

Mathematics

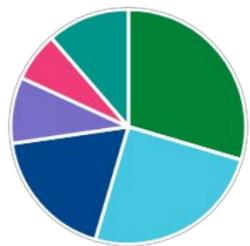
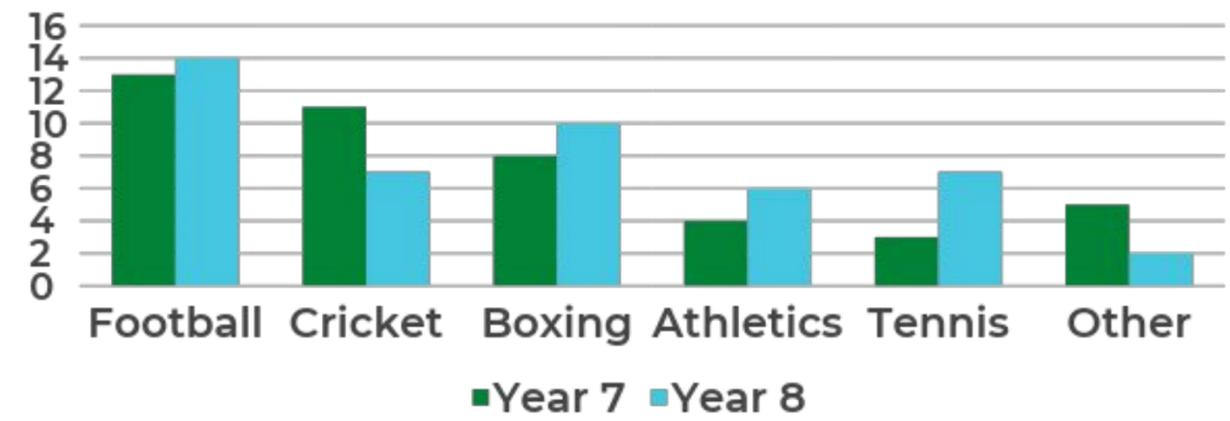
Choosing the right graph

