

Exercise walk-through

Scales of Analysis ■ 1.6

eXercise

You must be able to

- list scales of analysis: **global** 全球, **regional** 区域, **national** 国家, **local** 地方
- explain how the scale chosen changes what a pattern shows
- distinguish scale of analysis from map scale
- explain how **aggregation** 聚合 of data hides local variation

Method — Scales of analysis

Data can be studied at **global, regional, national, or local** scale. The scale you choose changes the conclusions you can draw.

Method — Scale changes the story

A country may look wealthy at the **national** scale, yet at the **local** scale hide poor neighbourhoods. Zooming in reveals variation the national average hides.

Method — Scale of analysis vs map scale

Scale of analysis = the level (local...global) you study data at. **Map scale** = the ratio of map distance to real distance. They are different ideas.

Practice 2.1 ■ 2 marks

List the four common scales of analysis from smallest to largest.

Solution 2.1

Method: Scales of analysis

Worked steps

local, national, regional, global **B1** **B1** *order; all four.*

Practice 2.2 ■ 2 marks

Explain how national-scale data can hide a local pattern.

Solution 2.2

Worked steps

a national average combines everyone **B1**; it can mask rich and poor areas that only appear at the local scale **B1**.

Practice 2.3 ■ 1 mark

A map shows average income by country.

- (a) State the scale of analysis.
- (b) State one thing this scale cannot show.

Solution 2.3

Method: Scale changes the story

Worked steps

(a) national scale **B1**. (b) differences within a country — local rich/poor areas **B1**.

Exam-style 3.1 ■ 1 mark

Studying voting results street by street in one town uses a

- A** global scale
- B** local scale
- C** national scale
- D** map projection

Solution 3.1

A global scale

B local scale



C national scale

D map projection

Worked steps

B. street-by-street within a town is the local scale of analysis.

Exam-style 3.2 ■ 1 mark

Combining many small areas into one large-area statistic is called

A aggregation

B diffusion

C distance decay

D projection

Solution 3.2

A aggregation

B diffusion 

C distance decay

D projection

Worked steps

B. merging data into larger units is aggregation.

Exam-style 3.3 ■ 1 mark

A country's literacy rate is 95%.

(a) What scale of analysis is this figure?

(b) Explain why a regional government might still find low-literacy areas.

Solution 3.3

Method: Scales of analysis

Worked steps

(a) national scale **B1**. (b) the national average aggregates all regions, hiding local areas below 95% **B1**.