

Pioneering Milestones in Waste Management

Waste Management · Answer Key · 19 Questions

1. Which ancient civilization is credited with the earliest known organized waste disposal system, involving dedicated refuse heaps outside city walls?

- A) Ancient Rome
- B) Ancient Greece
- C) Mesopotamia

D) Indus Valley Civilization

2. The first mechanical landfill compactor, a crucial invention for modern sanitary landfills, was developed and patented by whom in 1930?

- A) George Washington
- B) William G. Mulholland

C) Garwood L. Carter

D) Thomas Edison

3. What groundbreaking legislation, enacted in the United States in 1976, is widely considered the foundational federal law for solid waste management?

- A) Clean Air Act
- B) Clean Water Act

C) Resource Conservation and Recovery Act (RCRA)

D) National Environmental Policy Act (NEPA)

4. The concept of 'sanitary landfilling,' which involves engineered containment and daily cover to minimize environmental impact, was significantly advanced and implemented on a large scale starting in which century?

- A) 18th Century
- B) 19th Century

C) 20th Century

D) 21st Century

5. What early method of waste disposal, common in many cities before modern sanitation, involved dumping refuse into rivers or other waterways?

- A) Incineration
- B) Composting
- C) Landfilling

D) Flushing

6. The first large-scale municipal incinerator in the United States was built in which city and opened in 1885?

- A) New York City
- B) Chicago
- C) Boston**
- D) Philadelphia

7. The discovery of the health hazards associated with improper waste disposal, leading to public health reforms, was a major driver for the development of modern sanitation systems in which major urban center during the mid-19th century?

- A) Paris
- B) London**
- C) Berlin
- D) Vienna

8. What early form of waste-to-energy technology, often associated with the burning of refuse to generate steam for heating or power, saw its first significant implementations in the late 19th century?

- A) Biogas Digestion
- B) Pyrolysis
- C) Incineration with Energy Recovery**
- D) Gasification

9. The introduction of widespread curbside collection of household waste, a significant logistical innovation, began to be adopted in major cities during which period?

- A) Early 18th Century
- B) Mid-19th Century
- C) Early 20th Century**
- D) Mid-20th Century

10. The concept of 'source reduction' as a primary waste management strategy, aiming to minimize waste generation at its origin, gained significant traction with the rise of environmental consciousness in which decade?

- A) 1950s
- B) 1960s
- C) 1970s**
- D) 1980s

11. The first recorded instance of a municipal composting program, turning organic waste into fertilizer, was established in which European city in the late 19th century?

- A) Amsterdam
- B) Copenhagen
- C) Stockholm
- D) Frankfurt**

12. The development of early plastics in the late 19th and early 20th centuries, while revolutionary, also marked the beginning of a new category of persistent waste that challenged traditional management methods. What was the first commercially successful fully synthetic plastic?

- A) Polyvinyl Chloride (PVC)
- B) Bakelite**
- C) Celluloid
- D) Nylon

13. The widespread adoption of standardized waste bin designs and collection schedules, facilitating efficient municipal operations, became a common feature of urban environments primarily after which major global event?

- A) The Industrial Revolution
- B) World War I
- C) The Great Depression
- D) World War II**

14. The 'Tragedy of the Commons,' a seminal academic paper published in 1968 that profoundly influenced environmental policy, including waste management, argued that individual self-interest can lead to the depletion of shared resources. Who authored this influential work?

- A) Rachel Carson
- B) Garrett Hardin**
- C) Barry Commoner
- D) Aldous Huxley

15. What early form of recycling, focused on the recovery of valuable materials from discarded items, was widely practiced out of necessity during periods of scarcity, such as wartime?

- A) Advanced Chemical Recycling
- B) Mechanical Recycling
- C) Resource Recovery
- D) Material Reclamation**

16. The first major industrial-scale waste-to-energy plant utilizing modern grate combustion technology was commissioned in which country in the 1930s?

- A) United States
- B) United Kingdom
- C) Germany**
- D) Sweden

17. The development of the first successful artificial fertilizer, which led to changes in agricultural practices and consequently the types of organic waste generated, is attributed to the work of Justus von Liebig in which century?

- A) 17th Century
- B) 18th Century
- C) 19th Century**
- D) 20th Century

18. The concept of 'extended producer responsibility' (EPR), a policy approach where producers are given significant responsibility for the treatment or disposal of post-consumer products, has its roots in early legislation implemented in which European country starting in the 1970s?

- A) France
- B) Germany
- C) Sweden**
- D) Netherlands

19. What significant discovery in the mid-20th century revolutionized packaging and consumer goods, leading to an unprecedented increase in the volume and type of disposable waste?

- A) The invention of the internet
- B) The development of widespread plastic production**
- C) The mass production of automobiles
- D) The invention of refrigeration