BRAINIACS
OLYMPIAD

GEOGRAPHY SYLLABUS

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BRAINIACS OLYMPIAD 2026
GEOGRAPHY SYLLABUS (GRADES 7–8)

INTRODUCTION TO GEOGRAPHY
- What is geography? Physical and Human geography
- Defining Physical Geography
- Scientific methods

MAP AND GLOBE AS A TOOL
- Maps. Using maps
- Map scale
- Cartographic symbols
- Orientation with a compass and a map
- The geographic grid
- Latitude, longitude. Using the geographic grid
- Isolines
- Global Positioning Systems (GPS)
- Geographic Information Systems (GIS)

EARTH AND SPACE
- Solar System. Planets of the Solar System
- Planet Earth (in space), the shape and size of Earth
- Earth's Orbit around the Sun
- The Earth's rotation and axial tilt
- The seasons, solstice and equinox
- Time zones and their types
- The Moon – the Earth's satellite

THE EARTH'S FOUR SPHERES
- Atmosphere
- Hydrosphere
- Lithosphere
- Biosphere

BRAINIACS OLYMPIAD 2026
GEOGRAPHY SYLLABUS (GRADES 7–8)

ATMOSPHERE: GLOBAL TEMPERATURE PATTERNS

- Composition of the atmosphere
- Layered structure of the atmosphere
- Surface and air temperature
- The annual range of surface temperature
- Atmospheric pressure
- Atmospheric pressure systems
- The direction of airflow
- Atmospheric moisture and precipitation
- Physical properties of water: Thermal properties of water and its physical states
- The hydrosphere and hydrologic cycle
- Humidity: maximum, specific and relative humidity
- Evaporation
- Cloud formation and classification: Including Fog
- Precipitation: Types of precipitation, precipitation processes
- Air masses and fronts
- Cyclones and anticyclones
- Climate and the factors that affect it
- Climate zones

LITHOSPHERE, HYDROSPHERE AND EARTH'S INTERNAL STRUCTURE

- Earth's inner structure: The major layers
- Rock and minerals in the Earth's crust
- Plate tectonics. The lithospheric plates
- Types of plate movements
- Earthquake: Seismic processes
- Volcanoes
- Earth's landforms (mountain ranges, plains)
- Movement and storage of groundwater

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GEOGRAPHY SYLLABUS (GRADES 7–8)

- Rivers and natural lakes
- Glacial geomorphology: Processes and landforms
- Development of a glacier
- Types of glaciers
- Glacial landforms
- Oceans and seas on Earth (straits and bays)
- Islands and peninsulas
- Regions, continents, their physical features and landscapes

BIOSPHERE. ECOLOGY AND ENVIRONMENT PROTECTION OF ECOSYSTEMS

- Biosphere as a science
- Ecosystems and their components. Biogeography
- Biomes and natural zones
- What is soil? Basic soil properties
- The relations of living organisms with other layers of Earth
- Parks, National Parks, Protected Areas
- Methods of preserving the natural environment

INTRODUCTION HUMAN GEOGRAPHY

- Defining Human Geography
- Population and settlements
- Population structure
- Migration and its types. Internal and international migration
- Urban settlements. Urbanization
- Economic geography and agriculture
- Labor resources and productive forces
- Energy, natural resources and their importance
- Transport and its types

BRAINIACS OLYMPIAD 2026
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BRAINIACS OLYMPIAD 2026
GEOGRAPHY SYLLABUS (GRADES 7–8)

NATURAL DISASTERS AND GLOBAL PROBLEMS

- Natural disasters and catastrophes
- Climate change and global warming
- Desertification, soil degradation
- Water scarcity and water conflicts

GEOGRAPHICAL SKILLS

- Reading maps and diagrams
- Determining distances by scale
- Working with climate diagrams
- Analyzing photographs, tables and graphs
- Fieldwork skills. Select and conduct appropriate fieldwork techniques

This is the end of the syllabus for Grades 7–8
Get ready to explore the World of the Brainiacs!
All examination questions will be based on the materials listed above.

BRAINIACS OLYMPIAD 2026
GEOGRAPHY SYLLABUS (GRADES 9-10)

MAP AND GLOBE AS A TOOL

- Maps. Using maps
- Map projections
- Map scale
- Cartographic symbols and their types
- Orientation with a compass and a map
- The geographic grid
- Latitude, longitude. Using the geographic grid
- Isolines
- Global Positioning Systems (GPS)
- Geographic Information Systems (GIS)

EARTH AND SPACE

- Solar System. Planets of the Solar System
- Planet Earth (in space), the shape and size of Earth
- Earth's Orbit around the Sun
- The Earth's rotation and axial tilt
- The seasons, solstice and equinox
- The Moon – the Earth's satellite

THE EARTH'S FOUR SPHERES:

- Atmosphere
- Hydrosphere
- Lithosphere
- Biosphere

ATMOSPHERE: GLOBAL TEMPERATURE PATTERNS

- Composition of the atmosphere
- Layered structure of the atmosphere
- Weather and meteorological phenomena
- Surface and air temperature
- Large-scale geographic factors that influence air temperature

