



Learning Project TERM 6, WEEK 5
3 WEEK TOPIC: Burps, Bottoms and Bile
Have you got 'a sweet tooth'?

Age Range: Y3/4

Weekly Maths Tasks (Aim to do 1 per day)

Weekly Reading Tasks (Aim to do 1 per day)

ONLINE: Watch the videos from the White Rose Home Learning website below and complete the worksheets attached to this pack. This week's topic is **money**.

The worksheets attached can be completed in line with the videos. The worksheets have 3 levels (on 3 separate pages) of questions for each day so don't feel you need to complete all questions.

Years 3 and 4:

Monday: [Week 9 Lesson 1 on Pounds and Pence](#)

Tuesday: [Week 9 Lesson 2 Ordering Money Angles](#)

Wednesday: [Week 9 Lesson 3 Estimating money](#)

Thursday: [Week 9 Lesson 4 Solve Problems with Money](#)

Friday **OFFLINE:** try the Maths Challenges (worksheets attached) or practise times tables!

SKILLS PRACTICE:

- **ONLINE:** Work on [Times Table Rockstars](#).
- **ONLINE:** Daily [arithmetic](#) for different areas of maths.

- **ONLINE:** Read the start of Demon Dentist by David Walliams. You can find the first chapter here: https://issuu.com/childrensbooks/docs/demon_dentist_-_chapter_1

Discuss these questions with someone at home, or write your thoughts in a reading journal:

1. Make a character mind-map for Mr Erstwhile. What words would you use to describe him?
2. How do you think Alfie is feeling at the start, middle and end of the chapter?
3. How would you feel about visiting Mr Erstwhile? Why?
4. Make a list of any words you don't know in the extract and look up what they mean in a dictionary. You can find an online children's dictionary here:

<https://kids.britannica.com/kids/search/dictionary?query=ballast>

- **ONLINE:** Find out more about **idioms** and look for some in an extract from the book The London Eye Mystery by Siobhan Dowd on the [BBC Bitesize Daily Book Club](#). Think about or write down the answers to the questions and try the activities.
- **OFFLINE:** Read the text about sun safety and answer the questions.

Weekly Spelling, Punctuation and Grammar Tasks (Aim to do 1 per day)

Weekly Writing Tasks (Aim to do 1 per day)

- **OFFLINE:** Practise the Year 3/4 Common Exception Words [see list here](#)
- **ONLINE:** Practise weekly spellings on [Spelling Shed](#).
- **ONLINE:** Revise your grammar and spelling on the BBC game [Crystal Explorers](#).

Focus: [Information Leaflet](#)

- **ONLINE:** Do some research to gather facts about teeth. Record these as notes or a mind map. The [DK Find Out](#) website is a good place to start. You could also watch the BBC Bitesize videos on [what happens to food in your mouth](#) or [what are](#)



- **ONLINE:** Learn about subordinating conjunctions at [BBC Bitesize](#). Try the activities and watch the videos.
- **OFFLINE:** Look for subordinating conjunctions in your reading this week.



[the types of teeth.](#)

- **OFFLINE:** An idiom is a word or phrase that is not meant literally, such as 'raining cats and dogs'. There are many tooth related idioms, including 'a kick in the teeth', 'like pulling teeth' and 'fed up to the back teeth'. Can you match the idioms cards in this pack with your definitions?
- **ONLINE:** Find out about and make a list of some other common idioms. You can find some in the extract of The London Eye Mystery reading activity above. Some suggested idioms you could find out about might be 'against the clock'; 'a piece of cake'; 'go the extra mile'; 'hit the sack'; 'keep an eye on it'; 'last but not least'; 'pig out'; 'rule of thumb' and 'you are what you eat'.
- There is also a [fun quiz](#) about idioms you can try. How many do you know?
- **OFFLINE:** Use the information you gathered about teeth to make an information leaflet or poster about caring for your teeth. Look at the examples in this pack for ideas about how it could look. For example, it might become a leaflet for display at the dental surgery and taken home by other children to read. Try to include some idioms to make it fun and interesting. Just remember not to use too many!
- Remember to make your leaflet or poster attractive and easy to read. Use coloured pens for headings and key words, or use word processing software to present your writing using different font types, sizes and images for interest and emphasis.
- **OFFLINE:** Write a short story about what the tooth fairy does with all the teeth she collects!

What does the tooth fairy do with all the teeth she has?
Draw what you think she does with them.





Learning Project - to be done throughout the week

Science: How much do you know about your teeth?

- Find out about the four main teeth types – incisors, canines, premolars and molars – by watching the video at [BBC Bitesize](#) or on [DK Find Out](#). Look in a mirror and complete the worksheets in this pack by labelling the different teeth and checking which ones you have! How many teeth do you have? How many adult teeth do you have?
- Think about the jobs the different teeth do. Test some different foods such as marshmallows, apples, biscuits, lettuce, bread, grapes, yoghurt and cooked chicken. Which teeth are best suited for chopping, tearing and grinding? What would it be like if you had no teeth?
- Investigate the effects of different drinks on a tooth-like substance. Place individual eggs or eggshells into beakers containing a range of different liquids, including fruit juice, full sugar and sugar free fizzy drinks, milk, water and coffee or tea. Observe what happens over the course of the week, comparing the eggs from the different liquids and recording your findings in a photographic diary.
Note: Eggshell and tooth enamel both contain calcium carbonate, which dissolves in acidic conditions. During the investigation, the eggshells may dissolve and break down, while others may become stained. Can any of these stains be removed by brushing with toothpaste.
- Investigate how effectively you brush your teeth. After brushing, chew a plaque disclosing tablet (you can get these from high street pharmacies) and check how much coloured plaque remains. Brush your teeth again to remove the remaining plaque.

Design Technology (Food): Bacteria in our mouths like to feed on deposited sugars on our teeth. As they feed they produce an acid which erodes the tooth's surface eventually leading to cavities and decay. Find out which foods contain the most sugar by studying packaging and labels. Focus in particular on foods sold as healthier options. Does the sugar content of any of your favourite snacks surprise you? Design menu of healthy snack options that aren't too high in sugar.

Spanish: practise how to talk about your town or city in Spanish at [The Oak National Academy](#).

