



QUIZ ANSWERS

WEIGHT

1. **F) Force** Which of the following words means "push" or "pull"?
2. **True** A heavy plane needs more lift than a lighter plane.
3. **C) changes speed.** If an object "accelerates," it...
4. **D) the rubber motor** Where is the potential energy stored in your balsa model?
5. **L) Lift** In general, heavier planes require more _____ to fly.
6. **L) The LIGHTER plane has a longer flight distance.** What is the effect on flight distance?
7. **L) The LIGHTER plane has a longer flight time.** What is the effect on flight time?
8. **L) Lift** In level flight, which force of flight opposes "Weight"?
9. **True** In general, heavy planes require more thrust.
10. **D) Inward** A plane is flying around its pylon. In what direction is centripetal force acting?
11. **W) Weight** What is the only force that acts on a plane when it sits on the ground?
12. **P) Potential** What kind of energy is stored in the wound rubber motor of a model plane?
13. **False** Increasing speed DECREASES lift.
14. **W) Weight** Which force on a rubber-powered airplane remains the same before, during, and after landing?
15. **B) At the center of gravity.** Where would you add the penny so as not to affect the pitch of the plane?
16. **C) The air and propeller always push with equal and opposite force.** A plane's propeller pushes air back and the plane moves forward. What is true?
17. **L) Lift, T) Thrust (speed)** In general, heavy planes require more ____ and ____.
18. **L) The LIGHTER plane requires less takeoff distance.** How does takeoff distance differ according to Newtons 2nd Law, $F=MA$?
19. **True** A force is required to change the speed of a plane.



ARCONIC