

Nanotechnology Wonders

Nanotechnology · Answer Key · 12 Questions

1. How is a nanometre defined in relation to a metre?

- A) One hundredth of a metre
- B) One thousandth of a metre
- C) One millionth of a metre
- D) One billionth of a metre**

2. Which famous scientist is often credited with giving the first talk on the concepts behind nanotechnology in 1959?

- A) Richard Feynman**
- B) Albert Einstein
- C) Marie Curie
- D) Isaac Newton

3. What is the primary tool scientists use to 'see' and manipulate individual atoms?

- A) Optical microscope
- B) Scanning tunneling microscope**
- C) Telescope
- D) X-ray machine

4. Which naturally occurring material, known for being incredibly strong, is made of a single layer of carbon atoms arranged in a honeycomb lattice?

- A) Diamond
- B) Graphite
- C) Graphene**
- D) Silicon

5. Nanotechnology is used in some modern sunscreens to block UV rays by using which substance?

- A) Titanium dioxide**
- B) Lead paint
- C) Liquid helium
- D) Pure copper

6. What is the main reason materials at the nanoscale sometimes behave differently than larger pieces of the same material?

- A) They get colder
- B) They are affected by gravity more
- C) They have a larger surface area relative to their volume**
- D) They turn into gas

7. Buckyballs are a form of nanotechnology made of which element?

- A) Oxygen
- B) Carbon**
- C) Iron
- D) Gold

8. In medicine, what is a potential benefit of using nanoparticles to deliver drugs?

- A) The medicine can target specific diseased cells**
- B) The medicine tastes better
- C) The medicine makes the patient sleep longer
- D) It changes the patient's DNA

9. What is the term for a cylindrical nanostructure made of carbon?

- A) Nano-tube**
- B) Nano-sphere
- C) Nano-prism
- D) Nano-cube

10. Some self-cleaning windows use nanotechnology to break down dirt using the power of what?

- A) Wind
- B) Sunlight**
- C) Rainwater
- D) Electricity

11. What property do certain nanoparticles have that allows them to be used to create bright, distinct colours in displays?

- A) Magnetic properties
- B) Quantum effects**
- C) Radioactive decay
- D) Electrical resistance

12. Which field of study focuses on creating tiny machines that mimic biological structures like cells?

- A) Bionanotechnology**
- B) Astrophysics
- C) Geology
- D) Botany