



### Activity description

Students find the income tax paid on typical earnings for a variety of jobs.

### Suitability and Time

Level 2 (Higher) or L3 Core Maths 1.5 – 2.5 hours

### Resources and equipment

Information sheets, worksheet, slideshow

### Key mathematical language

Per annum, income tax, tax allowance, taxable income, tax rates

### Notes on the activity

Information sheet A gives the standard personal tax allowance and income tax rates for the tax year 2018-19, followed by examples of their use for basic and higher rate tax payers.

The slideshow can be used to introduce the activity. It begins with some images of workers followed by the information and examples from Information sheet A.

Information sheet B gives typical annual earnings for a variety of jobs.

The worksheet starts with two questions that are similar to those in the slideshow. These can be used to find out whether students are able to calculate tax correctly, before they are asked to investigate the tax that would be paid on the earnings from two or more jobs from Information sheet B.

### During the activity

Students can work individually or in pairs or small groups to find and compare results.

The slideshow includes the answers to the first two questions on the worksheet and these can be used to explain the steps again to any students who find this work difficult.

### Points for discussion

Check that students know how to calculate annual earnings from weekly pay or monthly salary.

Discuss the meaning of key words such as 'per annum', 'tax allowance', 'taxable income' etc.

Ask students to suggest methods that can be used to calculate 20% and 40% of taxable income.

Some 'Think about' questions are included on the slideshow to aid class discussion. The slideshow also includes some questions that can be used at the end of the activity to help students to reflect on the work they have done and think about how the relationship between income tax and earnings could be shown on a graph.

## Extensions

Students could use the internet to find salaries for careers that interest them and calculate the income tax that they would have to pay on these salaries.

Some students may like to find out more about how personal tax allowances are calculated. This could include how personal tax allowances are reduced for those earning more than £100 000. More able students could then calculate the tax paid by very high earners such as television celebrities or footballers.

Some students may be able to set up a spreadsheet to calculate income tax.

## Answers

1 Annual income = £2275 × 12 = £27 300

Taxable income = £27 300 – £11 850 = £15 450

Income tax at the basic rate = 20% of £15 450 = **£3090**

2 Taxable income = £79 800 – £11 850 = £67 950

Income tax at the basic rate = 20% of £34 500 = £6900

Income tax at the higher rate = 40% of (£67 950 – £34 500)

= 40% of £33 450 = £13 380

Total tax = £13 380 + £6900 = **£20 280**

3

Job	Typical salary (per annum)	Income tax (per annum)	Job	Typical salary (per annum)	Income tax (per annum)
Accountant	£49 850	<b>£8300</b>	MP	£77 379	<b>£19 311.60</b>
Bank manager	£46 000	<b>£6830</b>	Nurse	£33 000	<b>£4230</b>
Bus driver	£24 900	<b>£2610</b>	Office administrator	£22 300	<b>£2090</b>
Dancer	£20 700	<b>£1770</b>	Pilot	£83 800	<b>£21 880</b>
Dentist	£82 500	<b>£21 360</b>	Sales assistant	£19 750	<b>£1580</b>
Doctor	£84 500	<b>£22 160</b>	Supermarket manager	£63 500	<b>£13 760</b>
Electrician	£29 500	<b>£3530</b>	TV presenter	£46 900	<b>£7120</b>
Hairdresser	£21 750	<b>£1980</b>	Truck driver	£29 800	<b>£3590</b>
IT project manager	£61 950	<b>£13 140</b>	Vehicle mechanic	£22 500	<b>£2130</b>
Labourer	£19 350	<b>£1500</b>	Waiter/waitress	£16 200	<b>£870</b>