# Speed Trap

In this simple activity you will measure the average speed of vehicles travelling along a road.

Choose a straight length of road near your school.

Measure out a distance of 100 m alongside the road. One person stands at one end of this distance and waves a flag as a vehicle passes them. The rest of the class is at the other end and starts their stopwatches when the flag waves and stops them again when the particular vehicle passes them. This gives the time for this vehicle to travel 100 m. From the distance divided by the time, the average speed of the vehicle can be calculated and compared to the speed limit.

Record the vehicle times in the table and calculate the speed in m s−1 and in km h−1.

|  |  |  |  |
| --- | --- | --- | --- |
| vehicle | time (s) | average speed = distance ÷ time (m s−1) | speed in km h−1  (× 3.6) |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |
| 9 |  |  |  |
| 10 |  |  |  |
| 11 |  |  |  |
| 12 |  |  |  |
| 13 |  |  |  |
| 14 |  |  |  |
| 15 |  |  |  |
| 16 |  |  |  |

What is the speed limit for this stretch of road? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain why the conversion from m s−1 to km h−1 involves dividing by 3.6.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What percentage of the cars you measured were speeding?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_