

2 Making ends meet



My name is Howard. I have just started a job in the new sandwich bar at the airport. I have two children. My son is aged $17\frac{1}{2}$. He works in a sports shop called *Sports OK*. My daughter is 14 and attends the local high school.

It is important that I understand the details of my payslip, how much of my pay is **deducted** each week and how much I actually take home – my **net pay**.

I use my take-home pay to pay my bills, buy food and other essentials. I also save for holidays and special occasions.

I need to plan my weekly **budget** and make a note of everything I spend money on. Then I can see how much I have left each week.

Talk about it

Have you ever seen a payslip?

Have you ever tried to understand a payslip?

What bills do you have to pay? How often do you pay them?

How do you make sure you have enough money when you go shopping?

Do you work out in advance how you are going to pay for all the things you need?

How do you pay for special events like birthdays and Christmas?

These are the skills you will practise in this unit.

Which are the most useful for you? Tick the boxes.

☐ Adding and subtracting money using **decimals**

☐ Rounding money to the nearest £ and 10p

☐ Reading, writing and understanding **decimals** up to two decimal places

☐ Using a calculator to calculate with money

☐ Using +, −, ×, ÷ and = for solving problems

Skill code

MSS1/E3.1

MSS1/E3.2

N2/E3.3

N2/E3.4

N1/E3.9

The payslip – gross pay

I work at the airport in the new sandwich bar. I work a 38-hour week, and I'm paid an hourly rate of five pounds and seventy-five pence.



Five pounds and seventy-five pence can be written £5.75. The decimal point keeps the pounds and pence separate. The pound values sit on the left of the decimal point and the pence values sit on the right.

Pounds			.	Pence	
Hundreds (£)	Tens (£)	Units (£)	.	tenths (£)	hundredths (£)
		5	.	7	5



Activity 1



Ali Green is another worker in the sandwich bar. His hourly rate is five pounds and twenty-five pence. Write this amount in figures.

Remember

Hourly rate – the amount paid for one hour of work.

Gross pay – the amount somebody earns before anything is taken out (income tax, national insurance contributions).

To calculate **gross pay**, multiply the rate of pay per hour by the number of hours worked.

To calculate Howard's **gross pay**, multiply £5.75 by 38 hours.

To enter £5.75 in a calculator, use these buttons in this order.

5 . 7 5

To multiply, enter \times .

Then enter 3 8 for the number of hours.

Finally, press $=$ to get the answer.

The figure shown on the calculator is **218.5**

This is Howard's **gross pay**. Check that you can get this answer on your calculator.

Remember

The calculator does not show the zero if it is the last digit and is after the decimal point.

Howard's gross pay is £218.50. Here's how it is written in a place-value table:

Pounds			•	Pence	
Hundreds (£)	Tens (£)	Units (£)	•	tenths (£)	hundredths (£)
2	1	8	•	5	0

Note how we put a 0 in the hundredths column. This makes it look like an amount of money so that 50p and 5p are not muddled up.

Activity 2

Winston, Ali, Geeta and John work with Howard at the sandwich bar. Work out their **gross pay** and complete the table.

Name	Pay per hour (£)	Number of hours worked per week	Gross pay (£)
Howard Jones	5.75	38	218.50
Winston Ramsey	5.50	36	
Ali Green	5.25	36	
Geeta Singh	4.25	35	
John Gates	3.50	36	

Activity 3

Write the gross pay for each person in the place-value table.

	Pounds			•	Pence	
Name	Hundreds (£)	Tens (£)	Units (£)	•	tenths (£)	hundredths (£)
Howard Jones	2	1	8	•	5	0
Winston Ramsey						
Ali Green						
Geeta Singh						
John Gates						



Review

Do you need more practice in working out gross pay?

Yes ☐ No ☐

For more work on this, go to H1 (page 13) or E1 (page 15).

Working out net pay

Unfortunately, I do not take home my **gross pay**. This is because each week I have to pay **income tax**, **national insurance contributions** and a contribution to a **pension** fund. These are called **deductions**. The amount of money I actually take home each week is my **net pay**.

Remember

Deductions – amount of money taken from **gross pay**.

Net pay – amount of pay left after deductions (sometimes called ‘take-home pay’).