Mr Millar

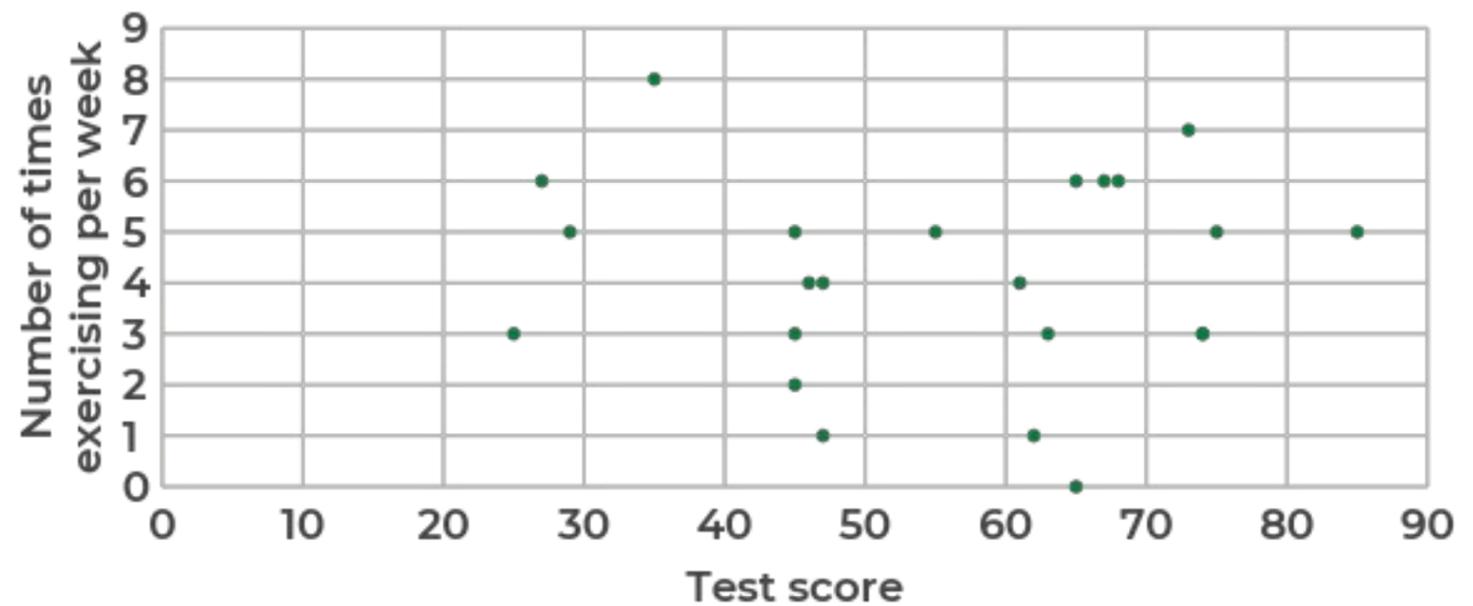


Try this

What's the same and what's different about these graphs?

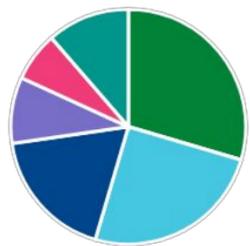
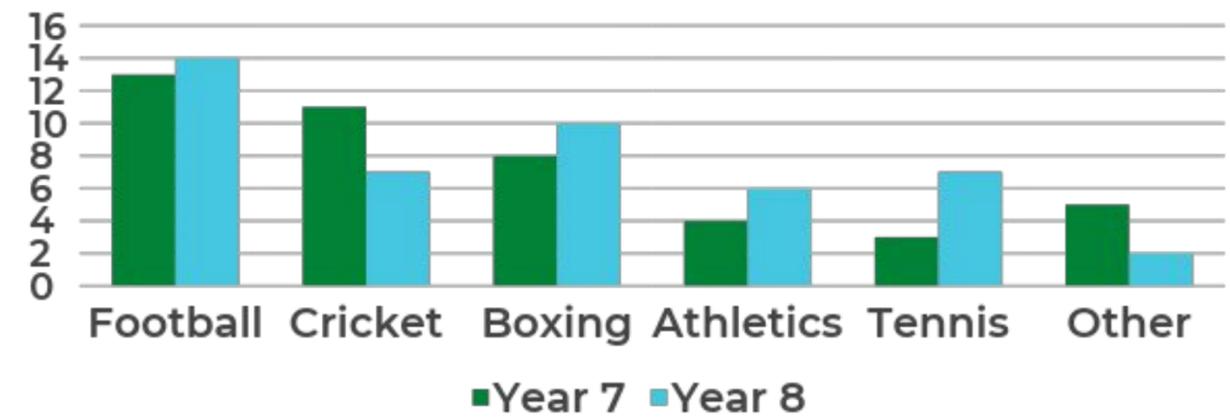
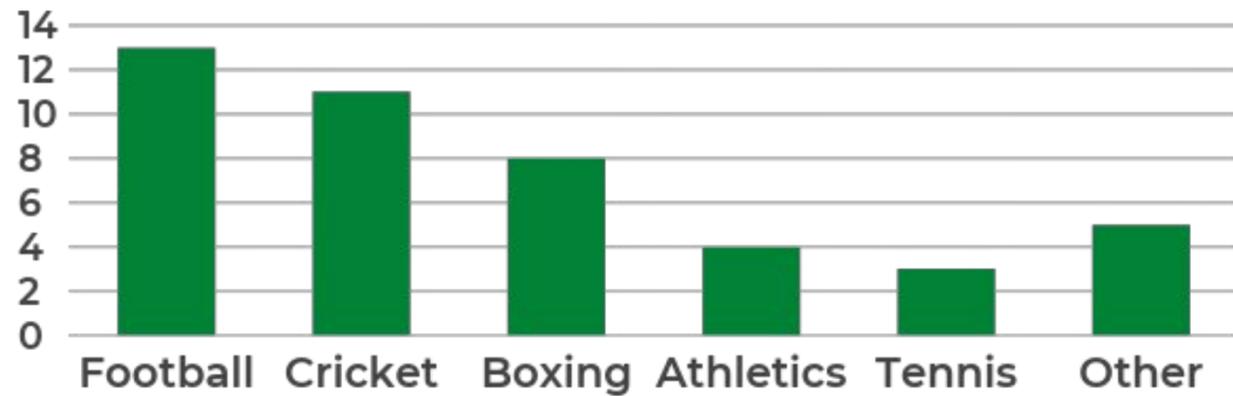


