Introduction to Nanotechnology

Nanotechnology · Answer Key · 18 Questions

1. How many nanometres are in one metre?

A) 100
B) 1,000
C) 1,000,000
D) 1,000,000,000

2. Which tool do scientists use to see objects at the nanoscale?

A) Magnifying glass
B) Scanning electron microscope
C) Standard camera
D) Binoculars

3. What is the prefix 'nano-' derived from, meaning dwarf in Greek?

A) Nanos
B) Nanum
C) Nanom
D) Nanoski

4. Which material is a famous carbon-based nanomaterial shaped like a tube?

A) Carbon nanotube
B) Diamond rod
C) Graphite sheet
D) Silicon wire

5. At the nanoscale, which property of materials often changes compared to their bulk form?

A) Weight
B) Colour
C) Chemical reactivity
D) All of the above

6. What is the approximate scale range of nanotechnology?

A) 1 to 100 nanometres
B) 1 to 100 centimetres
C) 1 to 100 metres
D) 1 to 100 kilometres

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7. Which field of study combines biology and nanotechnology?

A) Nanomedicine
B) Nanophysics
C) Nanochemistry
D) Nano-geology

8. What is one common consumer product that often uses nanotechnology?

A) Cotton towels
B) Sunscreen
C) Wooden pencils
D) Plastic spoons

9. How do nanoparticles interact with light differently than larger particles?

A) They do not reflect light
B) They change the colour of the material
C) They become invisible
D) They absorb all light

10. Why are scientists interested in using gold nanoparticles in medicine?

A) They make medicine taste better
B) They help deliver drugs to specific cells
C) They make pills easier to swallow
D) They turn medicine into gold

11. What is the main goal of using nanotechnology in electronics?

A) To make devices larger
B) To make devices faster and smaller
C) To make devices cheaper to paint
D) To make devices float

12. Which of these is a natural example of nanotechnology found in nature?

A) The surface of a lotus leaf
B) A standard brick
C) A steel beam
D) A cotton ball

13. What is the 'Lotus Effect' in nanotechnology?

A) A flower's ability to glow
B) A surface's ability to repel water and stay clean
C) The way petals change colour
D) The scent of a plant

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14. What do we call a material that is only one atom thick?

A) Graphene
B) Plastic
C) Iron
D) Rubber

15. Nanotechnology involves manipulating matter at which level?

A) Atomic and molecular
B) Planetary
C) Microscopic
D) Telescopic

16. Why do nanoparticles have a larger surface area compared to their volume?

A) They are very dense
B) They are extremely small
C) They are very long
D) They are made of gas

17. What is one way nanotechnology improves tennis rackets?

A) Makes them glow in the dark
B) Makes them lighter and stronger
C) Changes the shape of the balls
D) Increases the price only

18. Which of these is an example of a nanomaterial structure?

A) Fullerene
B) Cinder block
C) Concrete slab
D) Glass pane

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