

PHYSICS UNIT TEST PRACTICE & REVIEW

ANSWERS

Inertia Centripetal force Centrifugal force Accelerate
Friction Air Resistance Gravity
Momentum Kinetic Energy Potential Energy

1. Designers at Disneyland decide they need to bank the turns on their new roller coaster they are building in Cars Land at California Adventures. If they bank the turns more what force are they increasing? **CENTRIPETAL FORCE**
2. Jon climbs up on his roof to put up Christmas lights. What energy has he increased due to him climbing up on the roof? **POTENTIAL ENERGY**
3. Jon decides to jump down from the roof into his pool after installing the lights (don't do this at home, especially if you do not have a pool). As he is falling what type of energy is increasing? **KINETIC ENERGY**
4. What did the water cause Jon to do? **ACCELERATE**
5. Mr. Chabot shoots a three pointer, but the ball doesn't make it all the way to the rim and falls short of the basket. What force caused the basketball not to make it all the way to the rim? **GRAVITY**
6. The bowler rolls his bowling ball and knocks down all the pins and gets a strike. The bowling ball was able to knock over the pins because it had enough **MOMENTUM / INERTIA**.
7. At the end of a drag race the dragster car deploys a parachute. The car slows down rapidly because of **AIR RESISTANCE**.
8. Tony Hawk (pro skater) tries an amazing trick. He skates down a ramp and around a 360 degree loop. He can pull off the trick because what force is forcing him to the outside as he goes around the loop? **CENTRIFUGAL**
9. Two kids are playing catch with a baseball outside. One of the kids throws the baseball really hard and it flies over the other kids head right through a glass window (do not do). What explains why the baseball went through the window? **INERTIA / MOMENTUM**
10. Roller coaster rides are fun because they **ACCELERATE**
11. The Dog Whisperer is called out to move a 150 lb giant Saint Bernard that has been lying in the back of a car for hours. No one can move him because the dog has too much what? **INERTIA**
12. California Gray Whales eat a bunch of krill and plankton before they head to Baja California to have their young (they really don't eat much during the 4-6 month trip down and back). What does the buildup of blubber represent for the whales? **POTENTIAL ENERGY**
13. After 4-6 months the whales have lost most of their blubber reserves. What was the blubber transferred into during their journey? **KINETIC ENERGY**
14. Anita's fuel tank is on empty when she runs out of gas. She slowly comes to a stop after half a mile of coasting along the flat road. What caused Anita to come to a stop? **FRICTION / AIR RESISTANCE**
15. Which, if any, of the concepts above do not apply in the middle of space where there is no gravity? **AIR RESISTANCE or FRICTION (WITH THE AIR OR GROUND)**

BONUS: Why should you roll when you fall? **Accelerate**