



Level 3 Certificate

MATHEMATICAL STUDIES

Paper 1

June 2024

Preliminary Material

To be opened and issued to candidates on
Friday 1 March 2024 or as soon as possible after that date.

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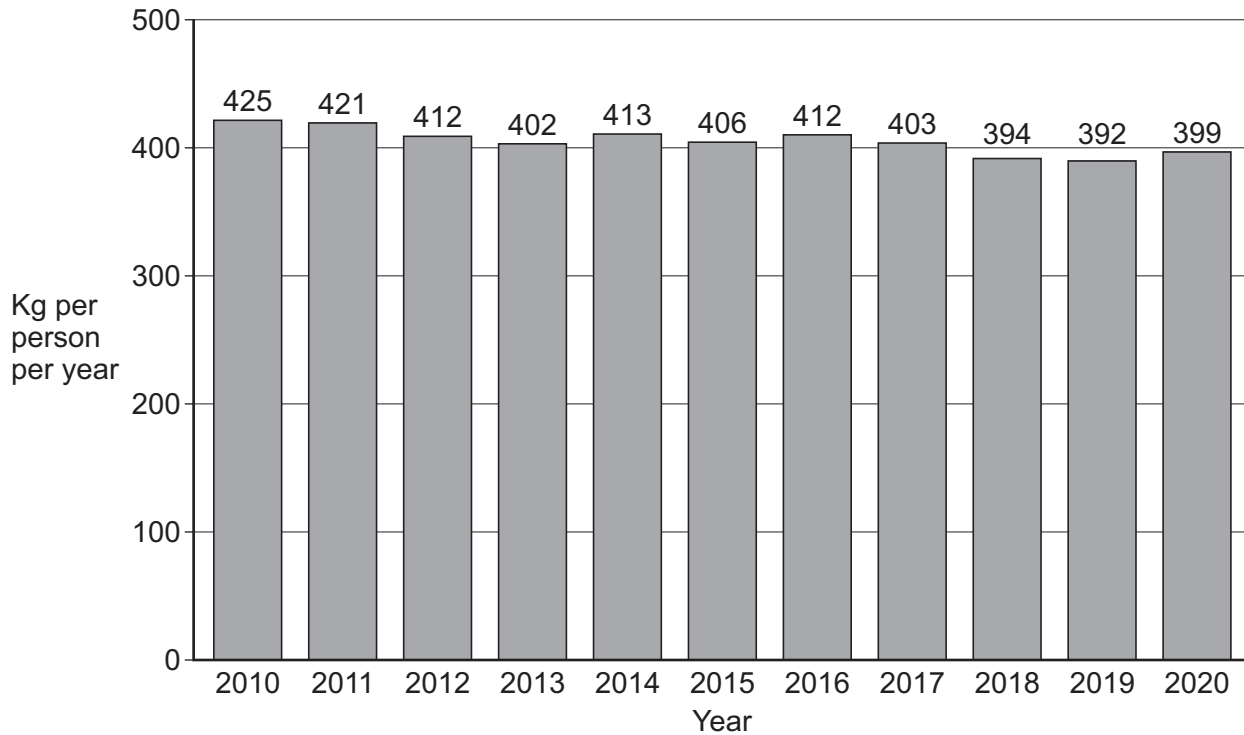
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Household Waste

The graph shows the **total** number of kilograms of waste produced per **person per year** in England.

