FLPS **Name** _____

Physical Science

Physical Science Study Guide

Semester 2

On a separate sheet of paper, define the following words.

1. Conduction
2. Convection
3. Fluid
4. Radiation
5. Insulator
6. Convection currents
7. Radiation energy
8. Radiator
9. Solar energy
10. Passive solar heat
11. Active solar heat
12. Solar collectors
13. Heat engines
14. Internal combustion engines
15. External combustion engines
16. Combustion
17. Stroke
18. Turbine
19. Heat mover
20. Heat pump
21. Evaporation
22. Machine
23. Simple machine
24. Effort force
25. Resistance force
26. Ideal machine
27. Mechanical advantage
28. Lever
29. Fulcrum
30. Effort arm
31. Resistance arm
32. Pulley

33. Wheel and axle
34. Inclined plane
35. Screw
36. Wedge
37. Compound machine
38. Efficiency
39. Power
40. Solid
41. Kinetic theory of matter
42. Crystals
43. Liquids
44. Plasma
45. Thermal expansion
46. Condensation
47. Pressure
48. Buoyancy

Directions: On a separate sheet of paper answer the following questions using complete sentences.

1. Where does conduction take place?
2. What conducts better?
3. What are some good heat conductors? What are some poor ones?
4. Where do convection fluid particles move? What do they carry with them?
5. When is radiant energy changed into thermal energy?
6. What reflects radiant energy and what absorbs it?
7. If you hold your hand near a light bulb what happens?
8. What methods are used to reduce the flow of heat?
9. What do good insulators do? What is a good insulator?
10. What is a commonly used type of insulator? Name two things it is used in.
11. What gas is frequently used in windows? Why?
12. Name and describe three methods of thermal energy transfer.
13. Why are poor conductors of heat good insulators of heat?
14. Why do many pots and pans have plastic or wooden handles?
15. What must all heating systems have? Give examples.
16. What is energy from the sun also known as?
17. What are the main differences between electrical, radiator and forced air heating systems?
18. Compare and contrast active and passive heating systems.
19. How many openings does a cylinder have?
20. What is an automobile engine called? Why is it called this?
21. Why is evaporation important to a person's internal body temperature?
22. Hoe do diesel and gasoline engines differ?
23. What are methods of heat transfer?

24. In what type of engine is fuel burned inside chambers called cylinders?
25. When are waste gases removed in a four stroke engine?
26. What material is a poor insulator of heat?
27. Name some examples of heat movers.
28. When is water not a fluid?
29. Heat can easily move through a good what?
30. In order for radiant energy to change to thermal energy, what must happen?
31. What changes thermal energy into mechanical energy?
32. What is a machine?
33. How many different simple machines are there?
34. How many different types of levers are there?
35. What is a wheel and axle? Give some example of it.
36. What is typical of an inclined plane, or wedge? Give examples of a wedge.
37. How can the IMA of an inclined plane be increased?
38. If the efficiency of a machine increases what else increases?
39. What is the IMA of a plane that is 8m long and 2m high?
40. In a wheel and axle, what is the resistance force usually exerted by?
41. What is the ideal mechanical advantage (IMA) of a pulley system in which 5 ropes support an object?
42. What is the mechanical advantage of a machine?
43. In an ideal machine, the work input is what to the work output?
44. How much does a single fixed pulley have to move in order to raise a resistance 4m?
45. How many types of simple machines are there?
46. What are the four states of matter?
47. Compare the characteristics of solids and liquids.
48. What does the amount of buoyant force determine?
49. What does the material's heat of fusion give the amount of energy needed to do?
50. What happens to a solid as it is heated?
51. What is the primary state of matter in the sun and other stars?
52. In what state do particles completely separate from each other?
53. What is Pascal's principle the basis of?
54. How is pressure mostly measured in?
55. What is the most common state of matter?
56. What state of matter has a definite volume and a definite shape?
57. At what temperature would all particle motion of matter stop?