- Football
- Cricket
- Boxing
- Athletics
- Tennis

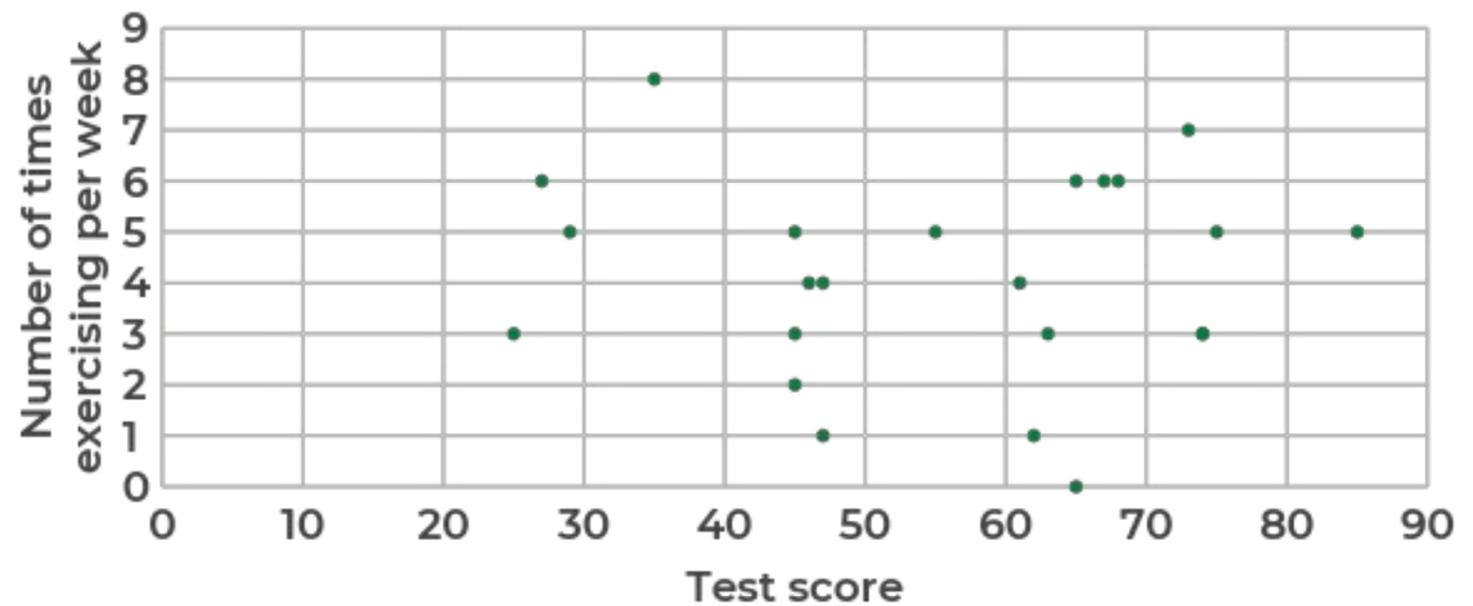


Connect

What data had to be collected for each graph?



- Football
- Cricket
- Boxing
- Athletics
- Tennis



Independent task

The table on the right shows data collected on life expectancy and GDP per capita (\$) for different countries.