Activity 4

	Amount in £
GROSS PAY	218.50
DEDUCTIONS	49.95
NET PAY	

Remember

When we use a calculator to subtract two amounts we key in the larger number first.

To calculate my **net pay** I have to subtract (–) the **deductions** from my **gross pay**.

Net pay = gross pay – deductions

Net pay = £218.50 – £49.95

Net pay =



Activity 5



Calculate the **net pay** for Ali, Geeta, John and Winston. Use a calculator to check your answers.

Name	Amount in £
Ali Green	
GROSS PAY	189.00
DEDUCTIONS	42.26
NET PAY	

Name	Amount in £
Geeta Singh	
GROSS PAY	148.75
DEDUCTIONS	34.44
NET PAY	

Name	Amount in £
John Gates	
GROSS PAY	126.00
DEDUCTIONS	25.42
NET PAY	

Name	Amount in £
Winston Ramsey	
GROSS PAY	198.00
DEDUCTIONS	38.20
NET PAY	

Activity 6

If I look closely at my payslip, I can find out what the deductions are for, and how much each deduction is.

Remember

Deductions are the amounts of money taken from **gross pay** for:

- **income tax** – this is for the government
- **national insurance contributions** – this is for the Department of Health and Social Security
- **pension** – this goes towards a pension fund

Employee name Howard Jones		Week 10	
Description	Amount (£)	Description	Amount (£)
Basic pay	218.50	Income tax	30.59
		National insurance	13.11
		Pension	6.25
		Total deductions	
Gross pay	218.50	Net pay	

Add up the **deductions**, then work out the **net pay** to complete the payslip.



Use a calculator.



Review

Do you need more practice in working out net pay?

Yes ☐

No ☐

For more work on this go to H2 (page 13) or E2 (page 15).

Rounding to the nearest pound

Employee name Howard Jones		Week 10	
Description	Amount (£)	Description	Amount (£)
Basic pay	218.50	Income tax	30.59
		National insurance	13.11
		Pension	6.25
		Total deductions	49.95
Gross pay	218.50	Net pay	168.55

Remember

Rounding

To round to the nearest pound (£) we have to look at the amount of pence.

If the amount is 50p or more, round to the next pound (£).

If the amount is 49p or less, round to the last pound (£).

Remember, 50p is half of £1 but is rounded up to the next pound.

Income tax = £30.59. I pay about £31 in income tax. I have rounded it to the nearest pound.

National insurance = £13.11. I pay about £13 in national insurance contributions. I have rounded it to the nearest pound.

Pension = £6.25. I pay about £6 towards my pension fund.

Altogether, my deductions are £49.95 a week. I could round this to the nearest pound. Then, it would be £50.

My net pay is £168.55, I could round this to the nearest pound, which is £169.



Activity 7



Complete the table using the information above.

	Amount (£)	To the nearest £
Income tax	30.59	
National insurance	13.11	
Pension	6.25	
Total deductions	49.95	



Activity 8

Complete the following tables.

1

Ali Green	Amount (£)	To the nearest (£)
Income tax	24.66	
National insurance	12.35	
Pension	5.25	
Total deductions		

2

Geeta Singh	Amount (£)	To the nearest (£)
Income tax	19.96	
National insurance	9.98	
Pension	4.50	
Total deductions		

3

John Gates	Amount (£)	To the nearest (£)
Income tax	13.70	
National insurance	8.22	
Pension	3.50	
Total deductions		

4

Winston Ramsey	Amount (£)	To the nearest (£)
Income tax	22.30	
National insurance	11.15	
Pension	4.75	
Total deductions		

5 What do you notice when you compare the exact totals with the rounded totals?

.....



Review

Do you need more practice in rounding to the nearest pound (£)?

Yes ☐ No ☐

For more work on this, go to H3 (page 14) or E4 (page 16).

The family budget



Activity 9



My son Luke works in the sports shop,
Sports OK. He earns £180 a week. He gives
me £50.50 a week towards his keep.
I get **child benefit** for Gemma.
Every four weeks, I get £63 in **child benefit**.



To calculate how much this is each week, divide £63 by 4.

£63 ÷ 4 =



Activity 10



I need to know how much
money I get each week.

Fill in the amounts and work out the total.

