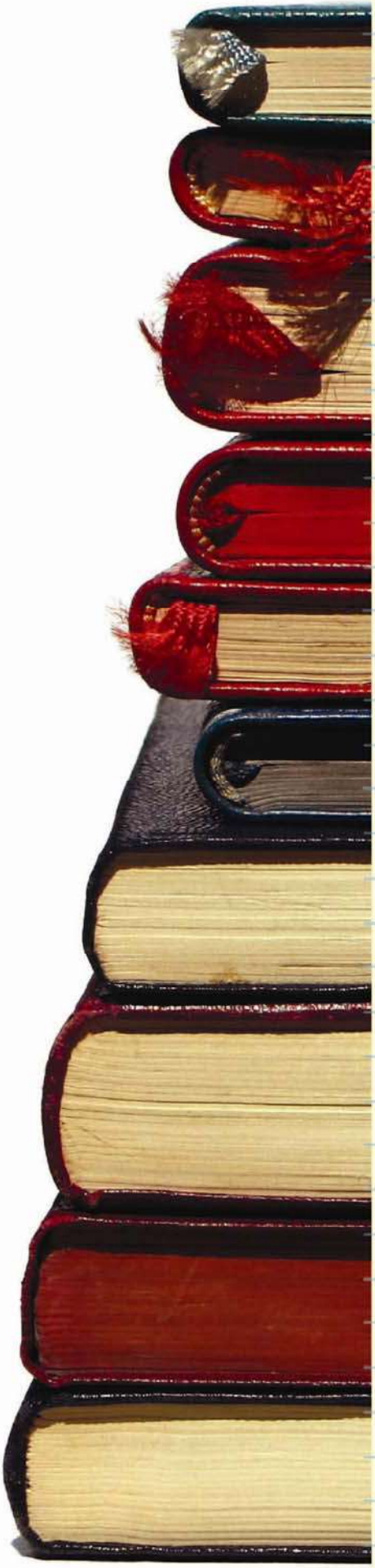


Comprehensive Curriculum

Revised 2008

Grade 6
Science

Louisiana Department of
EDUCATION

Paul G. Pastorek, State Superintendent of Education

***Unit 1, Activity 1, We're All Different*!**

Name:

1.

2.

3.

4.

5.

6.

7.

8.

Name:

1.

2.

3.

4.

5.

6.

7.

8.

Group members:

1.

2.

3.

4.

5.

6.

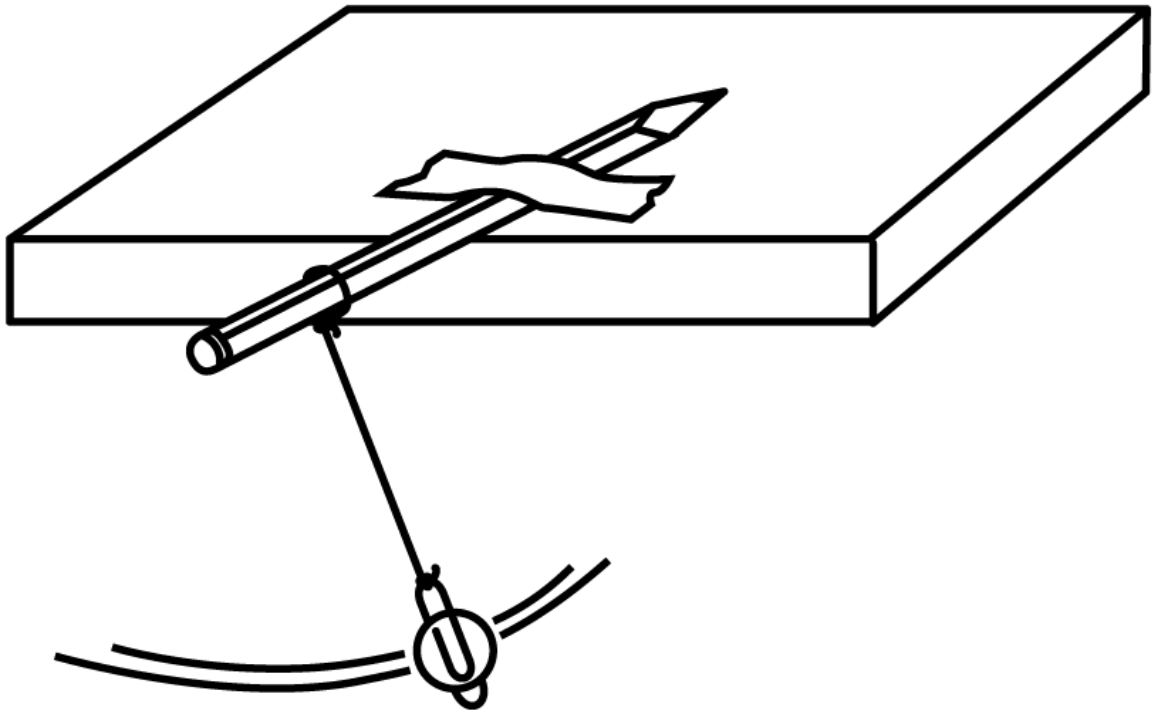
7.

8.

9.

10.

Set up the pendulum on one side of your desk.



Safety Contract

PREPARE FOR LABORATORY WORK

- Never perform unauthorized experiments.
- Keep your lab desk organized and free of apparel, books, and other clutter.
- Know how to use the eye wash station and first aid kit.

DRESS FOR LABORATORY WORK

- Tie back long hair.
- Do not wear loose sleeves, as they tend to get in the way.
- Wear shoes with tops.
- Wear lab coats or aprons during all laboratory sessions.
- Wear safety goggles during all laboratory sessions.
- Wear gloves when using chemicals that irritate or can be absorbed through skin.

AVOID CONTACT WITH CHEMICALS

- Never taste or "sniff" chemicals.
- Never draw materials into a pipette with your mouth.