Complete the summary statistics for the following

	Sum Life Expectancy	Mean Life Expectancy	Range Life Expectancy	Sum GDP	Mean GDP	Range GDP
Western Europe						
Asia						
Africa						

Country	Continent	Life Expectancy	GDP
Belgium	Western Europe	81	40,000
France	Western Europe	82	38,000
Germany	Western Europe	81	46,000
UK	Western Europe	81	38,000
Spain	Western Europe	83	33,000
Sweden	Western Europe	82	43,000
Bangladesh	Asia	72	3,000
China	Asia	76	21,000
Afghanistan	Asia	64	1,900
Japan	Asia	84	36,000
Thailand	Asia	76	14,000
South Korea	Asia	82	35,000
Pakistan	Asia	67	5,000
Ethiopia	Africa	65	1,600
Chad	Africa	53	2,400
South Africa	Africa	63	12,000
Nigeria	Africa	53	6,000
Morocco	Africa	76	7,600
Swaziland	Africa	55	7,700



Explore

Which data would you display, and in which graph, to test the following hypotheses?

Western Europe has a higher average life expectancy than Africa or Asia

Asia has a wider of spread of GDP per capita than Western Europe or Asia

Western Europe has a higher average life expectancy AND GDP per capita than Africa or Asia

There is a positive correlation between life expectancy and GDP per capita

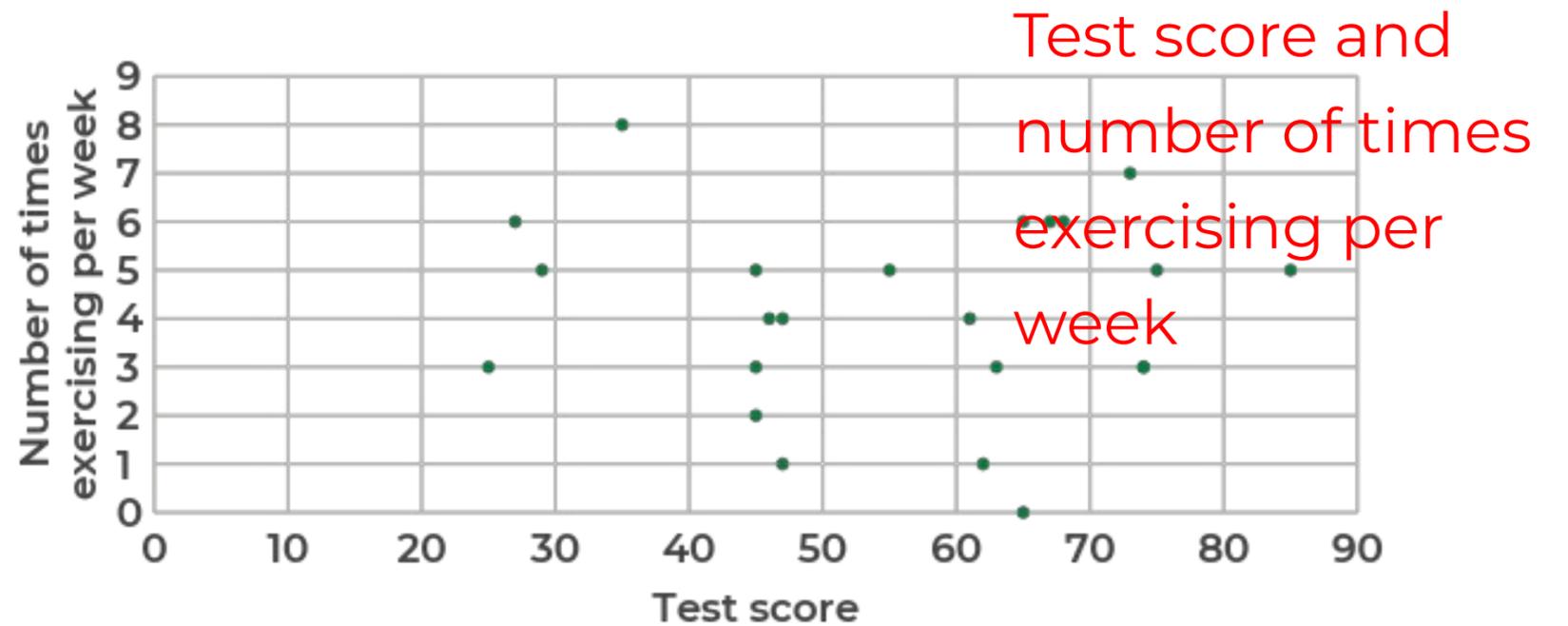
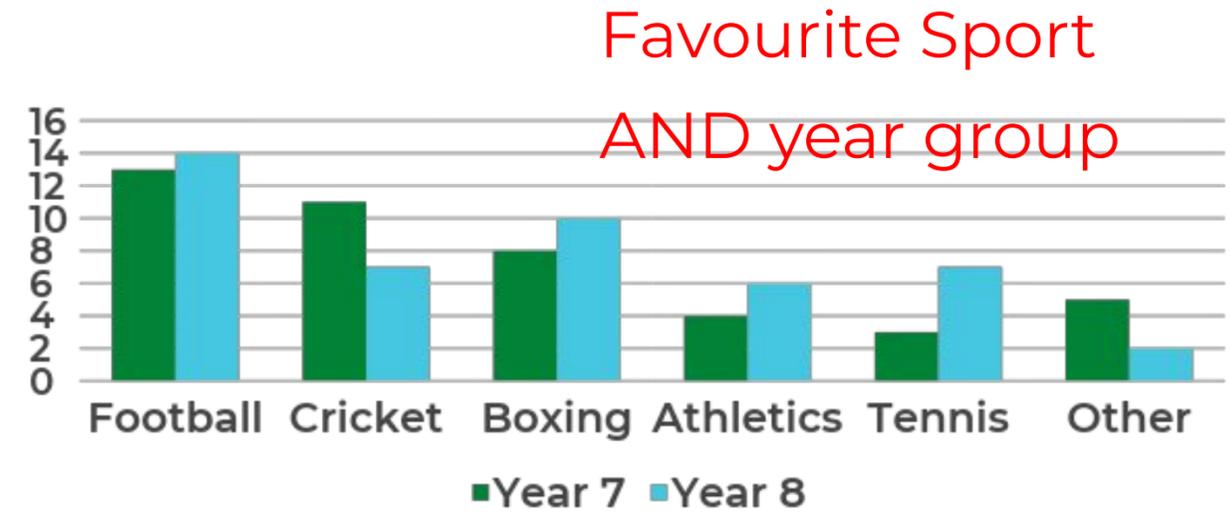
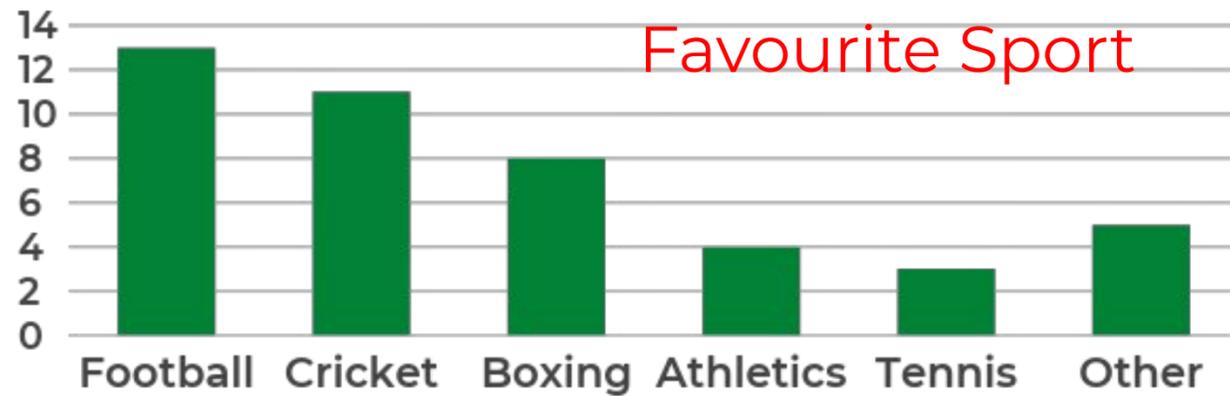


Answers



Connect

What data had to be collected for each graph?