RE: candles play an important role in celebrations in several religions. Find out about candles in: Judaism (the menorah), Hinduism (diva), Christianity (advent crown). What does the fire in the candle symbolise for each religion?

Additional learning resources parents may wish to engage with

Author Rob Biddulph does twice weekly drawing videos for children. You can watch them and have a go at [Draw with Rob](#).

Your child may have concerns about the current situation. [Childline](#) has lots of advice about how to discuss it with your child.

Nosy Crow Books have released a superb free book for children called Coronavirus: a book for children. You can download and read it [here](#).



EAT A HEALTHY LUNCH

- Base your meal on **FILL-YOU-UP STARCHY FOODS** (bread, rice, potatoes, pasta)
- Add some **VEGETABLES** (and **FRUIT** for others)
- Have a portion of **HELP-YOU-GROW PROTEIN FOODS** (meat, fish, eggs, beans)
- Maybe add something from the **MILK & DAIRY** group (cheese, yogurt).

EAT BREAKFAST

- Won't feel so hungry
- Won't zig out later in the day
- Better memory
- Able to concentrate
- Long-term benefits — like stronger bones and teeth

EAT A RAINBOW

Eat a **RAINBOW** of fruit and vegetables!
Choose different colours — that way your body will get all the nutrients it needs.

DRINK LOTS OF WATER

Every body's favourite drink

Drink 6-8 glasses a day

TRY SOMETHING NEW

- Eat a good **VARIETY** of foods to give your body all the nutrients it needs.
- Choose something **NEW!**
- Be **BOLD** — EXPERIMENT!
- Try new **TASTES**, new **TEXTURES**, new **COLORS**.

BRUSH YOUR TEETH

- Brush your teeth twice a day with fluoride toothpaste — but don't scrub them
- Replace your toothbrush as soon as the bristles start to splay
- Floss between your teeth regularly
- Only have sugary snacks, and soft or fizzy drinks, with meals
- Visit your dentist at least once a year



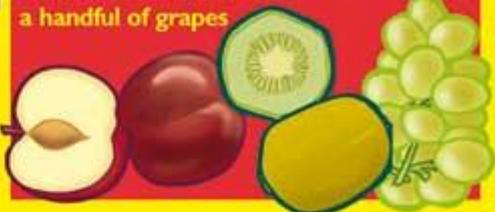
Each of these is

ONE PORTION OF FRUIT & VEG

ONE WHOLE MEDIUM-SIZED FRUIT OR VEGETABLE
e.g. apple, orange, peach, banana



A COUPLE OF SMALLER FRUITS or A HANDFUL OF VERY SMALL FRUITS
e.g. 2 medium plums, 2 kiwi fruit, a handful of grapes



3 DRIED FRUITS
e.g. dates, prunes, apricots
1 HEAPED TABLESPOON
e.g. sultanas



3 HEAPED TABLESPOONS OF COOKED or CANNED FRUIT (in juice) or FRUIT SALAD



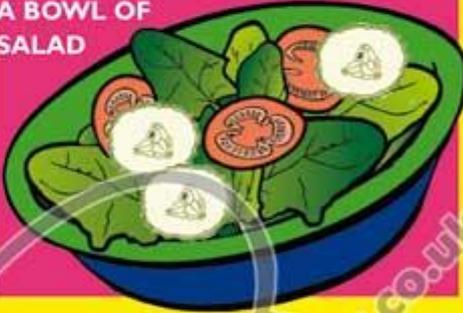
A PIECE OF A BIG FRUIT
Half a grapefruit,
a wedge of melon,
a couple of rings of pineapple,
half an avocado



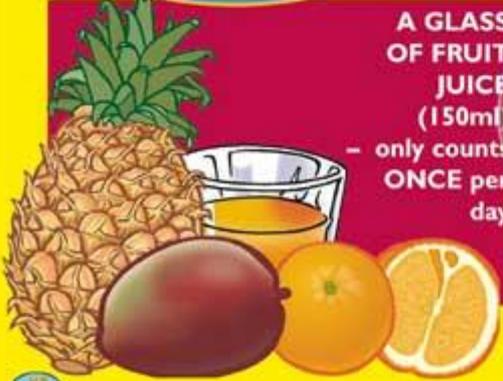
THREE HEAPED TABLESPOONS OF RAW, COOKED, FROZEN or CANNED VEGETABLES



A BOWL OF SALAD



A GLASS OF FRUIT JUICE (150ml) - only counts ONCE per day



But DON'T count a glass of squash or a fruit "drink" or a fruit yoghurt or fruit and nut chocolate or a tablespoon of jam. There's just not enough fruit in them to make a portion!

EAT 5 OR MORE PORTIONS OF FRUIT & VEG EVERY DAY!



Just Eat More
(Fruit & Veg)

www.eatwell.gov.uk

Based on Eat 5! Just eat regular meals © Comic Company 2008. www.comiccompany.co.uk



Spot the SunWise changes in the picture below ...

Can you say "SLIP-SLAP-SLOP-SLAM-STAY-SIP-AND-NEVER-SNOOZE" really fast?

comic company

Cool Cat's Hot Tips
© Comic Company 2002
Written by Philp Hays
Illustrated by Ed Milgum
Design by Corrina Harrison
www.comiccompany.co.uk

SLIP! SLAP! SLOP!

GET SUN WISE!

SLIP ON A SHIRT!

SLAP ON A HAT!

SLOP ON SUNSCREEN!

COOL CAT

Going out in the SUN is great. It can make you feel good, look good, and helps your skin to make vitamin D.

But too much sun can DAMAGE your skin and even give you sunstroke.

So NEVER let yourself BURN! Just 5 minutes in strong sunlight can burn people with sensitive skins.

It's not only on holidays ahead that you can burn in the sun. You don't even have to be sun-bathing. Just being outdoors in the spring or summer sun can burn you.

Fair-skinned people are most at risk, but dark-skinned people can burn too.

People with ginger hair, pale skin, blue or green eyes, or with lots of moles and freckles, should be really careful. Children should be EXTRA careful. And babies under 6 months should NEVER be exposed to full sunlight.

It's not the HEAT of the sun that causes skin to go red or tan. It's an invisible part of the light called ULTRAVIOLET light (UV). You can't see UV light, and you can't feel it. But it can be VERY dangerous.