AVOID HAZARDS

- Keep caps on reagent bottles. Never switch caps.
- Keep containers away from the edge of counters and desks.
- Move carefully through the lab at all times.
- Carry equipment with two hands, and ask for help when there are multiple pieces of equipment needed.

CLEAN UP

- Consult teacher for proper disposal of chemicals.
- Wash hands thoroughly following experiments.
- Leave laboratory work area clean and neat.
- Clean up spills as soon as they happen.

IN CASE OF ACCIDENT

- Report all accidents and spills immediately.
- Wash all acids and bases from your skin immediately with plenty of running water.
- If chemicals get in your eyes, wash them for at least 15 minutes with an eye wash.

I, _____, agree to: (a) Follow the teacher's instructions, (b) protect my eyes, face, hands, and body during laboratory, (c) conduct myself in a responsible manner at all times in the laboratory, and (d) abide by all of the safety regulations specified above.

Print Name _____ Signature _____Date_____

Parent's (Guardian's) Signature _____ Date _____

PROJECT MANAGER

(Keeps everyone on track to get the job done)

CLEAN UP MANAGER

(Gets everyone involved in the clean up and resetting the supplies)

MATERIALS MANAGER

(Organizes getting the supplies for the lab)

TIME KEEPER

(Keeps an eye on the time to make sure all parts of the lab are completed; in charge of the stopwatch when one is needed)

REPORTER / RECORDER

(Makes certain all data is recorded and chart is turned in. Reports the data orally, if needed)

Run a set of cards for each group.

It may be helpful to use a different color of cardstock for each set.

Always run an extra set or two!

Use the last card to set up any roles that may fit your needs

☆ READ ALL INSTRUCTIONS BEFORE BEGINNING ☆

Materials: 4 clear plastic cups fill each cup about ¾ full of the liquids [*mediums*] available; one cup must have clear water), a flashlight, three mirrors, paper (*one member draws a target on here*), science learning logs, pencils, colored pencils or crayons to document observations with colored light in your logs

Set up cups with water to test the power of light!

CUP 1 Use the cloudy water and shine the flashlight through the water. What do you observe?

CUP 2 Use clear water and shine your flashlight through the water. What does the light do?

CUP 3 Use colored water and shine the flashlight through the water. Record all observations.

CUP 4 Use a different colored water and shine the flashlight through the water. Record again.

CUP 2 AGAIN Use clear water and cover the flashlight with different colored transparent plastic. Record all observations. Now shine the colored light through the different cups.

Back to CUP 2 Place a pencil in the clear water and draw the image you see, from the point of the pencil to the eraser.

Mirror to Mirror

Have one team member hold the lit flashlight facing away from a paper target your team creates. Have other team members each hold a mirror and catch the light, bouncing it from mirror to mirror to mirror and back to the target!

When you have completed all investigations return to your desk/table and consider the following:

- What conclusion can be made about the way light travels through different mediums?
- What does light do when it hits a mirror?
- What do you think causes the change in the pencil's appearance when viewed through the water; the air?

Return all supplies to the supply area, clean up any water, return to your seat.

Can You Measure Up?

	←Qualitative Assessment→	←Quantitative Assessment→		
object	**description (color, texture, shape,…)**	**mass (gm)**	**volume (cm3)**	**density (g/cm3)**

It's All In How You Look At It!

Investigation of _____ Rubric Group ___ Science ___

(mass, weight, volume, density)

	No evidence =0	Weak evidence = 1	Good evidence = 2	Strong evidence = 3
Equipment identified				
Variables identified				
Safety considered				
Chart used				
Multiple repetitions				
Measurements carefully executed				
Investigation strengthened understanding of concept				
Directions were clear				
Presenters were organized				