My net weekly pay (see page 6)

£ .

Luke's weekly contribution towards his keep

£ .

Weekly child benefit for Gemma

£ .

My weekly income is

£ .

Sometimes it seems like you get a bill every day!
It is important to keep account of them or they
can become a big headache.

I work out how much I need to put aside every
week so that I can pay my bills.



Activity 11

The table below shows how much Howard's bills come to each week. Complete the table to work out how much he spends on bills each week. The money spent on bills is sometimes called **outgoings**.

- Fill in the column headed 'rounded weekly amount (£)'.
- Then work out the weekly totals for both columns.

Bill	Weekly amount (£)	Rounded weekly amount (£)
Rent	73.84	74
Council tax	9.80	
Water rates	7.43	
Electricity	4.15	
Gas	6.08	
Telephone	6.84	
Total		

Be careful when you key in the amount for the gas bill. Make sure you key in 6.08, not 6.8. The 0 is important.

(What is 6.8 written in pounds and pence? £..... . See the difference?)

Howard's exact weekly outgoings for bills is £

The rounded weekly outgoing is £

Is it helpful to round the amounts?

Activity 12

To find out how much money for food, other essentials and savings Howard has left, write down the weekly income and then subtract the weekly outgoings for bills.

Weekly **income** (Activity 10) £.....

Weekly **outgoings** for bills (exact amount) (Activity 11) £.....

Income – outgoings = £.....

Each week there is £ to buy food, other essentials and to save.

Review

Do you need more practice in working with bills?

Yes ☐ No ☐

For more work on this, go to H3 (page 14) or E4 (page 16).

This work links to mini-project M1 (page 16).

Weekly shopping

I have just been shopping. Before I took my trolley of goods to the till, I rounded the price of each item to the nearest 10p. I did this so that I could add them in my head to be sure that I would be able to pay for my goods. That way, I would not be embarrassed because I did not have enough money.



Activity 13

- 1 Round 76p to the nearest 10p. 76p is between 70p and 80p.



It is closer to 80p. So, 76p to the nearest 10p is 80p.

- 2 23p is between 20p and 30p. Mark the position of 23p on this line.



23p to the nearest 10p is

- 3 45p is between and . Mark the position of 45p on the line.



It is exactly half way between 40p and 50p. We round 45p to 50p.

- 4 £2.37 is between £2.30 and . Mark the position on the line.



£2.37 to the nearest 10p is

- 5 Complete the table by rounding each amount of money to the nearest 10p.

Amount	To the nearest 10p
87p	90p
£0.32	£0.30 or 30p
£0.45	
24p	
7p	
£1.68	
£2.31	

Check your answers with another person before continuing.

Activity 14

Here is a supermarket till receipt.

- Round the items on the bill to the nearest 10p.
- Total the rounded and exact amounts. Use a calculator.
- Compare the two totals (the actual amount with the rounded amount).



ITEMS	ACTUAL COST (£)	

BAKED BEANS (4 TINS)	0.88	£0.90
SAUER CHICKEN FILLETS (4)	2.99	.....
POTATOES (5 KG)	1.28	.....
MILK (4 PINTS)	1.35	.....
BREAD	0.41	.....
TEA BAGS	1.23	.....
COFFEE	1.62	.....
FROSTY LEMONADE	0.47	.....
ECONOMY 3-PACK BISCUITS	0.58	.....
TIN CARROTS	0.15	.....
TIN PEAS (LARGE)	0.54	.....
YOGHURT (4)	0.89	.....
CRISPS	1.07	.....
JAM	0.42	.....
TOTAL		
***** THANK YOU *****		

This food total is

£

Activity 15



Now work out how much money Howard has left after he has paid this food bill. (Look back at Activity 12 on page 9 to help you.)

Money for food and other essentials (see Activity 12)

Food bill

Money left



Review

Do you need more practice on rounding to the nearest 10p?

Yes

☐

No

☐

For more work on this, go to H4 (page 14).

This work links to mini-project M3 (page 16).

Gemma's budget



T-shirt	... £4.99	or	£6.99
CD	... £5.25	or	£8.99
magazine	... 75p	or	£1.25
book	... £3.75	or	£4.50
chocolate	... 52p	or	82p



It is Saturday and Gemma is out with her friends at a nearby shopping centre.