You could be having fun when you don't feel hot - maybe because there's a breeze or the cloud is cool you. So because water or sand REFLECTS light onto your skin, at high altitudes (in mountains) or water, ice rinks, you can burn even in the WINTER if you're in reflecting off snow.

SLIP! on a shirt
Cover up with cool, loose clothes. Like baggy T-shirts and trousers. Cotton is better than artificial fibres.

SLAP! on a hat
Wear a hat that shades your face, neck and ears. A wide-brimmed hat or a legionnaire's cap with a flap at the back are good. Use your own, natural sunhat - avoid very short haircuts.

SLOP! on sunscreen
If there's any chance you'll burn, use a high-factor sunblock SPF 15+. Cover ALL your exposed bits, including the tip of your nose and the tops of your ears. Water-proof sunscreens are best. It soon wears or washes off, so put it on THICK & OFTEN! SPF means Sun Protection Factor.

SLAM! on sunglasses
Wear a good pair of sunglasses. Check that they're labelled with the British or CE standard marks. This means they'll protect your eyes against UV light.

STAY in the shade!
Try to stay out of strong sunlight. In the summer, this is usually between 11 o'clock and 3 o'clock. A good guide is to avoid the sun when your shadow is shorter than you are. Use the shade of trees, umbrellas or buildings (but remember that concrete can reflect a lot of UV light).

SIP loads of water!
Hot days can make you lose lots of water. So drink a LITRE or MORE of water every day. And if you're exercising really HARD, you should drink even more.

And NEVER SNOOZE in the sun or you might just die!

SLIP! on a shirt

SLAP! on a hat

SLOP! on sunscreen

SLAM! on sunglasses

STAY! in the shade

SIP! loads of water

SLIP! on a shirt

SLAM! on sunglasses

SLOP! on sunscreen

SLAP! on a hat

SLEP! on a shirt



Teeth Exploration

You will need:

- A partner
- A mirror

Look at your partner's teeth. Use the diagram below to show what teeth they have. Cross out any missing teeth. If you recognise any milk (baby) teeth, write 'M' on them. If you recognise any adult teeth, write 'A' on them. Then, label incisors, canines, premolars and molars.



Match each tooth type to its function:

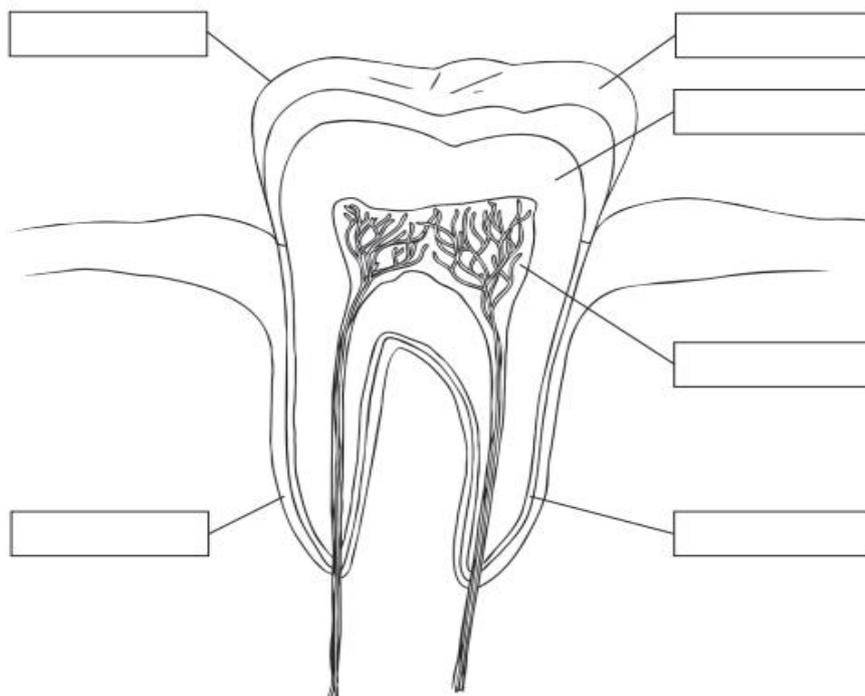
- Incisor
- Canine
- Premolar
- Molar
- Wisdom Teeth

- No function
- Biting and cutting food
- Holding and crushing food
- Ripping and tearing food
- Chewing and grinding food



Inside a Tooth

Label the different parts of the tooth using the words at the bottom of the sheet to help you.



Root	Pulp	Cementum
Dentine	Enamel	Crown



Banknote Reproduction Conditions

It is recommended that any bank notes or coins are printed in colour as they may not be as recognisable in greyscale.

All conditions relate to:

- The reproduction of all or part of a banknote;
- Whether the front or the back of a banknote is reproduced;
- For reproductions of all banknotes issued by the Bank of England whether current legal tender or not;
- For all possible reproductions, including modified or distorted reproductions.

Reproduction Conditions		Physical Reproductions	Digital/Other Reproductions
1.	Reproductions must be one sided only.	Required	Not Required
2.	Reproductions must not be the same size as actual banknotes; they must be at least 25% smaller or at least 25% larger.	Required	Not Required
3.	Reproductions may not appear in an offensive or inappropriate context or in such a manner that the Bank, in its sole opinion, believes would undermine the integrity of the currency.	Required	Required
4.	There should be no distortion to the Queen's image (apart from an enlargement, reduction or slant).	Required	Required
5.(a)	Reproductions must be printed on a material clearly different and distinguishable from materials used to print current series Bank of England banknotes.	At least one of conditions 5 (a)-(c) must also be met	Not Required
5.(b)	<p>Reproductions showing more than 50% of the total surface area of one side must be overprinted with the word "SPECIMEN" unless on a slant of over 20°.</p> <p>SPECIMEN markings must be in bold grey font, at a 45° slant through the centre of the banknote, not less than 1/3 the length and 1/10 the height of the note.</p>		At least one of conditions 5 (b)-(c) must also be met
5.(c)	<p>Reproductions showing less than 50% of the total surface area of one side do not need to be slanted or overprinted with the word "SPECIMEN".</p>		



1) Complete the sentences to calculate how much money is in each savings jar.

