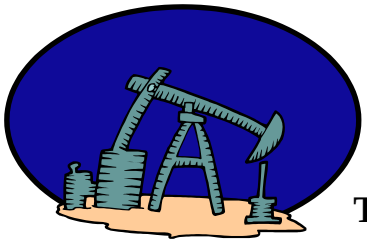

From: http://gtdifferentiation.sites.fcps.org/Science
Student's Name: _____

Grade 8 Science Learning Contract: Term 1- " Energy" Module

Due Dates:

- Teacher-required alternative activities will be due _____.
- Student-selected enrichment investigation will be due _____.

Indicators:

Content:

- *50.10 Compare how different parts of the world have varying amounts and types of natural resources.*
- *60.08 Describe how energy changes from one form to another form.*
- *Other content indicators met through these activities: 50.11, 50.13, 60.06, 60.08; 60.07, 60.16, 60.18*

Process:

- *10.05 Use observations, research and select appropriate scientific information to form predictions and hypotheses.*
- *20.07 Modify ideas based on new information from developmentally appropriate readings, data and ideas of others.*

Expectations:

- **Student Work:**
  - Participate in whole group instruction when indicated by pre-assessment.
  - Complete alternative learning activities when previous mastery has been demonstrated.
  - Answer all written responses in complete sentences and support with examples.
  - Seek assistance from teacher, as needed, when direct instruction is not being provided.
- **Student Behavior:**
  - Remain on task at all times.
  - Work quietly at all times.
  - Work independently, unless otherwise indicated on lab.

Learning Activities:

- See the chart on the back of this contract for the *required* learning activities based on the section(s) where you have demonstrated "mastery."
- Select two of the alternative activities from the approved list below the chart **after** you complete the *required* learning activities.

Assessment:

For this unit, your successful completion of the indicated alternative learning activities will replace the grades for class work and/or homework.

I, _____, have read and understand the *Contract Guidelines* for the

Term 1 "Energy " Module Learning Contract. I agree to the:

- *expectations of my work and behavior.*
- *requirements of the alternative learning activities and due dates.*

I accept the responsibilities of working on the enrichment activities as outlined in the contract.

Student Signature: _____ Date: _____

Parent Signature: _____ **Teacher Signature: _____**

Return Signed Contract By: _____

Parent Signature: _____ **Teacher Signature: _____**

Return Signed Contract By: _____

Science 8 Learning Contract - Energy Module
Required Learning Activities

- **Required by the Teacher:**

Since you have demonstrated mastery on:	As an alternative activity, instead of participating in whole group instruction, you should complete the following by_____:
_____Submodule 1 **Energy and the Law**	_____ **Websearch: Photosynthesis** _____ Read through at least 10 links on this website: http://www.ftexploring.com/photosyn/photosynth.html _____ Choose one aspect of photosynthesis to research in depth, and create a learning tool for others to learn this new information _____ Present new concepts to the class in a creative way, using the learning tool you created
_____Submodule 2 **Potential and Kinetic Energy**	_____ **Lab*:* Going the Distance** Share findings with one another; seek consensus
_____Submodule 4 **Alternative Energy Resources**	Complete ***both***: _____ **Activity: Problems and Solutions** (Read and complete independently) AND _____ **Activity: United States Energy Use** (Complete independently, perform a comparative analysis as a group, and present findings to the class.)

More ⟶

Science 8 Learning Contract - Energy Module
Self-Selected Learning Activities

- **Selected by the Student:**

When you have completed the required alternative activities, select ***two*** of the enrichment investigations listed below—one from Group A, and one from Group B. Remember, you should complete your enrichment investigations by_____. After you read through the requirements of the projects, "check off" your preferred items.

Group A

_____ **Comic Strip**: Create a comic strip that illustrates 5 conversions of energy from one form to another, and one state to another.

_____ **Game**: Design and build a game that incorporates at least three transfers of energy. The purpose of this game is to help others understand the states of energy, the forms of energy, and conservation of energy.

_____ **Amusement Park Ride**: Design an amusement park ride that uses at least three energy state changes to thrill its riders. Label all of the changes of state that take place during your ride. Be sure you include energy to empower your ride. Submit your design in any form you choose.

_____ **Children's Book**: Write and illustrate a children's book to *explain* the different forms of energy. Make sure you include a minimum of two examples of each form.

Group B

_____ **Engine Experiment:** Perform experiment described at this link: http://www.reachoutmichigan.org/funexperiments/agesubject/lessons/newton/carengines.html

_____ **Frisbee Physics**: Perform central activity and two "Try These" described at this link: http://www.reachoutmichigan.org/funexperiments/agesubject/lessons/newton/frisbee.html

_____ **Flight Fanatic**: Learn how flight is made possible, and conduct this lab at: http://www.lessonplanspage.com/SciencePhysics-IntroToBernoullisPrinciple1012.htm

_____ **Energy Action Plan:** Read California Energy Commission's Energy Action Plan at this link: http://www.energy.ca.gov/energy_action_plan/index.html. Take notes on 10 of the most important items, and compare California's needs and factors with those of Maryland. Demonstrate your understanding of energy: Draft an outline of a plan for Maryland, based on state needs, to be forwarded to Maryland Congressional representatives.

Parent Signature: _____ **Teacher Signature:** _____

Return Signed Contract By: _____