

Milestones in Materials Science

Materials Science · Answer Key · 8 Questions

1. Which material, discovered by Charles Goodyear in 1839 through the heating of rubber with sulfur, revolutionized the industrial utility of polymers?

- A) Neoprene
- B) Vulcanized rubber**
- C) Bakelite
- D) Celluloid

2. In 1909, Leo Baekeland created the first fully synthetic plastic, which was named after him. What is this material?

- A) Polystyrene
- B) Nylon
- C) Bakelite**
- D) Polyethylene

3. Who is credited with the 1935 invention of Nylon, the first commercially successful synthetic polymer fiber?

- A) Wallace Carothers**
- B) Stephanie Kwolek
- C) Percy Julian
- D) Charles Hall

4. What is the name of the high-strength synthetic fiber invented by Stephanie Kwolek in 1965, widely known for its use in bulletproof vests?

- A) Dacron
- B) Kevlar**
- C) Rayon
- D) Spandex

5. In 1985, a new form of carbon was discovered consisting of 60 carbon atoms arranged in a sphere, earning the researchers a Nobel Prize. What is this molecule called?

- A) Graphene
- B) Carbon nanotube
- C) Buckminsterfullerene**
- D) Diamond

6. Which metallurgical process, patented by Henry Bessemer in 1856, was the first inexpensive industrial process for the mass production of steel?

- A) Basic oxygen process
- B) Open-hearth furnace
- C) Bessemer process**
- D) Electric arc furnace

7. In 1825, Hans Christian Ørsted was the first to isolate which metallic element, now essential for aerospace due to its lightweight and corrosion-resistant properties?

- A) Titanium
- B) Aluminum**
- C) Magnesium
- D) Beryllium

8. What was the first commercially successful semiconductor material used to create the point-contact transistor in 1947?

- A) Silicon
- B) Gallium arsenide
- C) Germanium**
- D) Cadmium telluride