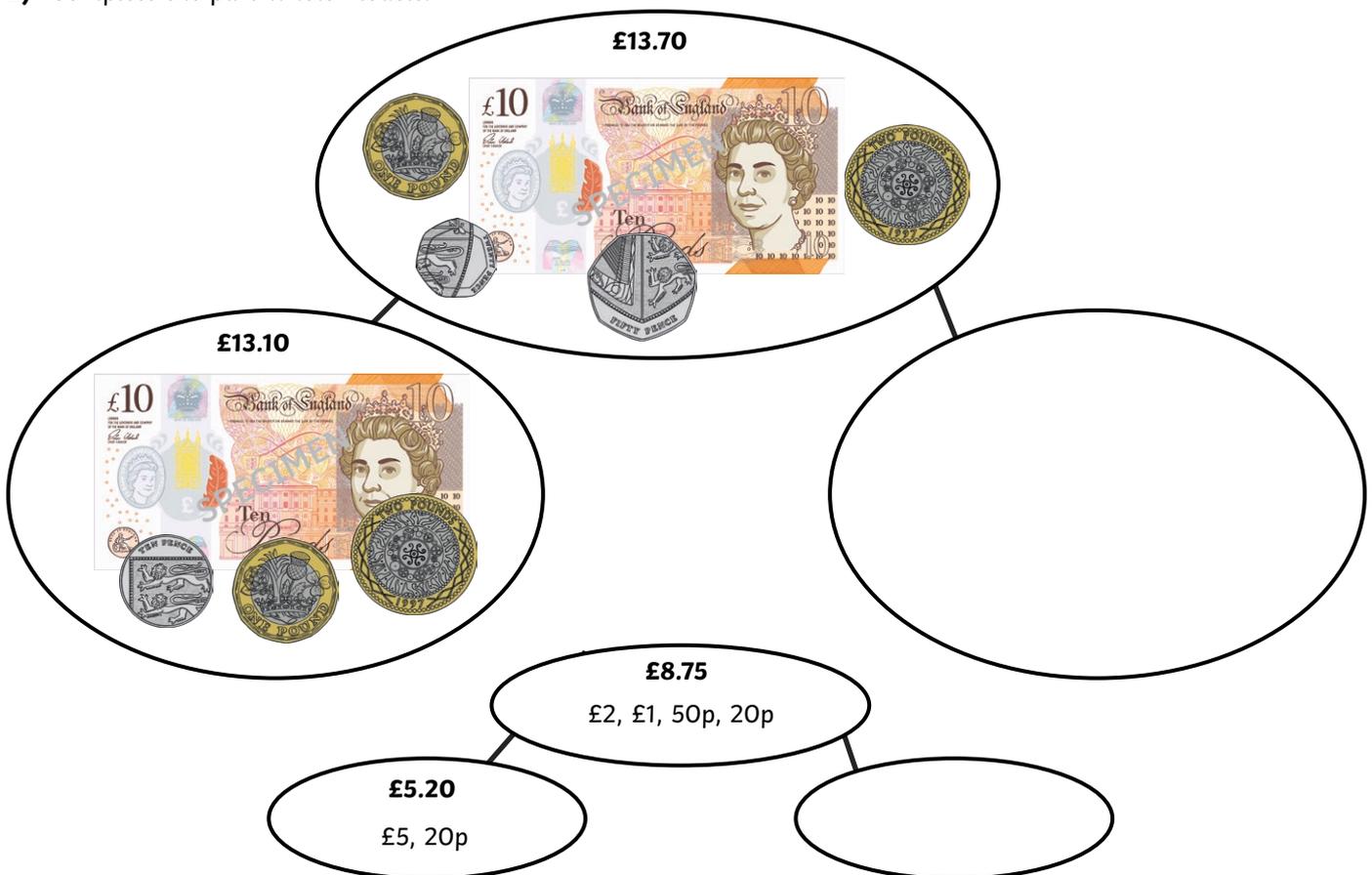


In the savings jar, there is _____ pounds.
 In the savings jar, there is _____ pence.
 This is £ _____ and _____ pence.
 There is £ _____ in the savings jar.



In the savings jar, there is _____ pounds.
 In the savings jar, there is _____ pence.
 This is £ _____ and _____ pence.
 There is £ _____ in the savings jar.

2) Complete the part-whole models.

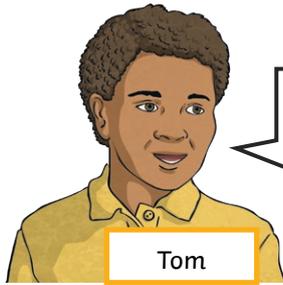


3) Convert these amounts to pounds and pence and using the £ sign. The first one is done for you

- a) 265p = **2 pounds and 65 pence = £2.65** b) 205p = _____
 c) 65p = _____ d) 250p = _____



1) A book costs £2.50.



I have two £1 coins,
two 20p coins and a
5p coin.



I have a £2 coin,
three 10p coins and
four 5p coins.

Can both of the children afford to buy the book? Explain how you know.

2) Lisa has been writing these pence amounts using a £ sign. Tick the correct answers. Explain any errors that Lisa has made and write the correct answer.

Pence	Using £ Sign	✓ or x ?	Error/Correct Answer
1308p	£13.08		
550p	£5.5		
1407p	£140.7		
780p	£7.80		

3) Mo has 5 coins that make £1.75 in total. Four of the coins are given. Explain which of the following sets of coins Mo could have and write what the missing coin is.

£1, 50p, 10p, 10p, ?p

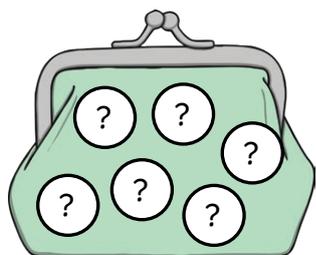
50p, 50p, 50p, 10p, ?p

£1, 50p, 20p, 2p, ?p

50p, 50p, 50p, 20p, ?p



1) a) In each purse there are some coins which equal the given total.



6 coins = £1.09

What could the coins be? Write 2 different ways.

○ ○ ○ ○ ○ ○ = £1.09

○ ○ ○ ○ ○ ○ = £1.09

b)



6 coins = £1.35

Write all the possible ways.

