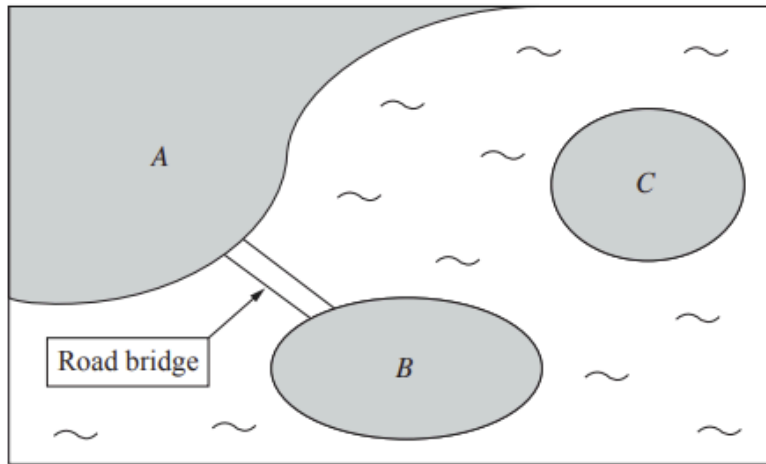
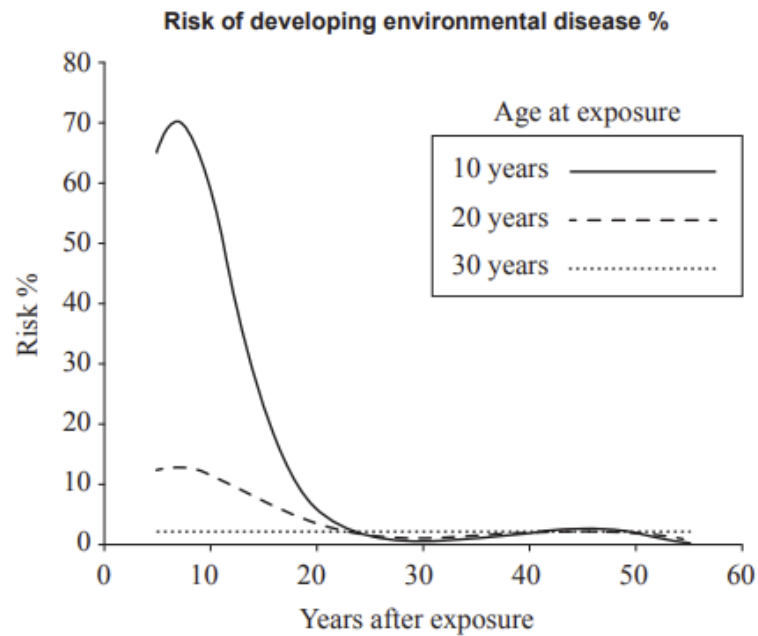


A population lives across three regions, *A*, *B* and *C* as shown.



People in community *B* developed an environmental disease. An epidemiological study was carried out to determine the risk of developing the disease due to age at exposure. The results of this study are shown in the graph.



Question continues next page

Design an epidemiological study that could be used to produce the results shown in the graph. Justify the features of your design.

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Justify

- Support an argument or conclusion.

Tips

- **Choose an appropriate type of study**
 - Use a retrospective cohort study (e.g. comparing individuals exposed at different ages in the past, tracking disease outcome).
- **Include essential study features**
 - Population: Individuals from all three regions
 - Grouping: Based on age at time of exposure
 - Exposure: Living in region B
 - Controls: People from regions A and C, or people in B not exposed
 - Data collected: Incidence of disease over time after exposure
- **Justify your choices using evidence from the graph**
 - Explain that early-age exposure shows highest disease risk

Epidemiological study: A scientific investigation that studies patterns, causes, and effects of health and disease conditions in defined populations.

Cohort study: Follows a group of individuals who share a common exposure and compares disease outcomes.

[Link to NESA Marking Guidelines and Sample Answer](#)