Recommendations for improvement

_____

_____

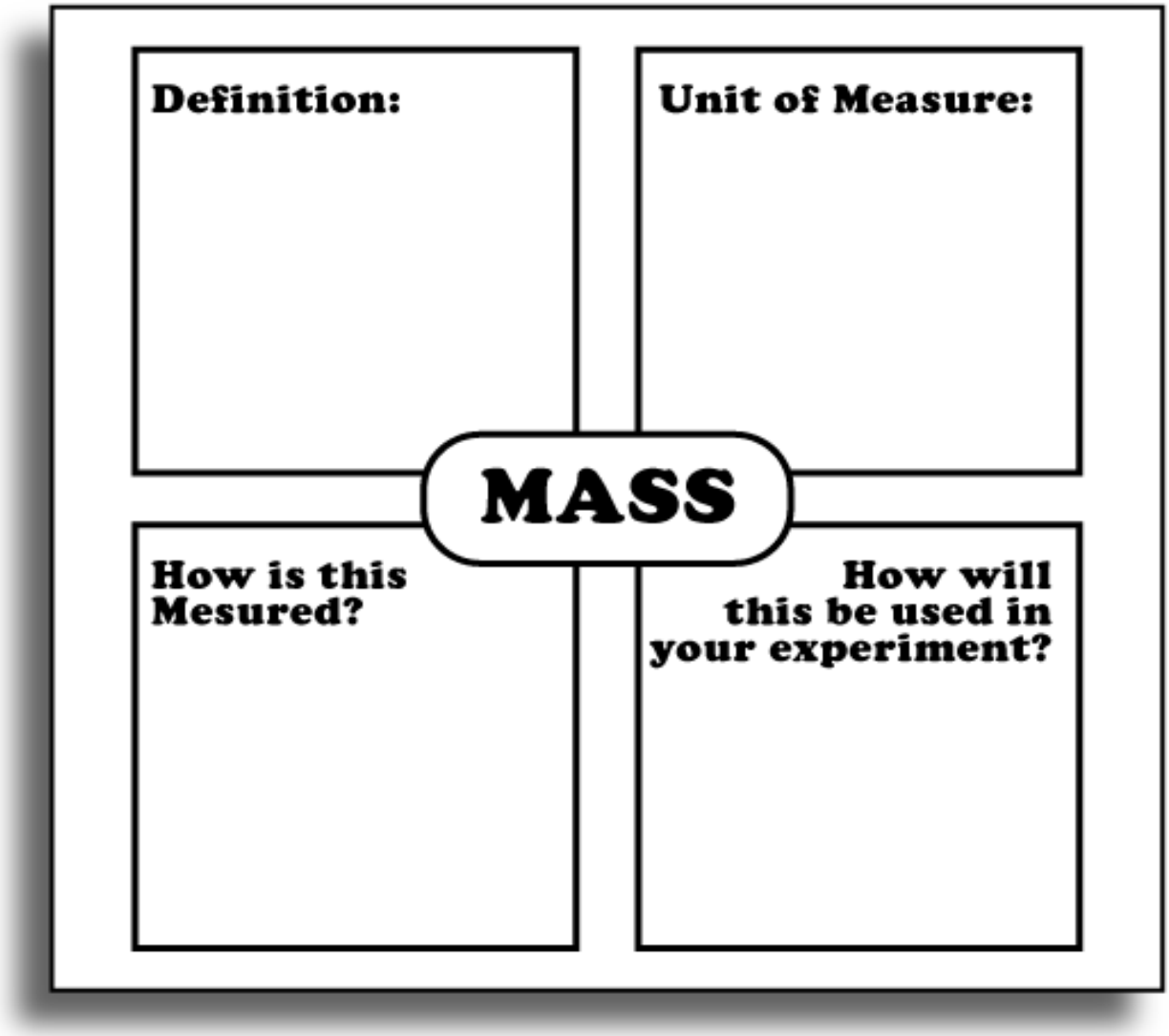
_____

_____

_____

Vocabulary Card Layout

Vocabulary Card



CHANGES

STATIONS	**New substance created (identify new substance, also)**	**Original substance altered**	**Heat produced (warm)**	**Heat absorbed (cool)**
Coffee Grind Soup				
Sandy Rocks				
Rock Candy				
Magnetic Personality				
Today's News				
Snack Time				
Volcano Juice				
First Aid				
Curds and Whey				
It's Neutral				
Steel Here				
Spritzer				

- Put a check mark in the box that best describes the result of each investigation.
- If a new substance is created, identify the new substance as a gas or precipitate.

Date_____

	Chemical Change	Physical Change	Conducts Electricity
Salt dissolved in water			
Sugar dissolved in water			
Effervescent tablet dissolved in water			

Date _____

Science _____ Group ___ Names _____

Place an X in each box that applies to each mixture.

Lab Report (2 PAGES)

Name of Investigation:

_____

Date _____ Science Period _____

Science Group _____Name of Scientist(s) _____

_____

Explain why you are doing this lab? What do you hope to find out?

_____

_____

_____

_____

What do you think the outcome of the lab will be? (prediction / hypothesis)

_____

_____

_____

_____

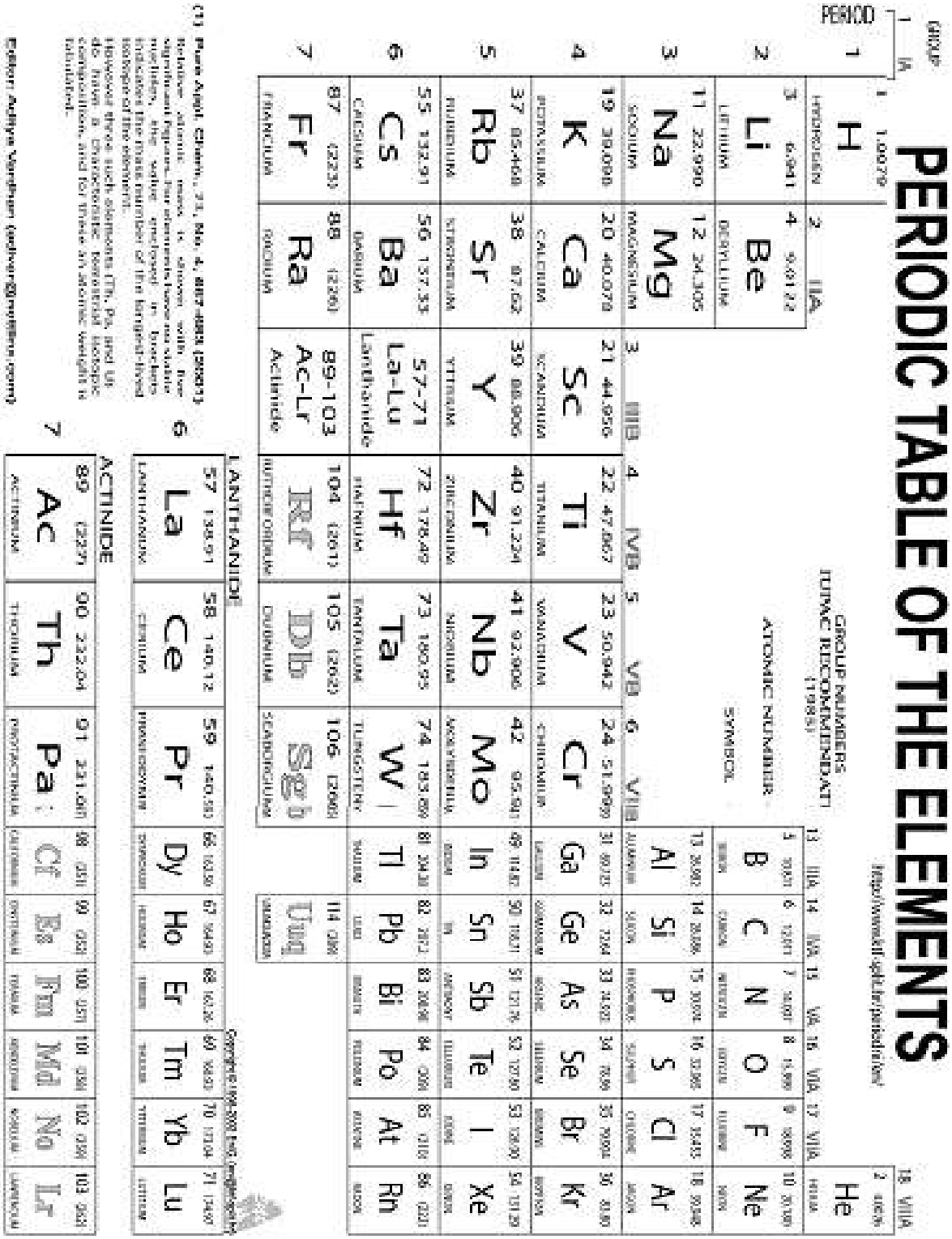
List all materials you will need:

