# Physical Geography and Human Physiology

Physical Geography · Answer Key · 25 Questions

**1. Which physiological adaptation is most commonly observed in human populations living permanently at high altitudes?**

A) Increased lung capacity
**B) Increased red blood cell count**
C) Decreased heart rate
D) Slower metabolic rate

**2. What is the primary cause of 'altitude sickness' (acute mountain sickness) during rapid ascent to high elevations?**

A) Increased oxygen partial pressure
**B) Hypoxia due to lower atmospheric pressure**
C) Excessive UV radiation
D) Dehydration from dry air

**3. Which geographical feature is historically most associated with the transmission of malaria due to stagnant water breeding grounds?**

A) High plateaus
**B) Tropical wetlands**
C) Arid deserts
D) Tundra regions

**4. What condition is most likely to affect individuals living in regions with high soil selenium deficiency?**

A) Goiter
**B) Keshan disease**
C) Scurvy
D) Rickets

**5. Exposure to high levels of ultraviolet (UV) radiation in equatorial regions has historically driven the evolution of which human trait?**

A) Thinner skin
**B) Increased skin melanin pigmentation**
C) Decreased bone density
D) Higher blood pressure

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**6. Which geographical factor is a primary determinant of Vitamin D synthesis in the human skin?**

A) Altitude of the terrain
**B) Angle of incident sunlight (latitude)**
C) Soil mineral content
D) Humidity levels

**7. What is the primary health risk associated with residing in regions with high natural levels of arsenic in groundwater?**

**A) Skin lesions and cancer**
B) Vitamin A deficiency
C) Respiratory distress
D) Osteoporosis

**8. Cold-climate populations have historically developed higher basal metabolic rates as an adaptation to what geographical pressure?**

A) Excessive physical labor
**B) Constant thermal stress**
C) High oxygen levels
D) Lack of sunlight

**9. The 'Goiter Belt' is a geographical term referring to areas where the soil lacks which essential micronutrient?**

A) Iron
**B) Iodine**
C) Magnesium
D) Zinc

**10. Which geographical factor most directly influences the prevalence of tick-borne diseases like Lyme disease in temperate zones?**

A) Ocean current temperature
**B) Forest cover and humidity**
C) Soil pH levels
D) Volcanic activity

**11. Living at extreme latitudes with prolonged seasonal darkness is most commonly linked to which health condition?**

**A) Seasonal Affective Disorder (SAD)**
B) Type 2 Diabetes
C) Hyperthyroidism
D) Anemia

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**12. Which mineral is commonly found in the drinking water of limestone-rich geographical regions, affecting bone and dental health?**

**A) Fluoride**
B) Potassium
C) Sodium
D) Nitrogen

**13. The 'San Francisco Fog' or urban heat islands are geographical phenomena that can exacerbate which health condition?**

**A) Asthma**
B) Color blindness
C) Scurvy
D) Gout

**14. In desert geography, the physiological process of 'acclimatization' to heat primarily involves what?**

**A) Increasing sweat rate and volume**
B) Decreasing heart rate
C) Slowing down respiratory rate
D) Increasing body fat

**15. Which geographical factor contributes to the prevalence of iodine deficiency in inland mountainous regions?**

**A) Glacial leaching of minerals**
B) High atmospheric pressure
C) High volcanic ash content
D) Absence of wind

**16. Coastal regions often have lower incidences of which deficiency due to the dietary intake of marine life?**

**A) Iodine**
B) Vitamin C
C) Iron
D) Calcium

**17. What geographical condition typically leads to the highest rates of heat-related illnesses in urban populations?**

**A) Urban heat island effect**
B) High altitude
C) High soil salinity
D) Low humidity

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**18. Which physiological system is most immediately impacted by exposure to extreme geothermal sulfur emissions?**

**A) Respiratory system**
B) Digestive system
C) Skeletal system
D) Integumentary system

**19. Populations living in regions with heavy metals in the soil from mining are at risk for what physiological accumulation?**

**A) Lead poisoning**
B) Vitamin K toxicity
C) Enhanced iron absorption
D) Increased bone density

**20. What is the primary reason that human populations in the Arctic historically consumed high-fat diets?**

**A) Caloric density for thermal regulation**
B) Availability of fruits
C) Cultural preference only
D) High levels of local vegetation

**21. Which geographical factor is a major influence on the transmission of water-borne pathogens like cholera?**

**A) Contamination of local drainage basins**
B) High wind speeds
C) Soil alkalinity
D) Lack of seismic activity

**22. The 'Mediterranean climate' is associated with which health-related lifestyle benefit due to geographical agricultural output?**

**A) High intake of monounsaturated fats**
B) High consumption of processed meats
C) Lower access to sunlight
D) Higher salt intake

**23. What does the 'Biogeography of disease' study?**

**A) The spatial distribution of diseases**
B) The chemical structure of pathogens
C) The surgical techniques of doctors
D) The history of hospital architecture

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**24. High concentrations of radon gas, a geographical byproduct of uranium decay in rocks, primarily causes what?**

**A) Lung cancer**
B) Skin rashes
C) Hearing loss
D) Muscle atrophy

**25. The physiological response to sustained, high-intensity humidity in tropical regions involves what?**

**A) Reduced efficiency of evaporative cooling**
B) Increased bone density
C) Higher blood oxygen saturation
D) Faster skin regeneration

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