

Index Numbers

Examples and key information

$$\text{INDEX NUMBER} = \frac{\text{value}}{\text{value in base year}} \times 100$$

$$\text{WEIGHTED INDEX NUMBER} = \frac{\sum(\text{index number} \times \text{weight})}{\sum \text{weights}}$$

$$\text{Standardised rate} = \frac{\text{crude rate}}{1000} \times \text{standard population}$$

$$\text{Crude birth/death rate} = \frac{\text{number of births / deaths}}{\text{total population}} \times 1000$$

You'll be given this formula in your exam.

EXAMPLE:

The numbers of deaths in Portlidge in each age group over one year are shown below. Calculate the standardised death rate for each age group and for the town of Portlidge.

	Deaths	Crude rate for age group	Standard pop.	Standardised rate (to 1 d.p.)
< 18	120	$\frac{120}{56800} \times 1000 = 2.11\dots$	88.02...	$\frac{2.11\dots}{1000} \times 88.02\dots = 0.2$
18-29	2100	$\frac{2100}{56800} \times 1000 = 36.97\dots$	545.77...	$\frac{36.97\dots}{1000} \times 545.77\dots = 20.2$
30-60	3450	$\frac{3450}{56800} \times 1000 = 60.73\dots$	352.11...	$\frac{60.73\dots}{1000} \times 352.11\dots = 21.4$
> 60	412	$\frac{412}{56800} \times 1000 = 7.25\dots$	14.08...	$\frac{7.25\dots}{1000} \times 14.08\dots = 0.1$
				$0.2 + 20.2 + 21.4 + 0.1 = 41.9$

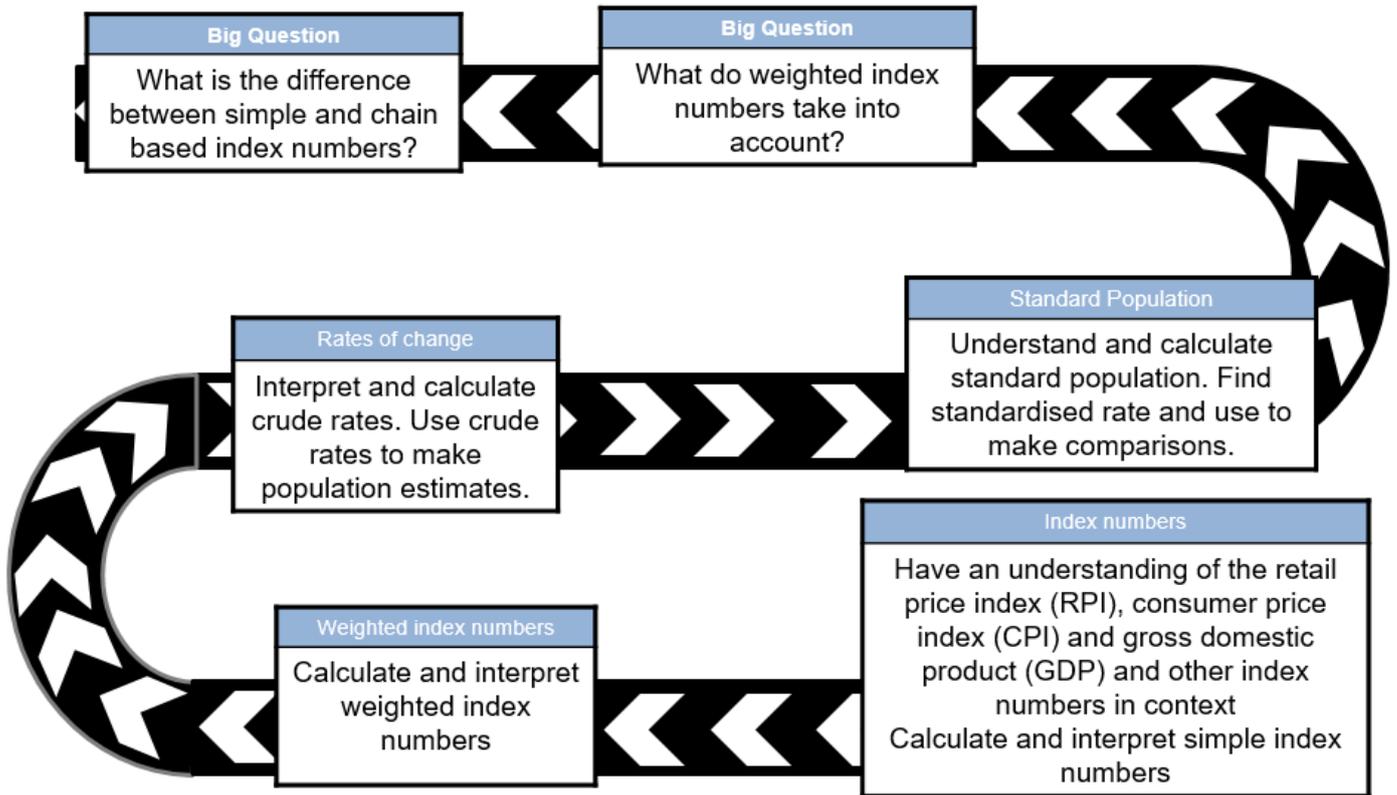
These add up to give the total crude death rate for the town (107.1 to 1 d.p.).

- 1) Calculate the crude rate for each age group using the formula from p.67.
- 2) Use the formula above with these crude rates and the standard populations for each group.
- 3) Add up the rates to find the rate for the town.

Success Criteria: Index Numbers
I can...
Calculate and interpret simple index numbers
Calculate and interpret weighted index numbers
Interpret and calculate crude rates.
Use crude rates to make population estimates.

Think big.
Chase dreams.
Succeed together.

Mathematics Learning Journey: Index Numbers



Achievement
 resilience
 Community
 PERSEVERANCE
 Pride

SHUTTLEWORTH COLLEGE

<p>DEFINITION</p> <p>ETYMOLOGY/MORPHOLOGY</p>	<p>CHARACTERISTICS</p>
<p>EXAMPLES</p>	<p>NON-EXAMPLES</p>