List and number ALL steps you will take to complete the investigation. Use another sheet of paper, if needed. Write all steps thoroughly enough for anyone to follow.

Lab Report (2 PAGES)

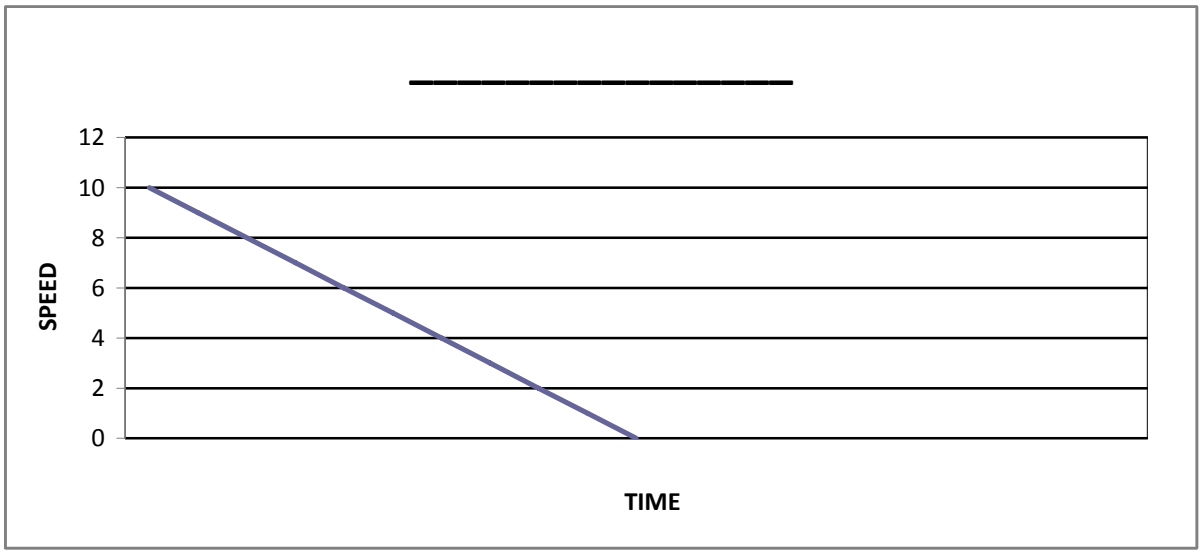
Use this section to create a chart for data recording, to record measurements, or to write observations you made during the investigation.

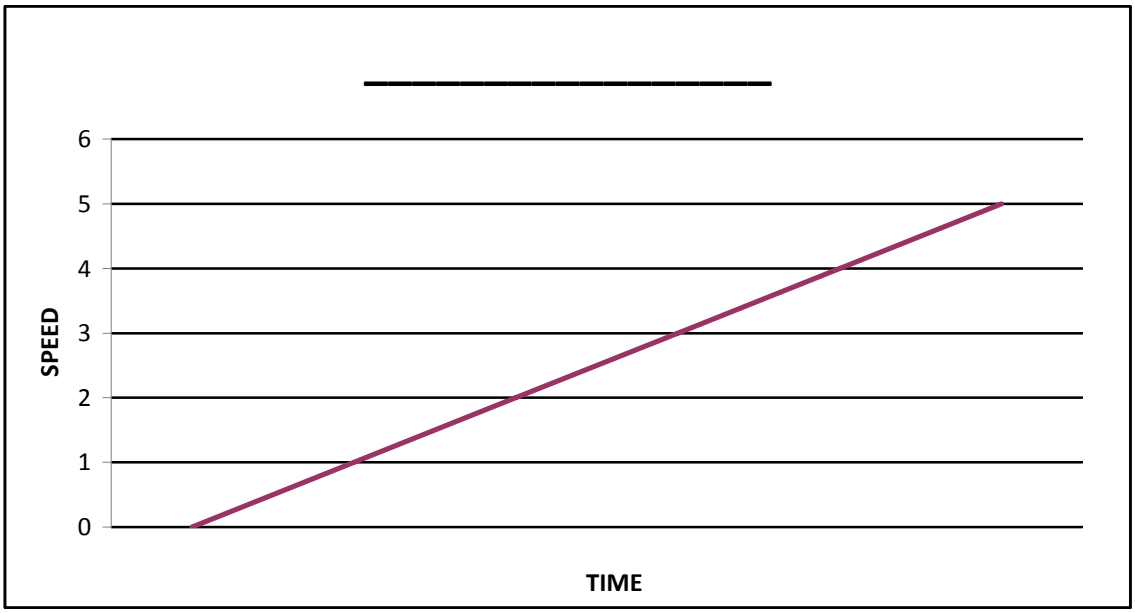
Write a paragraph explaining the outcome of your investigation. Do NOT describe what you did, just what the outcomes were. Use this place to also explain what you learned, if you were surprised by your outcome and why, and if you need to do another lab to investigate further.

