PiSpace

Geography and data activity pack

Work from a fictional library dataset to build two maps, check a join and explain how a denominator changes the picture. Allow 35 to 50 minutes.

1. Join four districts to a map

In each grid below, NW is upper left, NE upper right, SW lower left and SE lower right. Join by code. Leave the south-east different from zero and keep the missing value visible. All values and districts in this exercise are fictional.

Code	Residents	Libraries	Libraries per 10,000
NW	200,000	20	
NE	60,000	12	
SW	80,000	8	
SE	90,000	Unknown	

2. Draw two maps with different legends

For the count map, mark 0 to 10 as L and 11 or more as H. For the rate map, first calculate libraries ÷ residents × 10,000. Mark rates below 1.5 as L and 1.5 or more as H. Use ? for missing data on both maps. Add a title and explain what moved between categories.

Count map: west	Count map: east	Rate map: west	Rate map: east
NW:	NE:	NW:	NE:
SW:	SE:	SW:	SE:

3. Check your answers

Code	Rate per 10,000	Count class	Rate class
NW	1	H	L
NE	2	H	H
SW	1	L	L
SE	Unknown	?	?

NW has more libraries than NE but half the rate. NW and SW share a rate while having different counts. The SE population alone gives no library rate. Either map can answer a different question: the count helps discuss the number of buildings, while the rate compares provision relative to the population.

4. Try one change

Suppose NW keeps 20 libraries but its population falls to 100,000. Predict which class changes. Recalculate: the rate becomes 2 and moves to H. The count stays 20 and remains H. For a real map, explain what the figures still say nothing about, such as opening hours or journey times.

Write your two captions

Name one limitation and a source you could check