Metrology
Measurement in Sport

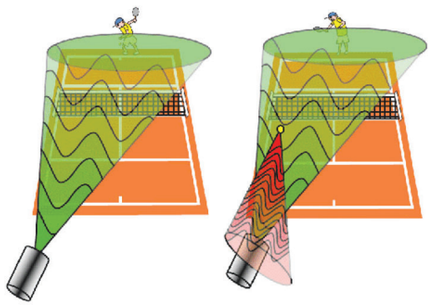
Speed

Speed is key to winning many Olympic events, but it is not used to score any of them.

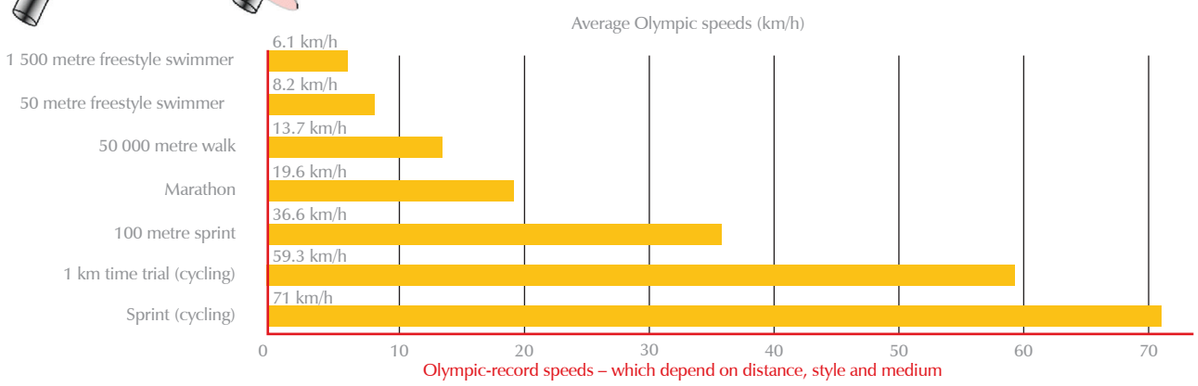
Speed is the distance travelled in a certain time, so in the Olympics it is usually these two quantities that are measured.

Did you know? Asafa Powell of Jamaica is officially the fastest man in the world, running 100m in 9.74 seconds (an average speed of about 37 km/h).

Many Olympic cyclists make use of speedometers to keep track of their performance, and marathon runners use GPS receivers to determine their speeds. Another way to measure speed is by a Doppler radar system (see diagram).



The Doppler effect means that the light from an object approaching you becomes slightly more blue (or more red if the object is receding). The changes are too small to see. The effect applies to radio waves and sound too – which is why a motor bike or train whistle falls in pitch as the vehicle passes. For the Olympics, it is radio waves that are used.



Olympic-record speeds – which depend on distance, style and medium

World Metrology Day **20 May 2008**

No games without Measurement

Supported by

National Metrology Institute Germany

National Physical Laboratory

BIPM

National Institute of Metrology (NIM), China

International Organization of Legal Metrology