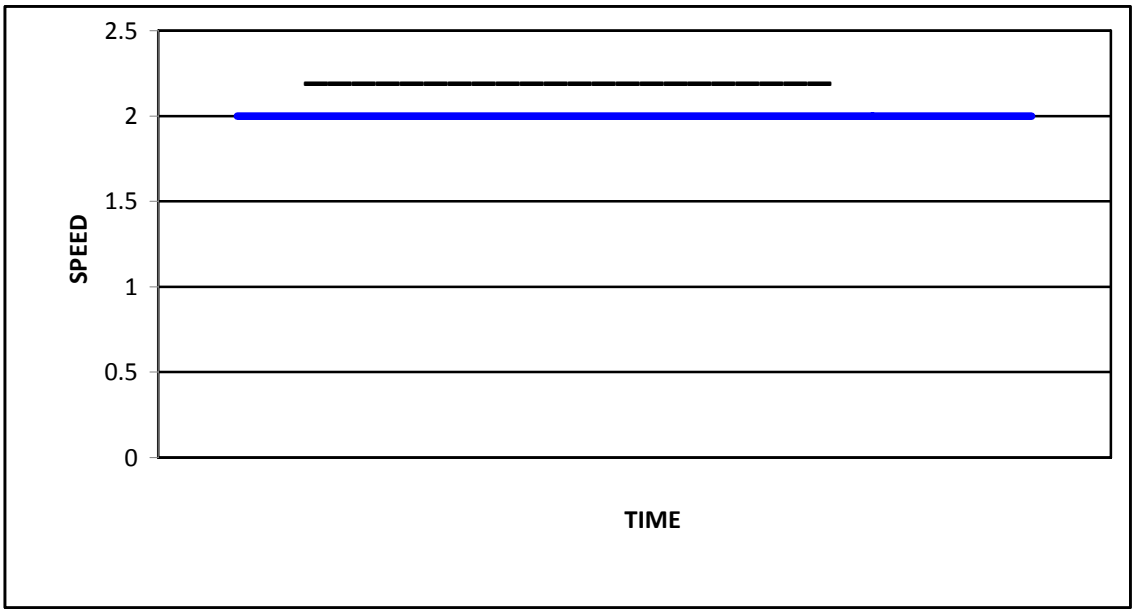

PERIODIC TABLE OF THE ELEMENTS
http://www.ill.fr/dif/periodic/en/
GROUP
PERIOD
GROUP NUMBERS
IUPAC RECOMMENDATI
(1985)
ATOMIC NUMBER
SYMBOL
1 H
2 He
3 Li
4 Be
5 B
6 C
7 N
8 O
9 F
10 Ne
11 Na
12 Mg
13 Al
14 Si
15 P
16 S
17 Cl
18 Ar
19 K
20 Ca
21 Sc
22 Ti
23 V
24 Cr
25 Mn
26 Fe
27 Co
28 Ni
29 Cu
30 Zn
31 Ga
32 Ge
33 As
34 Se
35 Br
36 Kr
37 Rb
38 Sr
39 Y
40 Zr
41 Nb
42 Mo
43 Tc
44 Ru
45 Rh
46 Pd
47 Ag
48 Cd
49 In
50 Sn
51 Sb
52 Te
53 I
54 Xe
55 Cs
56 Ba
57-71 La-Lu Lanthanide
72 Hf
73 Ta
74 W
75 Re
76 Os
77 Ir
78 Pt
79 Au
80 Hg
81 Tl
82 Pb
83 Bi
84 Po
85 At
86 Rn
87 Fr
88 Ra
89-103 Ac-Lr Actinide
104 Rf
105 Db
106 Sg
107 Bh
108 Hs
109 Mt
110 Ds
111 Rg
112 Uub
114 Uuq
LANTHANIDE
57 La
58 Ce
59 Pr
60 Nd
61 Pm
62 Sm
63 Eu
64 Gd
65 Tb
66 Dy
67 Ho
68 Er
69 Tm
70 Yb
71 Lu
ACTINIDE
89 Ac
90 Th
91 Pa
92 U
93 Np
94 Pu
95 Am
96 Cm
97 Bk
98 Cf
99 Es
100 Fm
101 Md
102 No
103 Lr

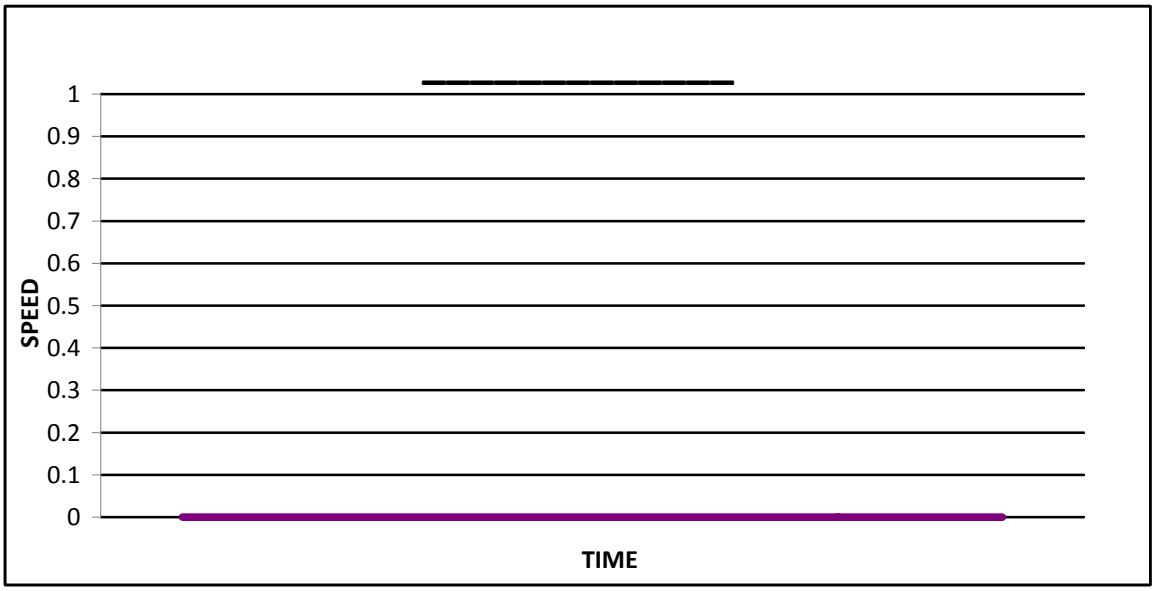
Unit 4, Activity 2, Motion Graphs (unlabeled)

