Aca. Physics Average Speed and Conversions Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Go to physicsclassroom.com
2. Click Minds on Physics
3. Scroll down and click *Start MOP-ping*
4. Click Continue
5. Click For Practice Mode
6. Click Mechanics
7. Click Kinematic Concepts, enter KC6: Average Speed Computations
8. Complete the 7 questions. Choose 1 of them. Write down the entire problem and be prepared to present its solution to me.

Average Speed Problem I am going to present tomorrow:

Next, complete the following conversion questions:

**Distance 🡪 Distance:**

1. Convert 20 miles to feet (1 mile = 5,280 feet)

1. Convert 54.5 inches to centimeters (1 inch = 2.54 cm)
2. Convert 3.7 kilometers to feet (1 meter = 3.28 feet)
3. Convert 12 feet to centimeters (hint: use above conversions)
4. Convert 4.5 zonks into frumps ( 1 frump = 35,000 zonks)
5. Convert 20 feet into steps (3 feet = 1 steps)
6. Convert 21 kilometers to miles (1 mile = 5,280 feet) (1 m = 3.28 feet)

**Time 🡪 Time Conversions:**

1. Convert 24 hours into days
2. Convert 40 hours into seconds (1 hour = 3600 seconds)
3. Convert 180 days into years (assume 365 days = 1 year)

**Speed 🡪 Speed Conversions:**

1. Convert 14,543 miles per hour into feet per hour (1 mile = 5,280 ft)
2. Convert 743 miles per hour to feet per second (1 hour = 3600s)
3. Convert 43.5 miles per hour into feet per second (use the conversions above)

**Mixed Practice…Conversions and Average Speed...Together!**

1. A football player runs 30 yards to make a touchdown in 5 seconds
2. Calculate the players’ average speed in yards/second.
3. Calculate the players speed in feet/second (1 yard = 3 feet)
4. The fastest vehicle on Earth, the X-15, travels are 14,543 miles per hour.
   1. Convert 27 seconds into hours.
   2. How many miles does the X-15 travel during the time you calculated in (a)?
5. A cheetah runs 60 miles/hour for a maximum of 2 minutes.
   1. Convert 2 minutes to hours.
   2. How many miles does the cheetah run in the time you calculated in (a)?
   3. Convert miles from (b) into yards (1 yard = 3 feet) (1 mile = 5,280 feet)

**Ans**

1. 105600ft
2. 138.4cm
3. 12136ft
4. 365.8cm
5. 0.00013frumps
6. 6.7steps
7. 13.05mi
8. 1day
9. 144000s
10. 0.493yr
11. 76,787,040ft/hr
12. 1089ft/s
13. 63.8ft/s
14. A. 6yd/s B. 18ft/s
15. A. 0.0075hr B. 109.1mi
16. A. 0.03hr B. 2mi C.3520yds