



QUIZ ANSWERS

POTENTIAL ENERGY

1. **2) $F = ma$** Which law explains the relationship between thrust and acceleration?
2. **C) have more thrust.** In general, a model airplane with more turns on its rubber motor (and propeller) will...
3. **A) have twice the acceleration.** At takeoff, a plane with twice its standard thrust will...
4. **C) The propeller and air push with equal and opposite force.** A spinning propeller pushes air. Which pushes with more force? The spinning propeller or the air?
5. **A) Potential energy is transformed into Kinetic energy.** When the propeller of an airplane is released...
6. **D) Drag** Which of the following is a force?
7. **L) planes with more potential energy had LONGER flight times.** A student performed an experiment to determine how flight time of a model plane is affected by the potential energy stored in its rubber motor. In general, the student saw that...
8. **D) Speed = Distance/Time** Which equation can be used to calculate speed?
9. **D) meters/second** What units should go with "speed"?
10. **False** Potential energy is energy of motion.
11. **S) Straight** A plane is flying around its pylon when its string breaks. In what direction will the plane fly according to Newton's law of inertia?
12. **F) Force** Which of the following words means "push" or "pull"?
13. **True** As a plane climbs in altitude; it is increasing its potential energy.
14. **P) Potential Energy** Stored energy, or the work an object can do because of its position or state is...
15. **T) Thrust** What force of flight does a propeller provide?
16. **A) spinning propeller, B) moving plane, C) moving air** Kinetic energy can be observed in the following: Choose all that apply.
17. **B) planes with more turns on the rubber motor flew faster.** A student performed an experiment to determine how average speed of a model plane is affected by the number of turns on its rubber motor. In general, the student saw that...
18. **L) planes with more potential energy flew a LONGER distance.** A student performed an experiment to determine how flight distance of a model plane is affected by the number of turns on its rubber motor. In general, the student saw that...
19. **I) Inward - toward the center of the curve** A plane is flying in a circular path at constant speed. In what direction is centripetal force acting on the plane?
20. **P) Potential** What kind of energy is stored in the wound rubber motor of a model plane?