2) Here are some coins:



Tanya has 4 of these coins. Decide whether these statements about the coins are always, sometimes or never true. Explain why you think this and give examples to prove it.

a) Tanya has more than 12p.

b) Tanya has less than 50p.

c) Tanya has more than £7.

d) Tanya has an amount of money that is greater than £1 and less than £4.



1) Compare these amounts using $<$, $>$ or $=$.

a) 1385p 1835p

b) 4500p $\text{£}45$

c) $\text{£}23.09$ $\text{£}23.90$

2) Compare these amounts using $<$, $>$ or $=$. You could turn both amounts into pounds or into pence first to help you.

a) 1350p $\text{£}13.50$

b) $\text{£}0.62$ 26p

c) 702p $\text{£}7.20$

3) Put each set of amounts in descending order.

a) 701p , 107p , 710p , 71p _____

b) $\text{£}12.76$, $\text{£}16.72$, $\text{£}12.67$, $\text{£}16.27$ _____

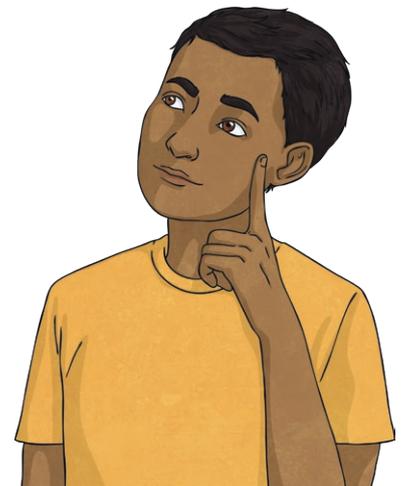
c) 2030p , $\text{£}20.03$, 2300p , $\text{£}23.03$ _____

4) Put each set of amounts in ascending order.

a) $\text{£}16.83$, $\text{£}13.68$, 1638p , 1836p _____

b) $\text{£}50.09$, 509p , $\text{£}5.90$, 905p _____

c) 17p , 717p , $\text{£}17$, $\text{£}1.70$ _____





1) Is each statement true or false? For each false statement, write the inequality sign that would make it true.

a) $1056\text{p} > \text{£}10.65$ _____

b) $\text{£}5.18 < 518\text{p}$ _____

c) $980\text{p} = \text{£}0.98$ _____

d) $3562\text{p} = \text{£}35.62$ _____

2) Cora has tried to write these amounts in ascending order but she has made a mistake. Explain her mistake and then write the amounts in the correct order.

£0.74	£4.17	407p	£7.04	740p
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What was her mistake?

Correct order: _____

3) These books have been sorted into ascending price order.

What could the price of the middle book be?

Find all the possible answers.



690p

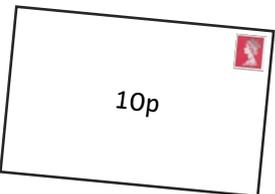
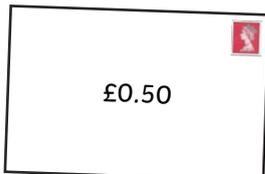
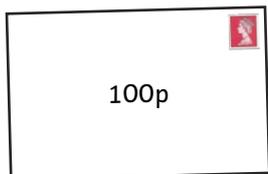




£7.09



1) Jay chooses two of these envelopes.



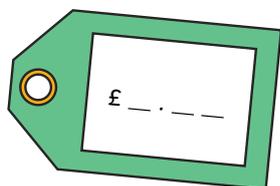
a) What is the smallest amount of money he could have in total?

b) What is the greatest amount of money he could have in total?

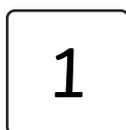
c) Find all the different possible amounts he could make using two envelopes. Put them in descending order.

2) Kate is making price labels for her shop.

Her items all sell for more than £5 but less than £10.



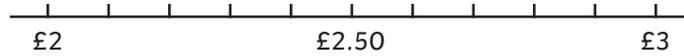
Here are the digits that she can use. She can only use each digit once.



How many different prices can she make? Write the prices in ascending order.



1) a) Show the cost of these items on the number line and round each amount to the nearest pound.



b) Find the approximate cost of:



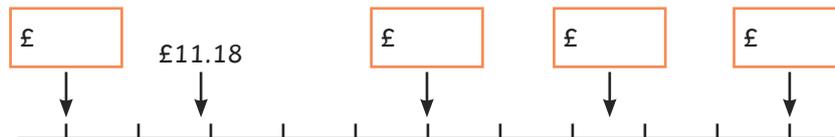
and



and



2) Complete the number line with the missing values.



3) George saves some of his pocket money each week for a whole month and writes it down.

a) Complete the table to show the missing values.

	Actual Amount Saved	Amount Saved When Rounded to the Nearest Pound
Week 1	£1.47	
Week 2	£2.54	
Week 3		£2
Week 4		£4

b) If George saves approximately the same amount next month, will he have enough to buy a new bike for £30? Explain your answer.



- 1) Morgan and Eva's mum asks them to estimate how much change she will get if she pays for her shopping with a £20 note.

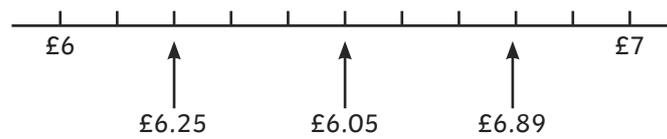


Morgan says, "I estimate Mum should get approximately £7 in change."

Eva says, "I think Mum's change will be closer to £8."

Who is correct? Explain your answer.

- 2) a) Correct any mistakes by drawing new arrows to show the numbers on the correct place on the number line.



- b) Which of these amounts will round to £6 to the nearest pound? _____

- 3) Aneesha has five purses with different amounts of money in each. Decide if each statement is true or false. Explain your answers.



- a) When rounded to the nearest pound, only purses A and D round to £11.

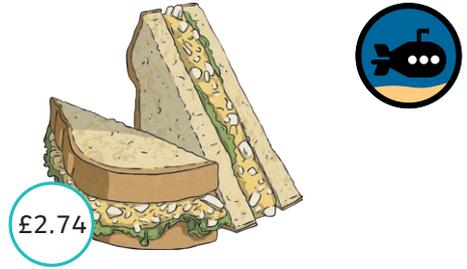
- b) When rounded to the nearest pound, the approximate total of purses B and E is £20.

