/axle...). This is an open-ended exercise so have fun applying what you have learned. If you come up with something really cool and want to share it, please send me a video or pictures by text or email. I would love to see it!

_____ **(10 points) Learning About Rube Goldberg**

Rube Goldberg was a famous cartoon artist, but he did go to school for engineering and understood how simple machines work! You could say he was a cartoon engineer! Simple machines are supposed to increase mechanical advantage to make work easier, BUT Rube Goldberg was famous for how he designed machines to make simple tasks extremely complicated. Why? For fun and entertainment! Watch the following video to learn more about him and how his legacy still lives on today: **Rube Goldberg-The Father of Inventions (CBS Sunday Morning):** <https://www.youtube.com/watch?v=40AO2RdEixs>

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_____ **(EXTRA CREDIT OPPORTUNITY) Design and Construct a Rube Goldberg Machine**

To earn **UP TO TEN extra credit homework points**, design and construct your own Rube Goldberg machine. Use the parts in your simple machine kit in your design. The goal of your machine is to accomplish a simple task but in a very complicated way. Start with the task you want to achieve such as turn on a light switch (or whatever you wish, just needs to be very simple). When you know what task you want to accomplish, begin with the end and build it backwards and see how many steps, forces, and simple machines you can add. Points will be awarded according to the effort, creativity, and number of steps in the machine's design. **A video of your machine must be emailed or texted to me in order to receive credit.** You can watch the video below for a breakdown of how to construct a Rube Goldberg machine OR **look up other videos with a parent's supervision.**

The Coolest Machine Ever! (SciShowKids): <https://www.youtube.com/watch?v=5mGn6mrlrfw&t=9s>

_____ **(5 points) Weekly Housekeeping!**

Make sure your test AND your current checklist are signed and in the front of your binder ready to turn in when we return. File all of your graded and returned papers where they go and check your supplies to make sure you have several working glue sticks, sharpened pencils, and your colored Papermate Flair markers (or similar). If you are behind on any of your lab notebook (Newton, Galileo, and simple machines pages), now is the time to get caught up. I decided to let you keep the lab notebooks over the break to use for studying for the test AND for catching up if needed.

_____ **(5 points) Get your checklist done and then Have a Safe AND Wonderfully Relaxing Spring break!! See you on the 19th!**

Parent Signature: _____

Homework Completion Grade _____/50 points