BRAINIACS OLYMPIAD 2026
GEOGRAPHY SYLLABUS (GRADES 9-10)

- Surface and air temperature
- Large-scale geographic factors that influence air temperature
- Local factors that influence air temperature
- The annual range of surface temperature
- Atmospheric pressure
- Atmospheric pressure systems:
- Low pressure systems
- High pressure systems
- The direction of airflow
- Winds and their types
- Global pressure and atmospheric circulation:
- Tropical Circulation
- Midlatitude Circulation
- Polar Circulation
- Atmospheric moisture and precipitation
- Physical properties of water: Thermal properties of water and its physical states
- The hydrosphere and hydrologic cycle
- Humidity: maximum, specific and relative humidity
- Evaporation
- Cloud formation and classification: Including Fog
- Precipitation: Types of precipitation, precipitation processes
- Air masses and fronts
- Cyclones and anticyclones
- Evolution and character of midlatitude cyclones
- Tropical cyclones
- Climate and the factors that affect it
- Climate zones
- Global climate change

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GEOGRAPHY SYLLABUS (GRADES 9-10)

LITHOSPHERE, HYDROSPHERE AND EARTH'S INTERNAL STRUCTURE

- Earth's inner structure: The major layers
- Rock and minerals in the Earth's crust
- Plate tectonics. The lithospheric plates
- Types of plate movements
- Earthquake: Seismic processes
- Volcanoes
- Earth's landforms (mountain ranges, plains)
- Groundwater and karst landscapes
- Movement and storage of groundwater
- Karst landforms and landscapes
- Fluvial systems and landforms
- Rivers and natural lakes
- Glacial geomorphology: Processes and landforms
- Development of a glacier
- Types of glaciers
- Glacial landforms
- Probable human impact on glaciers
- Coastal processes and landforms
- Oceans and seas on Earth (straits and bays)
- Islands and peninsulas

THE GLOBAL DISTRIBUTION AND CHARACTER OF SOIL

- What is soil? Basic soil properties
- Soil-forming processes and factors

BIOSPHERE. ECOLOGY AND ENVIRONMENT. PROTECTION OF ECOSYSTEMS

- Biosphere as a science

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GEOGRAPHY SYLLABUS (GRADES 9-10)

- Ecosystems and their components. Biogeography
- The relationship of climate and vegetation: the character and distribution of global biomes. Natural zones
- The relations of living organisms with other layers of Earth
- Human impact on ecosystems: air pollution, deforestation, urbanization
- Environmental risks of economic development
- Parks, National Parks, Protected Areas
- Methods of preserving the natural environment

REGIONS, CONTINENTS AND THEIR LANDFORMS, CLIMATE, NATURAL ZONES, LANDSCAPES, NATURAL RESOURCES, POPULATION AND ECONOMY

- Asia and Europe (Eurasia)
- Africa
- North and South America
- Australia
- Antarctica
- Countries and regions

TIME ZONES

- Time zones and their types.
- A geographic time zone
- An administrative time zone
- Coordinated Universal Time (UTC) and Greenwich Mean Time (GMT)

HUMAN GEOGRAPHY

- Human geography as a science
- Population and settlements

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GEOGRAPHY SYLLABUS (GRADES 9-10)

- Population dynamics
- Population structure
- Population density and distribution
- A densely and sparsely populated country or area
- Migration and its types. Internal and international migration
- Urban settlements. Urbanization

INDUSTRY AND ECONOMY

- Economic geography
- Economy. National economy and agriculture. World economy
- Industry. Light and heavy industry
- Types of industry: manufacturing, processing, assembly and high technology industry
- Labor resources and productive forces
- International division of labor and its types
- Developed and developing countries. HDI and GDP
- Energy, natural resources and their importance

SERVICE SECTORS

- Transport and its types
- Tourism and its types

GEOPOLITICS

- Conflicts and social problems
- International organizations and regional blocs

NATURAL DISASTERS AND GLOBAL PROBLEMS

- Natural disasters and catastrophes
- Types of natural disasters
- Climate change and global warming

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GEOGRAPHY SYLLABUS (GRADES 9-10)

- Desertification, soil degradation
- Water scarcity and water conflicts
- Energy security
- Global economic value

GEOGRAPHICAL SKILLS

- Skills of application, interpretation and analysis of geographical information: topographical map, other map, diagrams, graphs, tables of data, written material, photographs and pictorial material.
- Application of graphical and other techniques.
- GIS and image skills
- Fieldwork skills. Select and conduct appropriate fieldwork techniques
- Mathematical skills

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BRAINIACS OLYMPIAD 2026
GEOGRAPHY SYLLABUS (GRADES 11-12)

MAP AND GLOBE AS A TOOL

- Maps. Using and analysis of the maps
- Map projections
- Map scale
- Cartographic symbols and their types
- Orientation with a compass and a map
- The geographic grid
- Latitude, longitude. Using the geographic grid
- Isolines
- Global Positioning Systems
- Geographic Information Systems