- c) Aneesha can pay for her £55 shopping using the approximate total of the money in the five purses.

1) Lily buys the same sandwich every day in her local shop.

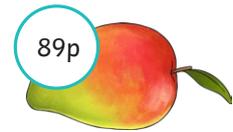
Lily estimates that she has spent £24 on sandwiches.

a) Round the price of the sandwich to estimate how many days Lily bought this sandwich.



b) Estimate how much Lily would spend if she bought the same sandwich every day for 3 weeks.

2)



a) I have £2. Which item could I buy that is worth approximately £2, but would give me change?

b) Nizar buys two of each item. Estimate how much change he will have from a £20 note.

c) Jessica wants to buy approximately £10 worth of fruit. She wants at least three different types of fruit. Find one possible combination of fruit that she could buy.

For example, she could buy 5 mangoes, 1 bunch of bananas and 1 box of strawberries.

3) These toys cost less than £15 to buy altogether.

Fatimah buys three of the toys and spends approximately £13.

Noah buys the cheapest toy and spends approximately £2.

Grace buys two of the toys and spends approximately £8.

a) Estimate how much each toy could cost and write it on the price tag.

b) Use your answers from (a) to explain which of the toys each child bought.

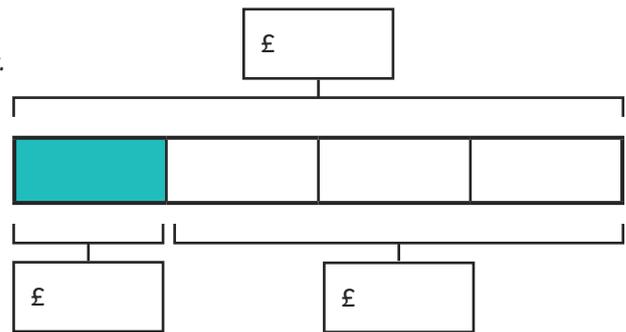




1) Charlie has £36. He spent a quarter of his money on a game.

- a) How much did the game cost?
- b) How much money would he have left?

Complete this bar model to help you calculate the answer.



The game cost £ _____.

He would have £ _____ left.

2) Here are the prices of tickets for the cinema. There are different prices for weekday and weekend tickets.

Tickets	Weekday	Weekend
Adult	£6.80	£9.20
Child	£5	£8

How much would it cost in total for:

- a) 1 adult and 1 child during the week to go to the cinema? _____
- b) 1 adult and 2 children during the weekend to go to the cinema? _____

3) The toy shop has a sale. Everything is half price! This is what Suki bought.

Item	Sale Price	Full Price
computer game	£16	
art set	£9	
book	£5.30	
drawing pad	£2.50	

- a) Complete the table to show the full price of the items.
- b) How much in total did Suki pay?

- c) How much in total would the items have cost before the sale?



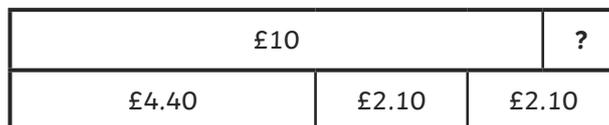
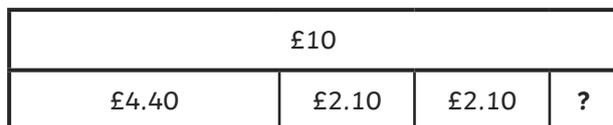
1) Here are the entry costs for the zoo.

Adult £4.40

Child £2.10

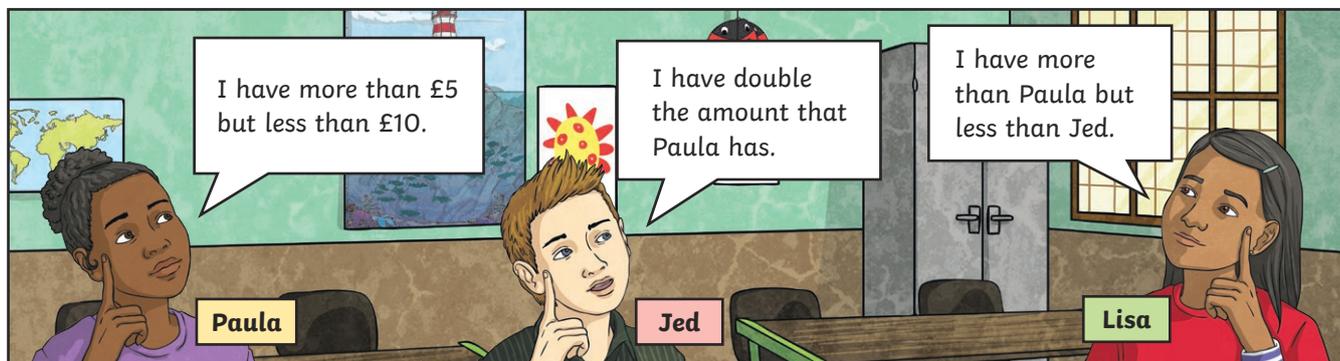
Mrs Harris took her two children to the zoo. She paid for their entry with a £10 note.

a) Tick the bar model which would help to show much change Mrs Harris should have.



b) Calculate the change Mrs Harris should have. Show how you worked out the answer.

2) Three children are comparing how much money they have saved.



Which of the following could be the amounts the children had saved? Tick or cross the amounts.

Paula	Lisa	Jed	✓ or ✗
£6.50	£7.25	£13	
£4	£3.80	£8	
£6.40	£5.80	£3.20	
£5.30	£6.70	£10.60	



- 1) A group of adults and children go bowling. It costs £5 for an adult to bowl and £4 for a child. They pay £50 altogether.

How many adults and how many children could have gone bowling?

Write all the possible groupings.



- 2) You are only allowed to use one voucher. Which voucher would save you the largest amount of money?

Pizza = £8.75
Drink = £2.50
Side = £3.99

2 pizzas
 2 drinks
 2 sides



Voucher 1
 Buy one get one free on everything.