Gemma would like to buy a T-shirt, book, CD, magazine and some chocolate, but she only has £13 to spend.

Gemma realises that she will not be able to buy everything with £13.

To help her decide which items she can buy, Gemma rounds the individual prices to the nearest 10p.



Activity 16

- In this table, write down **three different** items that Gemma might buy with her £13.
- Write down the actual price.
- Write down the price rounded to the nearest 10p.
- Find the total for both columns.

Item	Actual price (£)	Rounded to the nearest 10p
Total		

- Use the total from the column headed 'Actual price (£)' to calculate how much money Gemma will have left from her £13.

Gemma has left.

Now choose some different items Gemma could have bought and work out her change from £13.



Review

Do you need more practice on rounding to the nearest 10p?

Yes ☐ No ☐

For more work on this, go to H4 (page 14), E3 (page 15) or E4 (page 16).

This work links to mini-project M2 and M3 (page 16).



Activity H1

Ruth, Tony and Sam work in the local supermarket.

Calculate their **gross pay**.

Name	Pay per hour (£)	Number of hours worked per week	Gross pay (£)
Ruth	4.25	40	
Tony	3.75	40	
Sam	5.00	40	



Activity H2

Complete these payslips.

Employee name Ali Green		Week 14	
Description	Amount (£)	Description	Amount (£)
Basic pay	205.49	Income tax	24.66
		National insurance	12.35
		Pension	5.25
		Total deductions	
Gross pay		Net pay	

Employee name Geeta Singh		Week 14	
Description	Amount (£)	Description	Amount (£)
Basic pay	166.35	Income tax	19.96
		National insurance	9.98
		Pension	4.50
		Total deductions	
Gross pay		Net pay	



Activity H3



Luke's take-home pay is £124 a week.

Luke has these expenses every week.

Contribution towards his keep	£50.50
Easy rider bus pass	£6.25
Mobile phone card	£5.00
Lunch at work	£2.10 for 5 days = £10.50

- 1 Complete the table below to work out Luke's weekly expenses.



	Actual price (£)	Cost rounded to nearest pound (£)
Contribution to keep		
Bus pass		
Mobile phone card		
Lunches		
Total		

Use the actual values to answer these questions.

- 2 How much of Luke's wages is left after he has taken off his expenses?
- 3 Luke would like to learn to drive. He decides to cycle to work and make his own sandwiches. How much could he save?



Activity H4

Here is a list of items Gemma and her friend bought on Saturday. Round the amounts to the nearest 10p and work out the actual total and rounded total.

Item	Cost (£)	To nearest 10p (£)
Nail varnish	0.89	
Pencil case	1.65	
Hair brush	1.25	
T-shirt	4.99	
Totals		



Extension

Activity E1



Mark, Luke's friend, works in the petrol station. He earns £5.64 an hour and works $39\frac{1}{2}$ (39.5) hours a week.

What is Mark's gross pay?

Activity E2



Complete the table.

Gross pay	196.75		215.26	
Deductions	39.86	32.61		65.15
Net pay		129.84	168.37	187.85



Activity E3



Michelle works 5 days a week at the golf driving range. She works from 9:00 am to 6:00 pm each day.

The total time taken out for her lunch and two breaks is one hour. She earns £3.55 per hour.

1 How many hours a day does Michelle actually work?

2 How many hours does she work in a week?

3 In one week Michelle's gross pay is

The following deductions are taken from her pay.

Income tax	£17.04
National insurance	£8.52
Pension	£4.25

4 Work out Michelle's total deductions.

.....

5 After deductions Michelle's net pay is

6 Michelle also has to pay her bus fare to and from work.

A single fare costs Michelle 90p.

a Michelle spends £ a day on bus fares.

b Her bus fares for 5 days cost £ .

7 When she has paid her bus fares, how much of her net pay is left?

£



Activity E4



Jack wants to buy the items shown in the table. He must make sure he has enough money, so he estimates the total cost. To do this he rounds the prices to the nearest £1.

Item	Actual price (£)	To the nearest pound (£)
Football book	8.75	
CD	5.99	
Sports socks	0.75	
Total		

How much does Jack estimate the total cost of these items will be?



