

Nordic Breakthroughs: From Arctic Microbes to Viking Echoes & Green Energy

Nordic Science · Answer Key · 15 Questions

1. What type of microorganism, unusually large in size, has been discovered on the Greenland ice sheet and may play a role in regulating algal growth and thus influencing ice melt?

A) Giant bacteria

B) Giant viruses

C) Extremophile archaea

D) Photosynthetic algae

2. Which Nordic country is a global leader in aquaculture, particularly salmon farming, and has seen significant technological advancements like automated feeding systems and underwater monitoring sensors?

A) Sweden

B) Finland

C) Norway

D) Denmark

3. Researchers in Sweden have discovered that old-growth forests store significantly more carbon than managed forests. What component of the forest accounts for the majority of this difference in carbon storage?

A) Live trees

B) Dead wood

C) Soil

D) Harvested timber

4. What type of renewable energy is Iceland particularly renowned for, providing heating for most of its homes and a significant portion of its electricity?

A) Wind power

B) Hydropower

C) Geothermal energy

D) Solar power

5. Finnish companies are developing innovative alternatives to traditional plastics. Which of these materials is wood-based and aims to replace plastic packaging?

A) Durat

B) Sulapac

C) Woodly

D) All of the above

6. Recent archaeological finds in Sweden along the E18 highway have provided new insights into Viking Age burial practices. What notable items were found in some of the graves, suggesting high status or a special armed group?

- A) Ceramic pots and tools
- B) Standing swords and ornate horse equipment**
- C) Simple stone tools
- D) Animal bones only

7. The Nordic countries are leading in renewable energy. Which of these countries generates over 50% of its electricity from wind energy?

- A) Norway
- B) Sweden
- C) Finland
- D) Denmark**

8. Researchers have discovered new species of fungi in Scandinavian forests, belonging to the genus *Piloderma*. One newly described species, *Piloderma fugax*, is notable because it primarily grows in what type of forest?

- A) Young, managed forests
- B) Old-growth forests**
- C) Deforested areas
- D) Urban parks

9. Norway's aquaculture industry is innovating with technologies like AI drones for krill fishing. Which Norwegian company's subsidiary won an award for being 'The World's Most Innovative Company in the Private Sector' in 2024 for its AI-driven drone technology?

- A) Hofseth
- B) SalMar
- C) Aker BioMarine**
- D) Bluefront Equity

10. In the field of quantum technology, which Nordic country is focusing on developing expertise in quantum software, algorithms, and sensing, while also engaging in European quantum communication infrastructure?

- A) Sweden
- B) Denmark
- C) Iceland
- D) Norway**

11. A significant archaeological discovery in Denmark revealed a large textile-production site dating back to the Viking Age. What does the scale and organization of this site suggest about Viking society?

- A) It was primarily a collection of small, independent farming villages.
- B) It indicates a well-organized society involved in expansive international trade.**
- C) It was mainly a military training ground.
- D) It shows evidence of early industrial-scale metalworking.

12. What type of advanced material technology are VTT Technical Research Centre and LUT University in Finland developing as a scalable alternative to fossil-based packaging, using 100% cellulose?

- A) Bioplastics from algae
- B) Recycled metal composites
- C) Cellulose-based films and coatings**
- D) Mushroom-based packaging

13. Recent research on Greenland's ice sheet has identified plume-like structures caused by what process, typically associated with the Earth's mantle?

- A) Glacial erosion
- B) Thermal convection**
- C) Subsurface water flow
- D) Tectonic plate movement

14. In Norway's aquaculture industry, what is a key environmental challenge that new technologies like semi-enclosed sea pens and land-based RAS (Recycling Aquaculture Systems) aim to address?

- A) Overfishing of wild salmon populations
- B) Escape of farmed fish and discharge of organic waste**
- C) Drought conditions affecting fish farms
- D) Air pollution from processing plants

15. A new study involving Swedish forests found that undisturbed primary forests store significantly more carbon than managed forests. What is a major reason for this difference in carbon storage capacity?

- A) Managed forests have younger, faster-growing trees.
- B) Managed forests are actively removing more CO₂ from the atmosphere.
- C) Industrial management practices, such as clear-cutting, lead to a loss of soil carbon.**
- D) Primary forests are located in areas with higher rainfall.