The following graphs show an object in motion. Note the direction of the line for each example. The last graph shows a combination of movements for an object and each change on the graph indicates a change in movement. Add the correct label identifying whether the object is accelerating, decelerating, at a constant speed, at rest or stopped, or showing changes in acceleration.

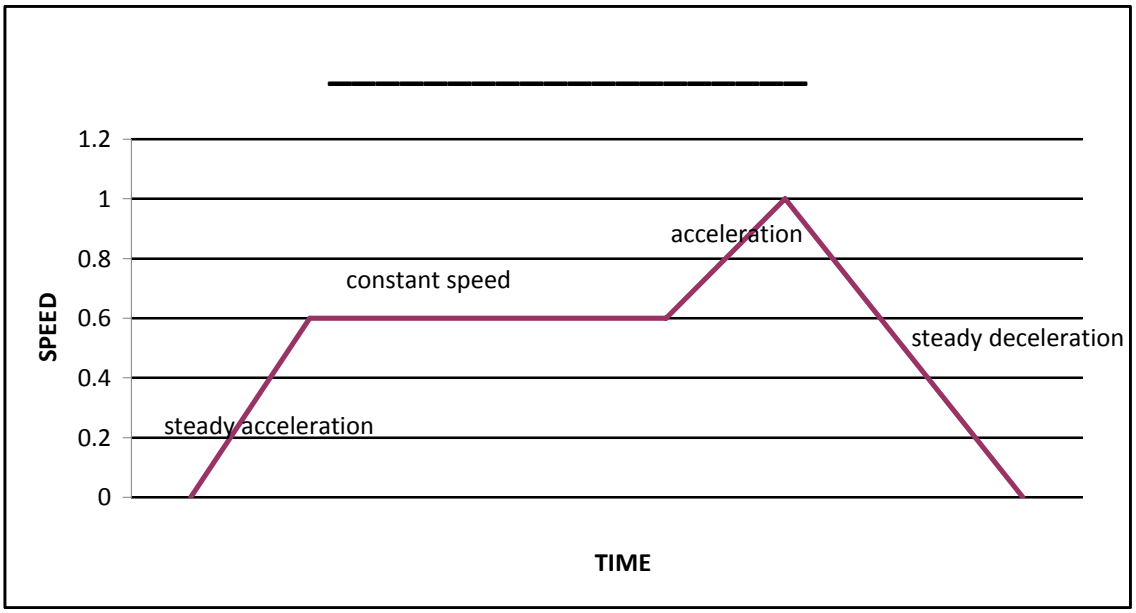




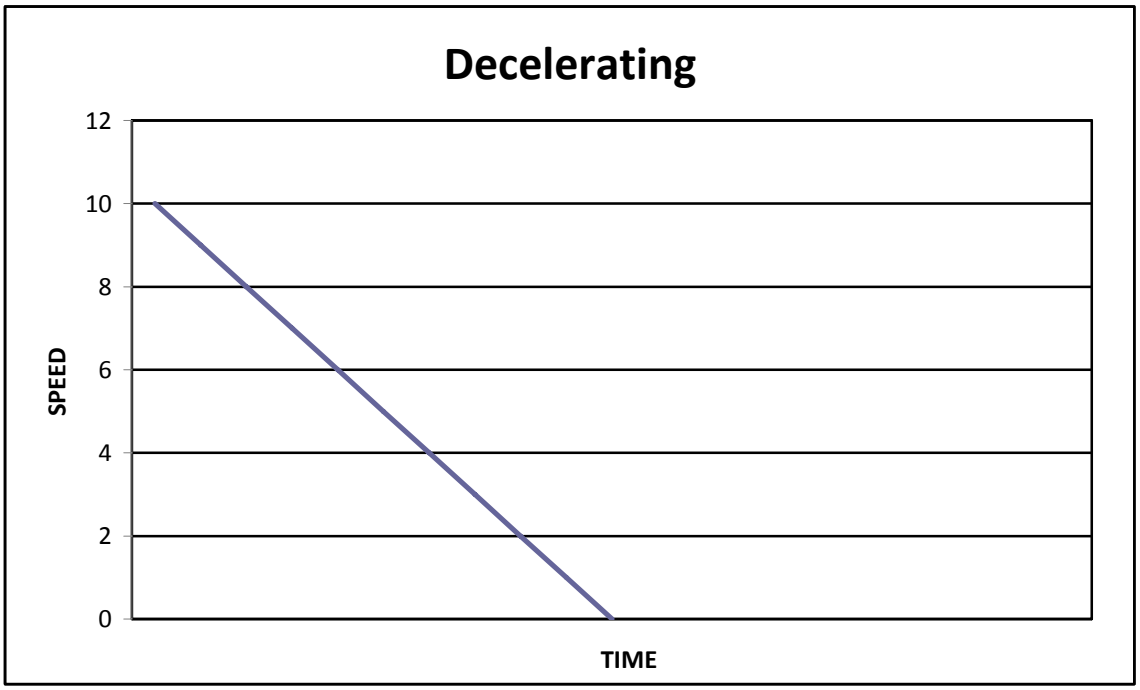

2.5
2
1.5
1
0.5
0
SPEED
TIME

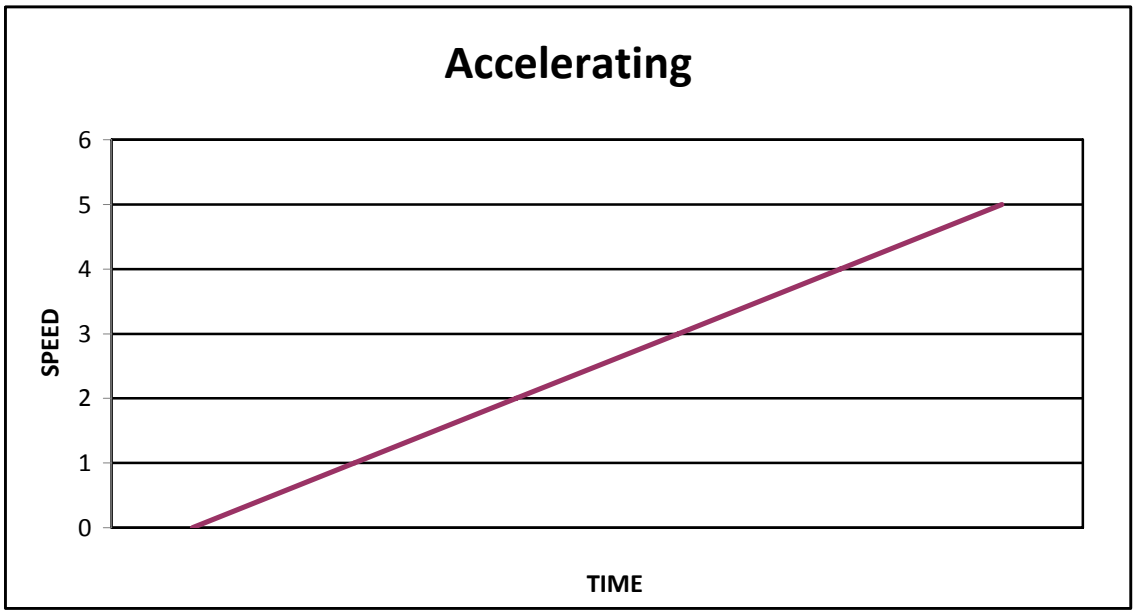

1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
SPEED
TIME

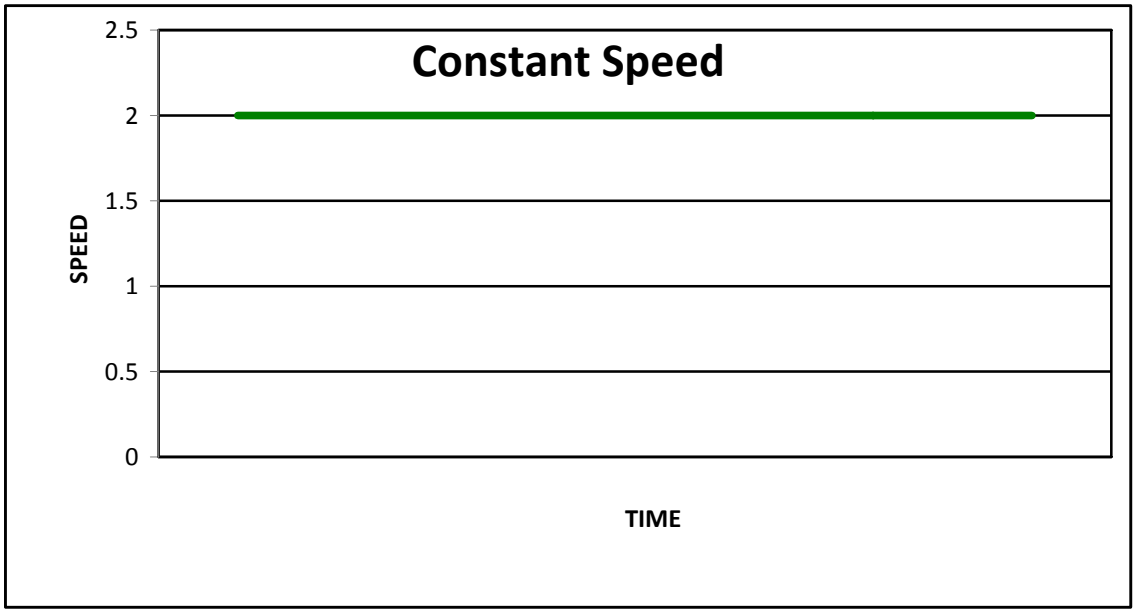
Unit 4, Activity 2, Motion Graphs (unlabeled)

