

- 1. Give 3 examples of when GPE turns into KE
- 2. Give 3 examples of the KE turns into GPE
- 3. Think of the demo where the ball swung from the student's nose and back. Where is the max and min KE and GPE?

- 4. Think of the demo where the ball swung from the student's nose and back. Explain why it did not return to its original position.
- 5. In your own words, explain... KE

GPE

Efficiency

6. A bird has 400 J of GPE when it is sitting on a ledge. It falls off the ledge and when it is 40 m above the ground, it has 120 J of GPE. How much KE does it have? How much ME does it have?



7. A box of multi-textured rocks, weighing 13 kilograms, is sitting on the edge of a 177 story tall building. Each story of the building is 2 meters tall. What is the gravitational potential energy of the box of rocks?

8. A softball is pitched at a speed of 52 m/s and is .23 kg. What is the kinetic energy of the softball?

9. An objects ______ increases as its height increases.10. Compare and contrast fission and fusion

- 11. Complete pg 466+ (2,4,9,11,14,19,23)
- 12. Explain how a cow gets NRG from the sun. (Using NRG transformations)

13. Explain how the GPE and EK (in flight only) changes as a cannon ball is launched.

- 14. Give 2 examples of Mechanical NRG
- 15. Give 2 examples of non-mechanical NRG
- 16. How do you increase Elastic potential NRG in a rubber band?
- 17. How fast is an alien moving if it has 9000 J of KE and a mass of 85 kg?

18. If the potential energy of a ball is 134 joules and the kinetic energy of the ball is 2465 joules, then what is the mechanical energy?

- 19. If you dropped a baseball from a height of .5 meters its kinetic energy is _____ just before it hits the ground.
- 20. What are all the types of NRG we talked about in 13.3? Give an example for each.



- 21. What does GPE depend on?
- 22. What does KE depend on?
- 23. What does nuclear fission convert?
- 24. What does the law of conservation of energy state?

25. What happens to the GPE if you.....

- a. Double the mass? _____
- b. Triple the mass? _____
- c. ¹/₂ the mass? _____
- d. Double the height? _____
- e. Triple the height? _____ f. ¹/₄ the height? _____
- g. Double the gravity?
- 26. What happens to the KE if you.....
 - a. Double the mass? _____
 - b. Triple the mass? _____
 - c. Double the speed?

 - d. ¹/₂ the mass?
 e. ¹/₂ the speed?
- 27. What is nuclear fission? Fusion? How can you remember the difference between the 2?



29. What is the KE of an alien that is moving with a velocity of 3.9 m/s east and has a mass of 50 kg?

30. What is the KE of an alien that is moving with a velocity of 6.2 m/s north and has a mass of 600 g?

31. What is the mass of a block that has a GPE of 42 J and is 1000 mm above the ground?

32. What is the mass of an alien that has 550 J of KE and is moving with a speed of 5.3 m/s?

33. What kind of energy is stored in chemical bonds?

365

MrG Mr. Gunkelman 34. What two factors determine how much kinetic energy an object has?

35. What type of NRG do the following display?

- a. Apple? _____b. Sleeping bird? _____
- c. Leaf?
- d. Person? _____
- e. Gasoline? _____
- f. Toaster? _____ g. Hair dryer? _____

True/False

36. ____Kinetic energy is stored energy due to position.

37. ____GPE means gravitational post energy

Multiple Choice

38. The kinetic energy of a moving object depends on the

- i. A. speed B. mass
- ii. C. distance D. mass and speed
- 39. Which two factors determine how much potential energy something has?
 - i. A. height and lift
 - ii. C. height and mass D. mass and friction

B. kinetic energy and mass