Independent task

The table on the right shows data collected on life expectancy and GDP per capita (\$) for different countries.

Complete the summary statistics for the following

	Sum Life Expectancy	Mean Life Expectancy	Range Life Expectancy	Sum GDP	Mean GDP	Range GDP
Western Europe	490	82	2	238,000	39,667	13,000
Asia	521	74	20	115,900	16,557	34,100
Africa	365	61	23	37,300	6,217	10,400

Country	Continent	Life Expectancy	GDP
Belgium	Western Europe	81	40,000
France	Western Europe	82	38,000
Germany	Western Europe	81	46,000
UK	Western Europe	81	38,000
Spain	Western Europe	83	33,000
Sweden	Western Europe	82	43,000
Bangladesh	Asia	72	3,000
China	Asia	76	21,000
Afghanistan	Asia	64	1,900
Japan	Asia	84	36,000
Thailand	Asia	76	14,000
South Korea	Asia	82	35,000
Pakistan	Asia	67	5,000
Ethiopia	Africa	65	1,600
Chad	Africa	53	2,400
South Africa	Africa	63	12,000
Nigeria	Africa	53	6,000
Morocco	Africa	76	7,600
Swaziland	Africa	55	7,700



Explore

Which data would you display, and in which graph, to test the following hypotheses?

Bar chart of mean
life expectancy

Western Europe has a higher average
life expectancy than Africa or Asia

Comparative bar chart of mean life
expectancy and mean GDP

Western Europe has a higher average
life expectancy AND GDP per capita
than Africa or Asia