Voucher 2
 £15 off any bill totalling more than £25.

Voucher _____

- 3) I have chosen one of these amounts of money.

£4.50	£10.90	£2.35	£4.82
£3.60	£3.08	£7.24	£2.01

Work through these clues to find the amount.

- The amount is less than £10.
- The amount is greater than double £1.50.
- Half of the amount is less than £2.
- If you added 50p to this amount, the pounds digit would change.

a) What is the amount? _____

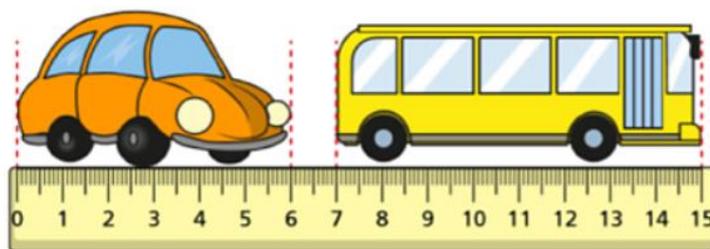
b) Choose a different amount. Write your own set of clues for your partner to use to find the amount.

Family Challenge

Friday 26th June

Challenge 1

Here is a toy car and bus.



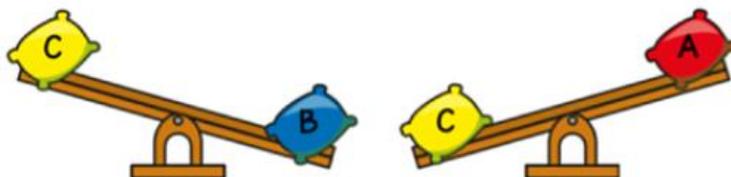
How much longer is the bus than the car?

Challenge 2

Here are 3 beanbags.



They are placed on a seesaw.



Which beanbag is the heaviest?

Challenge 3

Amir is dividing a 2-digit number by 3.

His answer is a whole number.

$$\boxed{2} \boxed{} \div \boxed{3}$$

What could the missing digit be?

Challenge 4

Lewis makes a repeating pattern with some shapes.

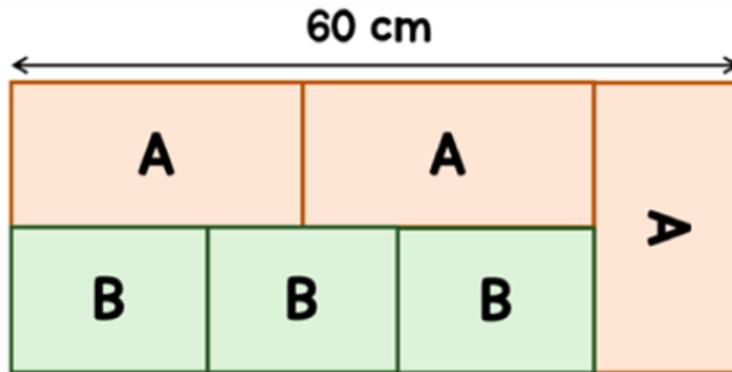


Lewis repeats the pattern.

What is the shape in the **50th** position?

Challenge 5

A large rectangle is made up of smaller rectangles, labelled A and B.

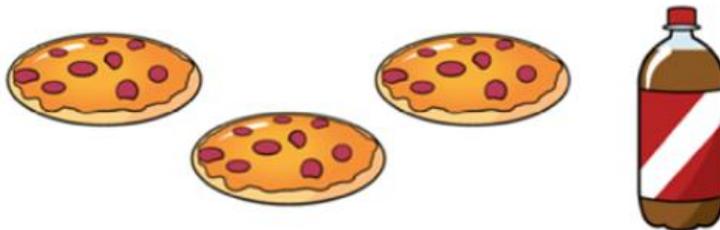


The length of A is double the width of A.

Find the area of one of the rectangles labelled B.

Challenge 6

Mina buys 3 pizzas and a bottle of cola.



A pizza costs £3.20 more than a bottle of cola.

The total cost of the items is £19.40

How much does a pizza cost?

Challenge 7

A barrel is half full with water.

12 litres of water are poured out.

The barrel is now $\frac{1}{5}$ full.

How much water does the barrel hold when full?



Challenge 8

Work out the following without a calculator.

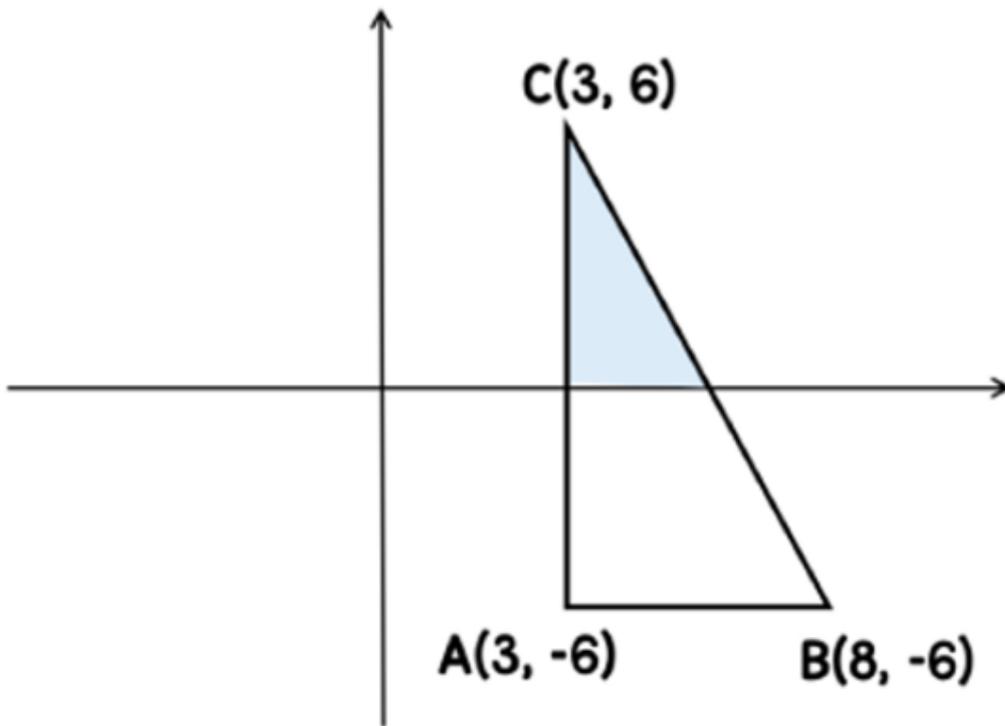
$$\begin{array}{r} 10 + 20 + 40 + 80 + 160 + 320 + 640 \\ \hline 2 + 4 + 8 + 16 + 32 + 64 + 128 \end{array}$$

Explain your method.