Mini-projects



Activity M1

Think about your weekly expenses. As well as putting aside money for bills, there may be other expenses, such as travel and sporting or leisure activities.

Work out how much you spend and how much is left over each week.



Activity M2

Think of something you'd really like to buy and find out how much it costs.

Work out how much you think you could save each week and how long it would take you to save up for it.



Activity M3

Explore the Internet to find on-line shopping sites. Or you could look in a catalogue or go to a shop.

You'll get a list of shopping sites. Choose which items you'd like to buy. Round prices to the nearest pound or 10p and estimate the total cost.



Check it

Activity C1



Complete the payslip below.

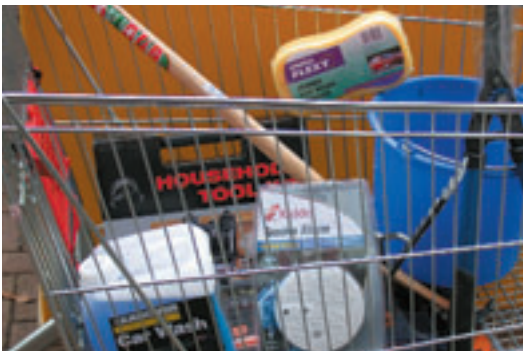
Employee name Winston Ramsey		Week 14	
Description	Amount (£)	Description	Amount (£)
Basic pay	208.52	Income tax	30.15
		National insurance (NI)	12.30
		Pension	4.98
		Total deductions	
Gross pay		Net pay	



Activity C2



I bought the following items at the DIY shop.



Smoke alarm



£6.49

Shears



£4.25

Tool kit



£39.99

Car wash kit



£9.05

Rake



£7.99

- 1 Round the price of each item to the nearest pound. Put the answer next to the item.
- 2 Exactly how much did I spend altogether?
- 3 If I hadn't bought the rake, how much would the exact total of the bill have been?



Activity C3



My neighbour has three children under 18.

She gets £10.55 in child benefit each week for **each** of the youngest two, and £15.75 for her oldest child.

How much child benefit altogether does she get each week?

.....

Activity C4

Round these items to the nearest 10p.

Item	Cost	To nearest 10p
Cola	37p	
Bus fare	74p	
Comb	£1.26	

How am I doing?

Now look back at the skills listed on page 1.

Then complete the sentences below.

I am confident with

.....

.....

I need more practice with

.....

.....

Date

Activity 1

£5.25

Activity 2

Name	Gross pay (£)
Winston Ramsey	198.00
Ali Green	189.00
Geeta Singh	148.75
John Gates	126.00

Activity 3

Winston Ramsey £198.00 Geeta Singh £148.75
 Ali Green £189.00 John Gates £126.00

Activity 4

Net pay = £168.55

Activity 5

Ali Green £146.74 Geeta Singh £114.31
 John Gates £100.58 Winston Ramsey £159.80

Activity 6

Total deductions £49.95
 Net pay £168.55

Activity 7

	Amount (£)	To the nearest £
Income tax	30.59	31
National insurance	13.11	13
Pension	6.25	6
Total deductions	49.95	50

Activity 8

1 Ali Green

	Amount (£)	To the nearest £
Income tax	24.66	25
National insurance	12.35	12
Pension	5.25	5
Total deductions	42.26	42

2 Geeta Singh

	Amount (£)	To the nearest £
Income tax	19.96	20
National insurance	9.98	10
Pension	4.50	5
Total deductions	34.44	34 35

3 John Gates

	Amount (£)	To the nearest £
Income tax	13.70	14
National insurance	8.22	8
Pension	3.50	4
Total deductions	25.42	25 26

4 Winston Ramsey

	Amount (£)	To the nearest £
Income tax	22.30	22
National insurance	11.15	11
Pension	4.75	5
Total deductions	38.20	38

5 The rounded 'total deductions' figure is not always the same as the sum of the rounded individual amounts.

Activity 9

£63 ÷ 4 = £15.75

Activity 10

My weekly net pay £168.55
 Luke's weekly contribution towards his keep £50.50
 Weekly child benefit allowance for Gemma £15.75
 My weekly income is £234.80



Activity 11

Bill	Weekly amount (£)	Rounded weekly amount (£)
Rent	73.84	74
Council tax	9.80	10
Water rates	7.43	7
Electricity	4.15	4
Gas	6.08	6
Telephone	6.84	7
Total	108.14	108

6.8 written in pounds and pence is £6.80.