Household waste (kg) per person per year in England from 2010 to 2020



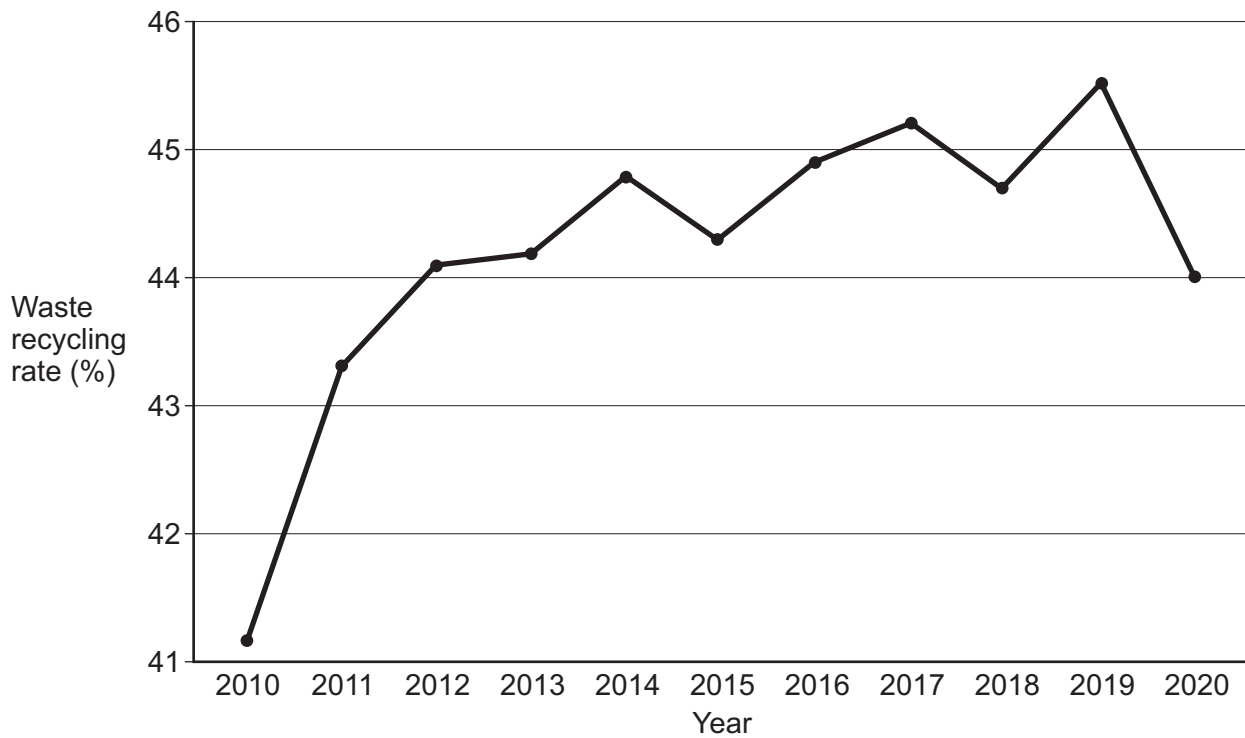
Waste is calculated per person rather than per household as different size houses will have different numbers of people living in them.

Waste sent to landfill is called **residual** waste.

Local councils normally make two separate collections of household waste, one for waste that is sent to landfill sites and one for recycled waste.

The graph on the page opposite shows the percentage of household waste recycled from 2010 to 2020

Recycling rate of waste from households in England from 2010 to 2020



2020 was an unusual year and the rate of recycling started to increase again in 2021

The councils launched a new recycling campaign in 2023 and they are confident that this will improve the amount of waste households recycle.

Turn over ►

Income Tax and National Insurance 2023–2024

Income tax 2023–2024

Most people in the UK have a personal allowance. This is their annual amount of tax-free income. The standard personal allowance for 2023–2024 is £12 570

The rates of income tax you pay depend on how much income you have **above** your personal allowance.

Income tax rates and taxable bands 2023–2024

Income after allowances	Income tax rate
up to £37 700	20%
over £37 700 and up to £150 000	40%
above £150 000	45%

To calculate your income tax

Find your taxable income by subtracting your personal allowance from your annual gross income.

You pay income tax at 20% on the first £37 700 of your taxable income.

You pay income tax at 40% on your taxable income over £37 700 up to £150 000

You pay income tax at 45% on your taxable income over £150 000

National Insurance (NI) 2023–2024

Percentage NI due	Minimum monthly income	Maximum monthly income	Minimum yearly income	Maximum yearly income
0%		up to £1048		£12570
12%	£1048	£4189	£12570	£50270
2%	above £4189		above £50270	

Examples

A person who has a monthly income of £1800 pays 12% on the amount above £1048

A person who has a yearly income of £62000 pays 12% on the amount between £12570 and £50270 plus 2% of the amount above £50270

END OF PRELIMINARY MATERIAL

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