EARTH AND SPACE

- Solar System. Planets of the Solar System
- Planet Earth (in space), the shape and size of the Earth
- Earth's Orbit around the Sun
- The Earth's rotation and axial tilt
- The seasons, solstice and equinox
- The Moon – the Earth's satellite

THE EARTH'S FOUR SPHERES:

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ATMOSPHERE: GLOBAL TEMPERATURE PATTERNS

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- Surface and air temperature
- Large-scale geographic factors that influence air temperature
- Local factors that influence air temperature

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GEOGRAPHY SYLLABUS (GRADES 11-12)

- The annual range of surface temperature
- Atmospheric pressure
- Atmospheric pressure systems:
- Low pressure systems
- High pressure systems
- The direction of airflow
- Global pressure and atmospheric circulation:

  Tropical Circulation – Hadley cell

  Midlatitude Circulation – Ferrel cell

  Polar Circulation – Polar cell
- Permanent, seasonal, daily and local winds
- Human interactions: Harnessing wind energy
- Atmospheric moisture and precipitation
- Physical properties of water: Thermal properties of water and its physical states
- The hydrosphere and hydrologic cycle
- Humidity: maximum, specific and relative humidity
- Evaporation
- Cloud formation and classification: Including Fog
- Precipitation: Types of precipitation, precipitation processes
- Air masses and fronts
- Cyclones and anticyclones
- Evolution and character of midlatitude cyclones
- Tropical cyclones
- Climate and the factors that affect it
- Climate zones
- Climate change and global warming
- Human interactions and future climate change

LITHOSPHERE, HYDROSPHERE AND EARTH'S INTERNAL STRUCTURE

- Earth's inner structure: The major layers
- Rock and minerals in the Earth's crust
- Human interactions with the Rock Cycle: The case of petroleum

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GEOGRAPHY SYLLABUS (GRADES 11-12)

- Plate tectonics. The lithospheric plates
- Types of plate movements
- Earthquake: Seismic processes
- Volcanoes
- Earth's landforms (mountain ranges, plains)
- Groundwater and karst landscapes
- Movement and storage of groundwater
- Human interactions with groundwater
- Karst landforms and landscapes
- Fluvial systems and landforms
- Rivers and natural lakes
- Glacial geomorphology: Processes and landforms
- Development of a glacier
- Types of glaciers
- Glacial landforms
- Probable human impact on glaciers
- Coastal processes and landforms
- Oceans and seas on Earth (straits and bays)
- Islands and peninsulas
- The nature of coastlines: Interactions of Earth's spheres
- Human interactions with coastlines
- Global climate change and the impact on coastlines
- The Global Distribution and Character of Soil
- What is soil? Basic soil properties
- Soil-forming processes and factors

BIOSPHERE. ECOLOGY AND ENVIRONMENT. PROTECTION OF ECOSYSTEMS

- Biosphere as a science
- Ecosystems and their components. Biogeography
- The relationship of climate and vegetation: the character and distribution of global biomes. Natural zones
- The relations of living organisms with other layers of Earth
- Human impact on ecosystems: air pollution, deforestation, urbanization

BRAINIACS OLYMPIAD 2026
GEOGRAPHY SYLLABUS (GRADES 11-12)

- Environmental risks of economic development
- Parks, National Parks, Protected Areas
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HUMAN GEOGRAPHY

- Human geography as a science
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- Population structure
- Population density and distribution
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- Urban settlements. Urbanization

BRAINIACS OLYMPIAD 2026
GEOGRAPHY SYLLABUS (GRADES 11-12)

INDUSTRY AND ECONOMY

- Economic geography
- Economy. National economy and agriculture. World economy
- Industry. Light and heavy industry
- Types of industry: manufacturing, processing, assembly and high technology industry
- Labor resources and productive forces
- International division of labor and its types
- Developed and developing countries. G7 countries
- Human development index (HDI) and Gross domestic product (GDP)
- Energy, natural resources and their importance
- Globalization and its types.
- International economic relations
- International Trade. Transnational (TNCs) and Multinational corporations (MNCs)

SERVICE SECTORS

- Transport and its types
- Tourism and its types

GEOPOLITICS

- Conflicts and social problems
- International organizations
- Regional blocs and their influence on world politics

NATURAL DISASTERS AND GLOBAL PROBLEMS

- Natural disasters and catastrophes
- Types of natural disasters
- Earthquakes, volcanic eruptions
- Droughts, landslides, tsunamis and hurricanes
- Climate change and global warming

BRAINIACS OLYMPIAD 2026
GEOGRAPHY SYLLABUS (GRADES 11-12)

- Melting glaciers and flooding
- Desertification, soil degradation
- Water scarcity and water conflicts
- Energy security
- Global economic value

GEOGRAPHICAL SKILLS

- Skills of application, interpretation and analysis of geographical information: topographical map, other map, diagrams, graphs, tables of data, written material, photographs and pictorial material.
- Spatial Analysis and Synthesis
- Cartographic Modeling
- Application of graphical and other techniques
- An ability to interpret and evaluate information and produce reasoned conclusions.
- GIS and image skills
- Fieldwork skills. Select and conduct appropriate fieldwork techniques
- Mathematical and statistical skills for geographic analysis

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