

ACTIVIDADES DESARROLLADAS POR APRENDICES DE LA FICHA 2925802

Topografía y georreferenciación – Actividades de preguntas en línea en torno a los temas vistos en la Guía de Aprendizaje.

Surveys and Their Uses

Topographic surveys are essential for accurately mapping the land's surface features. These surveys are typically carried out by professionals using special instruments like GPS, total stations, and laser scanners. The data collected is then used to create topographic maps, which are vital for planning construction projects, designing drainage systems, and even conducting environmental studies.

These surveys are used in a variety of fields. Engineers use them to design safe and effective roads and buildings. Environmental scientists rely on them to assess the impact of human activities on the landscape. They are also crucial in mapping areas that may be at risk of natural disasters, such as floods or landslides.

Questions:

What instruments are commonly used in topographic surveys?

- A) Thermometers and barometers
- B) GPS and total stations
- C) Computers and printers
- D) Microscopes and telescopes

Why are topographic surveys important for engineers?

- A) They help engineers design safe and effective infrastructure
- B) They predict the weather conditions
- C) They measure population growth
- D) They study the movements of animals

What can environmental scientists use topographic surveys for?

- A) To study the history of the land
- B) To assess the impact of human activities
- C) To track weather patterns
- D) To measure economic growth

How are topographic surveys used in disaster preparedness?

- A) By predicting when natural disasters will occur
- B) By mapping areas at risk of floods or landslides
- C) By measuring air pressure
- D) By tracking the movement of tectonic plates

What is the result of a topographic survey?

- A) A weather report
- B) A list of local flora and fauna
- C) A topographic map
- D) A population density report

The Role of Topographic Maps in Urban Planning

Topographic maps are essential tools for urban planning. These maps show not only the natural landscape but also human-made features like roads, buildings, and parks. By understanding the terrain, city planners can decide where to build new infrastructure, such as roads, bridges, and residential areas. They also help in planning drainage systems, as topographic maps show where water is likely to flow during rainfall.

In addition to helping with infrastructure development, topographic maps are useful for preventing environmental issues, such as flooding. By analyzing the elevation and slope of the land, planners can identify areas that are at risk of flooding and design drainage systems to manage water effectively. This prevents damage to property and protects the local ecosystem.

Questions:

Why are topographic maps important in urban planning?

- A) They show historical monuments
- B) They help plan roads, buildings, and other infrastructure
- C) They indicate population trends
- D) They predict weather conditions

What features are included in a topographic map?

- A) Only natural features
- B) Only man-made features

- C) Both natural and man-made features
- D) Only population data

How can topographic maps help with flooding prevention?

- A) By showing where water is likely to flow during rainfall
- B) By predicting the amount of rainfall
- C) By measuring air pressure
- D) By indicating the location of rivers

What role do topographic maps play in city infrastructure design?

- A) They provide weather data
- B) They help identify areas suitable for construction
- C) They show the types of plants in an area
- D) They determine population density

What is one environmental benefit of using topographic maps in urban planning?

- A) Preventing environmental damage caused by construction
- B) Helping to create more jobs
- C) Decreasing the need for transportation
- D) Reducing urbanization

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SOPORTE EN TOPOGRAFIA Y GEORREFERENCIACION

The Impact of Topography on Agriculture

Topography greatly affects agriculture, influencing the type of crops that can be grown in a region. Flat areas with fertile soil are ideal for growing crops, while steep slopes are more difficult to farm. However, certain crops can still thrive on sloped land if the right farming techniques are used, such as terracing. In mountainous regions, farmers often build terraces to reduce soil erosion and create flat areas for planting.

Water availability is another factor affected by topography. Areas at higher elevations may have access to water from nearby rivers or streams, while lower areas may have to rely on irrigation systems. The slope of the land also impacts the flow of water, which is an important consideration for farming practices and irrigation planning.

Questions:

How does topography affect agriculture?

- A) It influences the type of crops that can be grown
- B) It has no effect on farming
- C) It determines the market price of crops
- D) It helps plants grow faster

What farming technique is used on steep slopes to reduce soil erosion?

- A) Irrigation

- B) Terracing

- C) Crop rotation

- D) Fertilization

What is one advantage of farming in mountainous regions?

- A) The land is always flat

- B) Water is always available

- C) Farmers can use terracing to create flat areas for crops

- D) It is easy to transport goods

How does the slope of the land affect water flow?

- A) Water flows faster on flat land

- B) Water flows slower on steep slopes

- C) Water flows faster on steep slopes

- D) The slope does not affect water flow

What is a key factor for farming in lowland areas?

- A) The availability of natural irrigation

- B) The use of large machines

- C) The need for irrigation systems

- D) The amount of rainfall

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FICHA:2925802 TOPOGRAFÍA

Introduction to Topography

Topography is the study of the surface features of an area, including both natural and human-made elements. These features might include mountains, rivers, valleys, forests, roads, and buildings. A topographic map represents these features using symbols, colors, and contour lines. Contour lines are especially useful as they represent areas of equal elevation, helping people understand the shape and slope of the land.

Topographic maps are used for various purposes, including outdoor activities like hiking, as well as urban planning and construction. For example, a construction engineer might use a topographic map to plan the location of roads, bridges, and buildings. In addition, topography plays a crucial role in environmental studies, as it helps to understand how the land can support different ecosystems.

Questions:

What does topography study?

- A) The weather patterns.
- ☒ B) The surface features of an area.
- C) The movement of animals.
- D) The history of human civilization.

What is the purpose of contour lines on a topographic map?

- A) To show different climates.
- ☒ B) To represent areas of equal elevation.
- C) To show population density.
- D) To mark roads and cities.

Why are topographic maps important in construction?

- ☒ A) They help determine the best places for building structures.
- B) They predict the weather.
- C) They show the location of historical sites.
- D) They measure temperature changes.

What can be shown using topographic maps in environmental studies?

- ☒ A) The impact of urbanization on local ecosystems.
- B) The number of animals in an area.
- C) The average rainfall in a region.
- D) The exact population of a city.

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What features do topographic maps represent?

- A) Only man-made features.
- B) Only natural features.
- ☒ C) Both natural and man-made features.
- D) Only land ownership.

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Contour Lines and Elevation

One of the most important elements of topographic maps are contour lines. These lines represent areas of equal elevation, helping us understand the shape of the land. For example, a series of concentric circles can indicate a mountain or hill. When the contour lines are close together, it means the slope is steep, and when they are spaced farther apart, the land is more gradual.

Understanding contour lines allows people to determine the elevation of different parts of the landscape. This is especially important for activities like hiking, where knowing the elevation can help a person prepare for the difficulty of the terrain. Similarly, engineers use contour lines to design roads and buildings that fit the natural shape of the land.

Questions:

What do contour lines represent?

- A) Areas with the same temperature
- B) Areas with the same vegetation
- C) Areas of equal elevation
- D) Areas of equal population

What does it mean when contour lines are close together?

A) The land is flat

B) The land is very steep

C) The land is covered in forests

D) The land is near a river

What do concentric circles on a topographic map usually indicate?

A) A river

B) A mountain or hill

C) A flat area

D) A building

Why is understanding contour lines important for hiking?

- A) To know the type of vegetation in the area
- B) To predict the weather
- C) To prepare for the difficulty of the terrain
- D) To estimate the distance between cities

How do engineers use contour lines?

- A) To design buildings that fit the natural landscape
- B) To measure air quality
- C) To study animal behavior
- D) To create maps of road networks