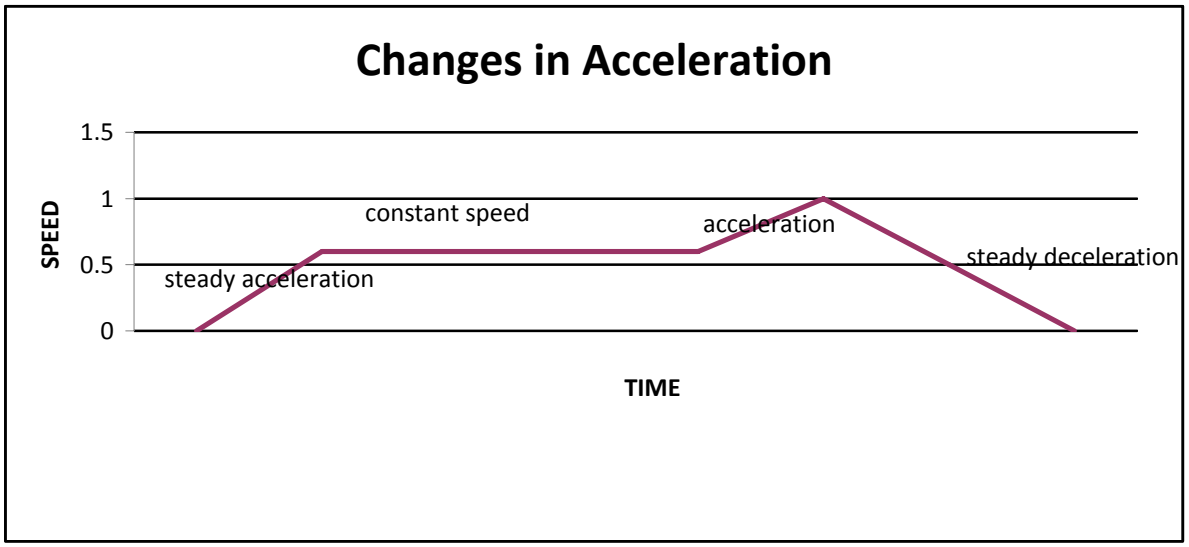


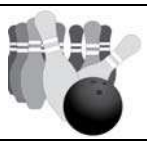
Examples of motion graphs




Accelerating
6
5
4
3
2
1
0
SPEED
TIME


Constant Speed
2.5
2
1.5
1
0.5
0
SPEED
TIME


Changes in Acceleration
1.5
1
0.5
0
SPEED
constant speed
acceleration
steady deceleration
steady acceleration
TIME

Action / Event	Newton's 1st Law	Newton's 2nd Law	Newton's 3rd Law
			

Identify the law that is illustrated by each picture. Put a check mark to show which law BEST explains the action.

Unit 4, Activity 9, It's the Law! Answer Key

Action / Event	Newton's 1st Law	Newton's 2nd Law	Newton's 3rd Law
Bat hitting a ball			X
Loaded wagon going downhill next to empty wagon		X	
Child pushing friend on a swing	X		
Rocket blasting off with exhaust			X
A stack of books sitting on a table	X		
Bird flying			X
Bowling ball knocking down bowling pins	X		
Feather falling		X	
Dirty dishes sitting at dinner table	X		
Girl on skates pushing off on wall			X

Unit 5, Activity 2, Home Energy Hunt

Energy User	R	NR	IE	Form of energy used	The product of the energy use

Name _____ Date _____

Unit 5, Activity 4, Vocabulary Card Guide

Definition:	Sentence:
WORD	
Picture:	A related word:

Use a wave vocabulary word for the center of each card:

- waves
- amplitude
- frequency
- crest
- trough
- wavelength
- energy

On each card, provide an illustration to show your understanding of the word, a sentence that correctly uses the word as it is being used in class, a definition for the word, and another word from the list with an explanation of how they are related (opposite or how they go together).

What Are Your Opinions About Simple Machines?

DIRECTIONS: After each statement, write SA (strongly agree), A (agree), D (disagree), or SD (strongly disagree). Then in the space provided, briefly explain the reason for your opinions.

	STATEMENT	Code	REASON(S)
1.	Simple machines have been around for a long time.		
2.	Simple machines were useful, but technology has replaced them today.		
3.	We do not come in contact with many simple machines today.		
4.	I can give at least 5 examples of simple machines.		
5.	Simple machines are handy but do not really provide an advantage to doing work.		

Date: _____

Student names: _____

Unit 7, Activity 1, Presentation Job List

Team members: _____

_____

Each team member selects the research points for which he\she will be responsible for providing answers. The team member should write his\her name on the line next to the information that he\she will collect. If possible, make photocopies for each team member or post in the classroom

- Identify the source of the energy form. _____
- Is it renewable, nonrenewable, or inexhaustible? _____
- How is this energy source utilized for communities, etc? _____
- Any risks associated with the *production* of this energy source? _____
- Any risks associated with the *use* of this energy source? _____
- If inexhaustible, how is it harnessed for energy? _____
- If renewable, how is it maintained or sustained? _____
- What programs of reduce, reuse, recycle support this resource? _____
- What technologies or practices influence the use of this resource? _____
- Identify any industries that rely on this energy source. _____
- Who are its primary consumers? _____
- Describe Louisiana's use of this resource, and what determines our dependency on or "non-use" of this resource. _____ _____

Each team member should write his\her name next to the task(s) for which he\she assumes responsibility.

- Establishes and maintains the team science learning log _____
- Checks the progress of the learning log partway through project _____
- Documents the 4 sources of information: 2 Internet (must be approved by teacher) and 2 from printed media _____
- Organizes the timeline with help of all team members _____
- Arranges personal interview with _____ (OPT) _____
- Presents oral presentation as an infomercial (2) _____ _____
- Creates the tri-fold brochure _____

Teams → document meetings and any difficulties that arise.

_____

_____

_____

_____

Unit 7, Activity 3, Oral Presentation Peer Evaluation Rubric

Use this form to evaluate the group performance.
Topic: _____ Date _____ List Group Members: _____ _____ _____

1. Presentation was informative. (Did you learn something new about energy use?)	0	1	2	3
2. Presentation was well organized. (Was the performance organized? Could you follow along easily?)	0	1	2	3
3. Presentation was interesting. (Did it hold your attention?)	0	1	2	3
4. Presentation was clear. (Could you hear the performers? Could you understand what they were saying? Were their graphics helpful?)	0	1	2	3

TOTAL: _____:12

Check each Key Point as you hear or see it addressed during the presentation.

____ identified source of the energy form

____ identified energy as renewable, nonrenewable, or inexhaustible (circle one)

____ identified how the energy source is utilized for communities

____ identified the risks associated with the *production* of this energy source

____ identified the risks associated with the *use* of this energy source

____ identified environmental concerns

____ identified how the energy source is harnessed for energy

____ identified, if renewable, how it is maintained or sustained

____ identified programs of reduce, reuse, recycle to support this resource

____ identified technologies or practices that influence the use of this resource

____ identified industries that rely on this energy source or primary consumers

____ identified Louisiana's use of this resource

TOTAL: _____:12