

Energy, Power & Mechanics

Module Activity Sheet

Name _____ Block _____

Enter Date example: Oct. 25

Session # 1

Module Guide Score = _____ / 10 Date Completed _____
Wind Energy Activity Date Completed _____
Review Game (Bloop or Critter Cross Played)..... Date Completed _____

Session # 2

RCA 's Score = _____ / 30 Date Completed _____
Wind Energy Part 2 Activity Date Completed _____
Assessment Answers Completed in Packet (Pg. 2)... Date Completed _____
Vocabulary Page Completed in Packet (Pg. 5) Date Completed _____

Session # 3

RCA's Score = _____ / 30 Date Completed _____
Solar Cooking Activity Date Completed _____
Optional Lego Activity – if no cooking done..... Date Completed _____
Technical Writing Page Completed in Packet(Pg. 6) Date Completed _____

Session # 4

RCA's Score = _____ / 30 Date Completed _____
Mechanical Systems Activity Date Completed _____
Career Sheet Page Completed in Packet (Pg. 7)..... Date Completed _____

Session # 5

RCA's Score = _____ / 30 Date Completed _____
Levers Experiments Activity Date Completed _____
Assessment Answers Completed in Packet (Pg. 3)... Date Completed _____
Word Search Page Completed in Packet (Pg. 8)..... Date Completed _____

Session # 6

Test Review "Game" Date Completed _____
Fluid Mechanics Activity Date Completed _____
Test Review Page Completed in Packet (Pg. 9)..... Date Completed _____

Session # 7

Post Test Score = _____ / 100 % Date Completed _____
Fluid Systems Activity Date Completed _____
Assessment Answers Completed in Packet (Pg. 4).. Date Completed _____
I Have Inspected My Packet – It is Complete..... Date Completed _____

Energy, Power, & Mechanics

Assessment Worksheet for Session 5

Instructions: On the session day indicated above, please write the answers to the assessment questions.

If you need more room to write a response – use the back of this page.

Session 5 – Levers

1. A hammer is an example of **what** class lever?

2. **Explain** the three classes of levers.
 - 1.

 - 2.

 - 3.

3. **Give examples** of a first -, second-, and third class lever.

Example of 1st-

Example of 2nd-

Example of 3rd -

4. **Explain** what the following terms are.

- Fulcrum –
- Lever -
- Load –
- Effort -

Energy, Power & Mechanics Vocabulary Worksheet

Please write a definition for each vocabulary term.

1. Bio-mass-

2. Force-

3. Gear-

4. Geothermal energy-

5. Hydroelectric-

6. Lever-

7. Mechanical energy-

8. Nuclear energy-

9. Pneumatics-

10. Solar energy-

11. Tidal range-

12. Windmill-

13. Work-

14. Electron-

15. Conduction-

Energy Power and Mechanics Career Investigation

From the ***Occupational Outlook Handbook*** –Look up the career that is assigned to your module topic. Using the information in the book answer the following question about the assigned career. The career for your module is:

Agricultural and Food Scientists and is on Page 148

1. **Nature of the work** (What does the occupation do?):
 - A.
 - B.
2. **Working conditions** (Ex. inside / outside, clean / dirty, safe / hazardous etc.):
3. **Training or education needed, other qualifications required, and possible advancements / promotions:**
4. **Job Outlook** (In the future, what is the demand / forecast for this job):
5. **Earnings** (What is the average salary / income for this career):
6. **Related occupations** (What other occupations are part of the selected topic):
 - A.
 - B.
7. **Sources of additional information** (Sites, agencies or references to provide more information on your selected occupation):
 - A.
 - B.

Energy, Power & Mechanics WordSearch

C Q Y P C B R W E A V I I J R I P V T Z
 R H T R E N I A R T A E H V M E H T E A
 B O M T I N S R L U T L E B C E I T T A
 D R W A D F P E O O E R I R K Y C R E D
 A N F M M T N V Y R S O G N T P C W S Y
 K T I E D L E E S G M O Y A A E D M R R
 I L P C C S U L N A L A D I T A J B N R
 L T E H I P M L S H G F L O W V E M I E
 C E I A E R A S T X H A Q V I W P E A L
 N E D N X O T E O S M G M E R S K R A A
 Z I H I L C I C P R J G W P E F E T L T
 R S P C S K C D E O S E O E K G D R G I
 E I M A C E S H E L S A K F O Y N E J F
 O W E L T T T H F D E R M E O U K Q F Q
 I N E M F O E F O I O O E S C H A I N P
 N A I C E E I O S W H I R L N T E A I G
 D Z S G O P Y R M F T N E D D X J E N B
 T B C P A D S C I L U A R D Y H T M E E
 T A T S W I D E E S R E I C G H O U D S
 E A G H N E E N I U H O O S Q H N E N V

Find the following hidden words:

**biomass, force, gear, geothermal, hydroelectric, lever, mechanical,
 nuclear, pneumatics, solar, tidal, windmill, work, hydraulics, trainer,
 cooker, heat, sprocket, chain, belt, sun**

ENERGY, POWER & MECHANICS

Test Review

Circle the correct answers while playing the Review Game at the beginning of Session # 6.

1. What is the reaction to the direction and speed of a machine when gears are used?
 - A. increase in speed
 - B. decreases in speed
 - C. change in both speed and direction
 - D. no change in both speed and direction
2. What is involved with the study of hydraulics?
 - A. energy of liquid pressure
 - B. energy by status
 - C. static machine
 - D. energy from sun
3. A lever is an example of what type of machine?
 - A. complex machine
 - B. simple machine
 - C. static machine
 - D. perpetual motion machine
4. A parabolic dish can affect light energy in which of the following ways?
 - A. diminish light energy
 - B. separate light energy
 - C. focus light energy
 - D. diffuse light energy
5. What term best describes an energy source that replaces itself?
 - A. recyclable
 - B. parasitical
 - C. extinguishable
 - D. renewable
6. Which of the following is used to describe heat from within Earth?
 - A. geographical
 - B. thermodynamics
 - C. geothermal
 - D. inert gas exchange
7. Gear A has 12 teeth and a diameter of 2". Gear B has 6 teeth and a diameter of 1". How many rotations will Gear B make when Gear A completes one full rotation?
 - A. $\frac{1}{2}$
 - B. 1
 - C. $1\frac{1}{2}$
 - D. 2
8. What occurs when the nuclei of two atoms are combined and energy is given off?
 - A. fusion
 - B. hydraulic
 - C. fission
 - D. hydroelectric
9. Which scientific law states: Energy can neither be created nor destroyed. It can only be changed from one form to another?
 - A. law of conservation of energy
 - B. Newton's first law of motion
 - C. law of thermodynamics
 - D. Newton's second law of motion
10. What energy source do photovoltaic cells use to produce electricity?
 - A. wind
 - B. solar
 - C. geothermal
 - D. nuclear