

Boffins 7 and 8 Answers

100m. 1) True 2) False 3) True 4) True 5) False 6) True 7) False 8) c 9) True 10) True

Javelin: 1) yes 2) no 3) no 4) no 5) no 6) yes 7) yes 8) no 9) yes 10) yes

200m. Transparent: glass, water clear plastic bottle Translucent: plastic sandwich box tissue paper plastic milk bottle Opaque: wooden pencil metal coin brick dog mirror

Discus: 1) shorter 2) midday shorter 3) longest 4) closer 5) same 6) vibrates 7) air waves 8) ear drums

9) can 10) can't

Weight Lifting: 1) midday 2) larger shadow 3) periscope 4) violin – shorter strings 5) higher – shorter column of air

Steeple Chase: 1) louder 2) higher 3) shadow cast in wrong direction 4) shiny 5) straight 6) waves 7) because it reflects all of the spectrum 8) Light travels from the source, off the object and into the eyes. 9) No Looking directly at the Sun can damage the eyes. 10) Yes. He can look directly at it as it is not a light source. The light is just reflected off the surface.

Boffins 8

100m. 1) solar system 2) orbit 3) gravity 4) (roughly) spherical 5) star

Javelin: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, (Pluto)

200m. 1) Moon 2) Around 30 3) 365 4) Gravity is less (1/5) 5) Because the Moon rotates at exactly the same time as it orbits Earth, so the same side is always towards Earth. 6) Full Moon Crescent Moon Gibbous Moon 7) Because a New Moon is completely covered by the shadow of Earth. 8) Yes 9) Jupiter 10) Saturn

Discus: 1) axis poles 2) 24 hours 3) daytime 4) night time 5) 23 6) Earth 7) East West 8) morning/evening 9) Midday 10) South (Sometimes northerly in early morning/late evening at solstice)

Weight Lifting: 1) Because the Earth rotates on its axis, showing a different face towards the Sun.

2) Rotates on axis. Revolves around the Sun. 3) Because the Earth's shadow covers different amounts of the surface during different times of the month. 4) Winter – Sun is lower in the sky. 5) Summer, the northern hemisphere is tilted toward the Sun. Days are longer.

Steeple Chase: 1) Summer 2) Winter 3) The Sun 4) Earth 5) 365 ¼ days (one year) 6) Galaxy 7) Milky Way

8) Earth 9) Mercury Venus 10) Jupiter Mercury