Howard's exact weekly outgoings for bills is £108.14.

Howard's rounded weekly outgoing is £108.

Yes, it is sensible to round the amounts.

Activity 12

Weekly income £234.80

Weekly outgoings for bills £108.14

Income – outgoings £126.66

Each week I have £126.66 to buy food, other essentials and to save.

Activity 13

2 20p

3 Between 40p and 50p

4 Between £2.30 and £2.40; to the nearest 10p, £2.40

Your teacher will check your lines.

5

Amount	To the nearest 10p
87p	90p
£0.32	£0.30 or 30p
£0.45	£0.50 or 50p
24p	20p
7p	10p
£1.68	£1.70
£2.31	£2.30

Activity 14

Items	Actual cost (£)	Rounded to nearest 10p
Baked beans (4 tins)	0.88	£0.90 or 90p
Saver chicken fillets (4)	2.99	£3.00
Potatoes (5 kg)	1.28	£1.30
Milk (4 pints)	1.35	£1.40
Bread	0.41	£0.40 or 40p
Tea bags	1.23	£1.20
Coffee	1.62	£1.60
Frosty lemonade	0.47	£0.50 or 50p
Economy 3-pack biscuits	0.58	£0.60 or 60p
Tin carrots	0.15	£0.20 or 20p
Tin peas (large)	0.54	£0.50 or 50p
Yoghurt (4)	0.89	£0.90 or 90p
Crisps	1.07	£1.10
Jam	0.42	£0.40 or 40p
Total	13.88	14.00

This food bill totals £13.88.

Activity 15

Money for food etc. £126.66

Food bill –£13.88

Money left £112.78

Activity 16

Answers will vary depending on which articles are chosen and their total price.

Activity H1

Gross pay

Ruth £170

Tony £150

Sam £200

Activity H2

Ali Green

Gross pay £205.49

Total deductions £42.26

Net pay £163.23

Geeta Singh

Gross pay £166.35

Total deductions £34.44

Net pay £131.91



Activity H3

1

	Actual price (£)	Cost rounded to nearest pound (£)
Contribution to keep	50.50	51
Bus pass	6.25	6
Mobile phone card	5.00	5
Lunches	10.50	11
Total	72.25	73

2 Luke has $£124.00 - £72.25 = £51.75$ left.

3 He could save $£6.25$ (bus pass) + $£10.50$ (lunches) = $£16.75$ each week.

Activity H4

Item	Cost (£)	To nearest 10p (£)
Nail varnish	0.89	0.90
Pencil case	1.65	1.70
Hair brush	1.25	1.30
T-shirt	4.99	5.00
Totals	8.78	8.90

Extension

Activity E1

$$39.5 \times £5.64 = £222.78$$

Activity E2

196.75	162.45	215.26	253.00
39.86	32.61	46.89	65.15
156.89	129.84	168.37	187.85

Activity E3

- 1 8 hours
- 2 $8 \times 5 = 40$ hours
- 3 $£3.55 \times 40 = £142$
- 4 $£29.81$
- 5 $£112.19$
- 6 a $£1.80$
b $£9.00$
- 7 $£112.19 - £9.00 = £103.19$

Activity E4

Item	Actual price (£)	To the nearest pound (£)
Football book	8.75	9
CD	5.99	6
Sports socks	0.75	1
Total	15.49	16

The estimate is $£16.00$.

Mini-projects

Check your answers with your teacher.

Check it

Activity C1

Gross pay = $£208.52$

Total deductions = $£47.43$

Net pay = $£161.09$

Activity C2

- 1 Tool kit $£40.00$
Smoke alarm $£6.00$
Rake $£8.00$
Shears $£4.00$
Car wash kit $£9.00$

2 $£67.77$

3 $£59.78$

Activity C3

$$£10.55 + £10.55 + £15.75 = £36.85$$

Activity C4

Item	Cost	To nearest 10p
Cola	37p	40p
Bus fare	74p	70p
Comb	$£1.26$	130p or $£1.30$