

Round 4: Laser Facts

1. In the first laser – demonstrated on 16 May 1960 by Ted Maiman – the lasing medium was a crystal of pink ruby. Which of the following substances can also be made to lase?

A. Gin and tonic B. Flavoured gelatin (Jello) C. Carrots D. All of these

2. Before the name “laser” became widely adopted, what were Maiman’s device and other subsequent prototypes known as?

A. Optical masers B. Optical phasers C. Optical tasers D. Optical xasers

3. The output power of early lasers was measured in “Gillettes”. But who or what does this unit refer to?

A. A Bell Labs researcher called Gillette who sustained minor burns in the first documented laser-safety incident

B. An American mispronunciation of *gilet*, the item of clothing set on fire during the first documented laser-safety incident

C. A New Jersey suburb where several of the early laser pioneers at Bell Labs lived

D. The number of razor blades the laser could cut through

4. Although the laser was initially described as “a solution looking for a problem”, lasers were soon incorporated into many devices, including something called a Bolt-117. What was it?

A. The first lidar prototype, developed in 1961

B. The first surgical laser, developed in 1962

C. The first laser-guided bomb, developed in 1967

D. The first laser pointer, developed in 1981

5. In the 1964 James Bond film *Goldfinger*, the villain threatens to slice Bond in half with a laser. In Ian Fleming’s original novel – published in 1959, before the laser was invented – what object takes its place?

A. A samurai sword suspended on a thread B. A circular saw C. An industrial meat grinder D. There is no such scene in the novel

6. Within what accuracy did astronauts on the Apollo 11 mission use a laser to measure the distance between the Moon and the Earth?

A. 1 kilometre B. 1 metre C. 1 centimetre D. 1 millimetre

7. What was the first toy to incorporate a real laser?

A. *Star Wars* lightsaber (1977) B. *Star Trek* phaser (1979) C. Glowing *E.T.* finger (1982) D. *Ghostbusters* proton pack (1984)

8. In the 1997 film *Austin Powers: International Man of Mystery*, the character Dr Evil wants to stick “giant frickin’ lasers” to the heads of which animal?

A. Beavers B. Dolphins C. Sharks D. Meerkats

9. Which facility holds the current world record for laser power, at 10 PW?

A. The Extreme Light Infrastructure in Romania B. The Laser for Fast Ignition Experiments in Japan C. The National Ignition Facility in the US D. The Station of Extreme Light in China

10. Plans for the Breakthrough Starshot project call for 1000 spacecraft to be propelled through space using lasers. What are these (so far hypothetical) spacecraft intended to explore?

A. The moons of Saturn B. The Oort Cloud C. Proxima Centauri D. The outer limits of Elon Musk’s ego