

Geochemical Landscapes of the World

Chemistry · Answer Key · 8 Questions

1. Which specific region of the Earth's crust is the primary commercial source for the element Gadolinium, typically extracted from monazite sand deposits?

- A) The Kola Peninsula, Russia
- B) The Bayan Obo deposit, China**
- C) The Witwatersrand Basin, South Africa
- D) The Pilbara Craton, Australia

2. The Dead Sea is famous for its high concentration of minerals; which chemical compound is extracted from its waters as a primary industrial source for bromine production?

- A) Magnesium bromide**
- B) Potassium bromide
- C) Sodium bromide
- D) Calcium bromide

3. Which country is home to the world's largest known reserves of lithium, located primarily in the 'Lithium Triangle' salt flats?

- A) Chile
- B) Bolivia**
- C) Argentina
- D) Australia

4. The Sudbury Basin in Ontario, Canada, is a major source of nickel and copper, created by a catastrophic geological event involving what specific chemical signature?

- A) An ancient volcanic fissure
- B) An iron-nickel meteorite impact**
- C) A massive hydrothermal vent system
- D) A deep-crustal metamorphic uplift

5. The extraction of Helium-4 on an industrial scale is most efficiently conducted in regions with high concentrations of what geological substrate?

- A) Basaltic volcanic flows
- B) Natural gas fields**
- C) Granite intrusions
- D) Sedimentary limestone

6. Which nation is the world's leading producer of Boron, specifically extracting it from the borate minerals found in the Anatolian plateau?

A) United States

B) Turkey

C) Kazakhstan

D) Peru

7. The chemical element Molybdenum is often extracted as a byproduct from large-scale mining operations in which primary geographical mountain range?

A) The Andes

B) The Ural Mountains

C) The Himalayas

D) The Atlas Mountains

8. Fluorspar (Fluorite) deposits, critical for hydrofluoric acid production, are historically and currently most significantly extracted in which Chinese province?

A) Guangdong

B) Hunan

C) Hebei

D) Sichuan