# UNDERSTANDING INTEREST

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

**KEY IDEA**

**Interest is extra money, worked out as a percentage.**

**SAVING**

YOU → you save £100 → BANK

BANK → the bank pays YOU interest → YOU

**BORROWING**

BANK → the bank lends £100 → YOU

YOU → YOU pay back £100 + interest → BANK

**1** A bike costs £240. Lily pays for it in 6 monthly instalments (payments) of £45.

| £45 | £45 | £45 | £45 | £45 | £45 |
|---|---|---|---|---|---|
| month 1 | month 2 | month 3 | month 4 | month 5 | month 6 |

a) Total paid = £ ____

b) Extra paid = £ ____

**2** Does each person EARN interest or PAY interest? Circle your answer.

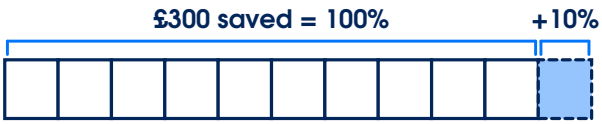
a) Mo puts £500 into a savings account. EARNS PAYS

b) Ella borrows money from a bank to buy a car. EARNS PAYS

c) Raj takes out a loan to pay for a holiday. EARNS PAYS

d) Sam's savings account pays 3% a year. EARNS PAYS

**3** Ali saves £300. After one year the bank adds 10% interest.

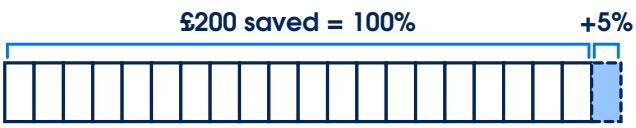



The blue part is the interest.

a) Interest = £ ____

b) Total = £ ____

**4** Zoe saves £200. After one year the bank adds 5% interest.




Each small part is 5%.

a) Interest = £ ____

b) In the account: £ ____

# UNDERSTANDING INTEREST

SUPPORT

NAME _____ CLASS _____ DATE _____

**KEY IDEA**

**Interest is a percentage of the money saved or borrowed. Savings earn interest; loans cost interest.**

- **Interest rate** the percentage used
- **Per annum** per year
- **Instalments** regular smaller payments
- **Total** amount + interest

**1** Draw a line to match each word to its meaning.

| | |
|---|---|
| **balance** | **each year** |
| **loan** | **one of a set of regular payments** |
| **per annum** | **money in a bank account now** |
| **instalment** | **money borrowed that must be paid back** |

**2** A sofa costs £600. Instead, you can pay 12 monthly instalments of £55.

**a)** Total paid = 12 × £55 = £ ____

**b)** Extra paid = £ ____

**c)** Extra as a percentage of £600 = $\frac{\text{extra}}{600}$ × 100 = ____ %

**3** Jo saves £800. The interest rate is 3% per annum. Find the interest and the balance after one year.




**a)** Interest = £ ____

**b)** Balance = £ ____

**4** Theo borrows £2000. He pays 8% interest and pays it all back in 10 equal monthly instalments.

**a)** How much interest does he pay? ____

**b)** How much does he pay back in total? ____

**c)** How much is each monthly instalment? ____

# UNDERSTANDING INTEREST

CORE

NAME _____ CLASS _____ DATE _____

**KEY IDEA**

Interest is worked out as a percentage of the amount saved or borrowed. Savings earn interest; loans cost interest. Read carefully: does the question want the interest only, or the total (amount + interest)?

## FLUENCY

**1** Complete the table for each savings account.

| AMOUNT SAVED | RATE PER ANNUM | INTEREST (1 YEAR) | BALANCE (1 YEAR) |
|---|---|---|---|
| £1200 | 2.5% | | |
| £650 | 4% | | |
| £15 000 | 1.8% | | |

**2** Mrs Khan borrows £18 000 to buy a car. She pays 12% interest on the loan and pays it all back in equal monthly instalments over 3 years.

a) How much interest does she pay? _____

b) What is the total she pays back? _____

c) How much is each monthly instalment? _____

## REASONING

**3** A laptop can be bought in two ways.

**Option A: pay £900 now.** **Option B: pay 12 monthly instalments of £79.50.**

Option B costs £_____ more, which is _____ % of £900.

Why might someone still choose Option B?

.....

**4** Think about savings and loans.

**Jay says, "Interest is always bad for you."**

Do you agree? Explain your answer, using an example.

.....

.....

# UNDERSTANDING INTEREST

GREATER DEPTH

NAME _____ CLASS _____ DATE _____

## REASONING

**1** Is each statement always, sometimes or never true? Circle your answer.

If it is sometimes true, give an example of when it is true and when it is not.

**a)** The interest on a loan is less than the amount borrowed. ALWAYS SOMETIMES NEVER

**b)** Paying in instalments costs more than paying at once. ALWAYS SOMETIMES NEVER

**c)** A higher rate on the same savings earns more interest. ALWAYS SOMETIMES NEVER

**d)** After interest is added, a savings balance goes down. ALWAYS SOMETIMES NEVER

## PROBLEM SOLVING

**2** Leah pays £270 interest on a loan. The interest rate is 6%. How much did she borrow?

Amount borrowed = £ ____

**3** A car costs £12 000. There are two ways to pay for it.

**Deal A: 10% deposit, then 36 monthly payments of £330.**

**Deal B: 20% deposit, then 24 monthly payments of £430.**

Deal ____ costs less in total, by £ ____

## ★ CHALLENGE FOR ALL

**4** To buy a phone on finance, you pay a 20% deposit and then 12 monthly payments of £45. Altogether you pay 10% more than the cash price. Find the cash price.

Cash price = £ ____

# UNDERSTANDING INTEREST

## ANSWERS

### BUILDING BLOCKS

1 a) 6 × £45 = £270 b) £270 – £240 = £30
2 a) EARNS b) PAYS c) PAYS d) EARNS
3 a) £30 b) £330
4 a) £10 b) £210

### SUPPORT

1 balance → money in a bank account now · loan → money borrowed that must be paid back · per annum → each year · instalment → one of a set of regular payments
2 a) £660 b) £60 c) 60/600 × 100 = 10%
3 a) £24 b) £824
4 a) £160 b) £2160 c) £216

### CORE

1 £1200: £30, £1230 · £650: £26, £676 · £15 000: £270, £15 270
2 a) £2160 b) £20 160 c) £20 160 ÷ 36 = £560
3 B costs £954, which is £54 more: 6% of £900. Possible reason: they do not have £900 now and can spread the cost.
4 Disagree: interest on a loan costs you money, but interest on savings earns you money, e.g. £500 saved at 2% earns £10 in a year.

### GREATER DEPTH

1 a) Sometimes, e.g. £1000 at 5% for 1 year: £50 (true); a very long, high-interest loan could cost more than was borrowed b) Sometimes (0% finance costs the same) c) Always d) Never
2 6% = £270, so 1% = £45 and 100% = £4500
3 Deal A: £1200 + £11 880 = £13 080. Deal B: £2400 + £10 320 = £12 720. Deal B costs less, by £360.
4 Total paid = 0.2P + 12 × £45 = 1.1P, so 0.9P = £540: P = £600