Bar chart of range
of GDP

Asia has a wider of spread of GDP per
capita than Western Europe or Asia

Scatter diagram, life
expectancy vs GDP

There is a positive correlation between
life expectancy and GDP per capita

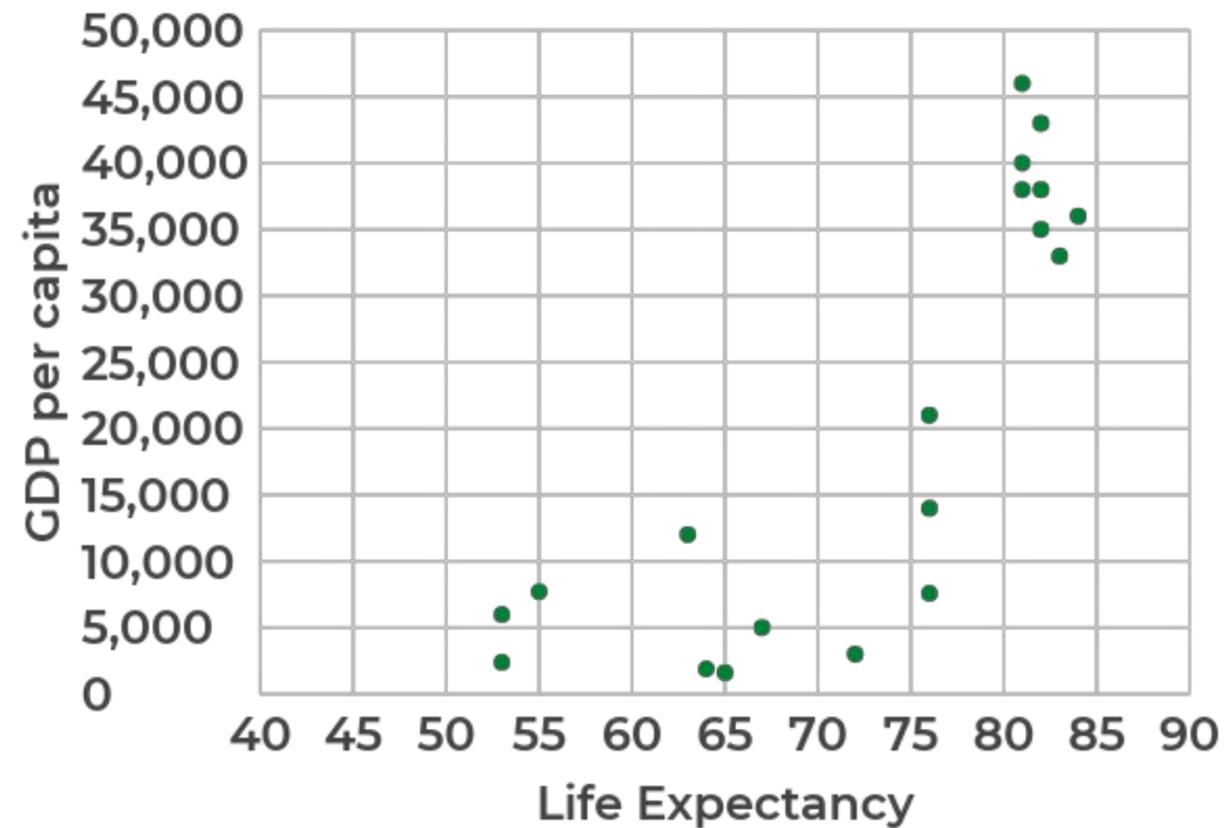
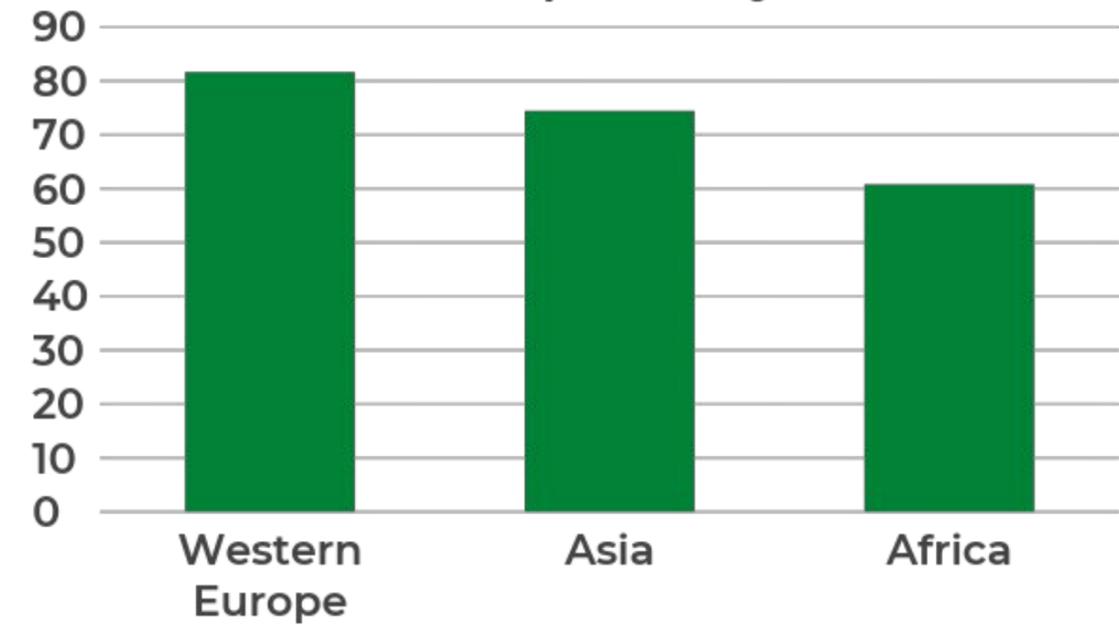


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Example charts

Western Europe has a higher average life expectancy than Africa or Asia

Life Expectancy



There is a positive correlation between life expectancy and GDP per capita

