

Name \_\_\_\_\_

## Speed, Space, and Motion

### Conversion Key (Use as Needed)

1 mile = 1.609 kilometers | 1 kilometer = 0.621 miles | 1 hour = 3600 seconds

1 m/s  $\times$  3.6 = km/h | 1 km/h  $\div$  3.6 = m/s | 1 mph = 1.609 km/h | 1 mph = 0.447 m/s

### A. Everyday Speeds

1. A car travels **60 mph**. Convert to **km/h**. \_\_\_\_\_
2. A sprinter runs **10 m/s**. Convert to **km/h**. \_\_\_\_\_
3. A train moves at **90 km/h**. Convert to **m/s**. \_\_\_\_\_
4. A bicycle coasts at **12 mph**. Convert to **m/s**. \_\_\_\_\_



### B. Around the World

5. The speed limit in a European city is **100 km/h**. Convert to **mph**. \_\_\_\_\_
6. A jet flies at **250 m/s**. Convert to **km/h**. \_\_\_\_\_
7. A high-speed rail travels **300 km/h**. Convert to **mph**. \_\_\_\_\_
8. The wind gusts at **20 m/s**. Convert to **km/h**. \_\_\_\_\_

### C. Out of This World

9. A spacecraft travels **7,800 m/s**. Convert to **km/h** and **mph**. \_\_\_\_\_
10. The International Space Station orbits Earth at **17,500 mph**. Convert to **km/h**. \_\_\_\_\_

### Bonus Challenge

11. A comet passes by Earth at **210,000 km/h**. Convert its speed to **m/s** and **mph**. \_\_\_\_\_