Challenge 9

ABC is a right-angled triangle.

Part of the triangle has been shaded.



What fraction of the triangle is shaded?

Challenge 10

In a test Freya scores 25% more marks than Eva.

Eva scores 50% more marks than Dominic.

In total the three children score 140 marks.

The test is out of 80.

What percentage does Dominic score in the test?

As a rough guide of difficulty level:

- **Challenge 1 and 2** are suitable for ages 5 to 7.
- **Challenge 3 to 6** are suitable for ages 7 to 11.
- **Challenge 7 to 10** are suitable for ages 11 to 15.

We want everyone to get involved with challenge day, so work together to solve as many as you can and share your solutions!



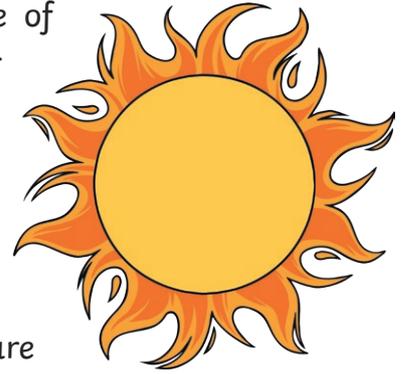
Sun Safety Reading Comprehension

We all need some sun exposure - it's the top source of Vitamin D, which helps our bodies absorb calcium for stronger, healthier bones.

However, repeated, unprotected exposure to the sun's ultraviolet (UV) rays can cause skin damage, eye damage and skin cancer.

Most children get much of their lifetime sun exposure before age 18, so it's important for parents to teach them how to enjoy fun in the sun safely.

Taking the right precautions is very important when protecting your skin.



Sun Exposure

The sun radiates light to the earth, and part of that light consists of invisible UV rays. When these rays reach the skin, they cause tanning, burning, and other skin damage. Sunlight contains three types of ultraviolet rays: **UVA**, **UVB** and **UVC**:

- **UVA** rays cause skin aging and contribute to skin cancer. Because UVA rays pass effortlessly through the ozone layer (the protective layer of the atmosphere, or shield, surrounding the earth), they make up the majority of our sun exposure.
- **UVB** rays are also dangerous, causing sunburns and eye damage (cataracts). They also contribute to skin cancer. Melanoma, the most dangerous form of skin cancer, is associated with severe UVB sunburns that occur before the age of 20. Most UVB rays are absorbed by the ozone layer, but enough of these rays pass through to cause serious damage.
- **UVC** rays are the most dangerous, but fortunately, these are blocked by the ozone layer and don't reach the earth.



Melanin: The Body's First Line of Defense

UV rays react with a chemical called melanin that's found in skin. Melanin absorbs dangerous UV rays before they cause skin damage. The lighter someone's natural skin colour, the less melanin it has and the darker a person's natural skin colour, the more melanin it has to protect itself.

As the melanin increases in response to sun exposure, the skin tans. Those who are regularly exposed to the sun are at a much greater risk. Sunburn develops when the amount of UV exposure is greater than what can be protected against by the skin's melanin.

Avoid the Strongest Rays of the Day

Seek shade when the sun is at its strongest (usually from 10am to 4pm). If you are in the sun during this time, be sure to apply and reapply sunscreen. Most sun damage occurs as a result of incidental exposure during day-to-day activities, not sunbathing! Even on cloudy, cool or overcast days, UV rays travel through the clouds. Clouds don't filter out UV rays and this 'invisible sun' can cause unexpected sunburn and skin damage. People are often unaware that they're developing sunburn on cooler or windy days because the temperature or breeze keeps skin feeling cool.

Cover Up	Use Sunscreen	Use Protective Eyewear
One of the best ways to protect yourself from the sun is to cover up and shield skin from UV rays. Be sure that clothes will screen out harmful UV rays by placing your hand inside the garments and making sure you can't see it through them. Babies under 6 months should be kept out of the sun.	Select an SPF of 30 or higher to prevent sunburn and tanning, both of which are signs of skin damage. Choose a sunscreen that protects against UVA and UVB rays. For sunscreen to do its job, it must be applied correctly. So be sure to: <ul style="list-style-type: none"> • Apply sunscreen whenever you are in the sun and reapply often (every 2 hours). • Apply a water-resistant sunscreen around water or when swimming. 	Sun exposure damages the eyes as well as the skin. The best way to protect eyes is to wear sunglasses. Not all sunglasses provide the same level of ultraviolet protection; Purchase sunglasses with labels ensuring that they provide 100% UV protection.

Sun Safety Questions

1. How does Vitamin D help our bodies?

2. What are the three types of ultraviolet rays which radiate from the sun? Which is the least dangerous and which is the most dangerous?

3. How does the ozone layer work to protect us from the sun's rays?

4. How does melanin protect the skin?

5. Why does sunburn happen?

6. When is the sun at its strongest?

7. True or false: Clouds filter out UV rays.

8. What is meant by 'invisible sun'?

9. What precautions should parents of babies take?

10. Why is it important to reduce 'tanning'?

11. True or false: Sunscreen should protect against UVC rays.

12. What should you look for when purchasing sunglasses?

Answers

1. How does Vitamin D help our bodies?

Vitamin D helps our bodies by absorbing calcium for stronger, healthier bones.

2. What are the three types of ultraviolet rays which radiate from the sun? Which is the least dangerous and which is the most dangerous?

UVA, UVB, UVC. UVA are the least dangerous to humans. UVC rays are the most dangerous to humans.

3. How does the ozone layer work to protect us from the sun's rays?

It protects us completely from UVC rays and from some UVB rays.

4. How does melanin protect the skin?

Melanin absorbs dangerous UV rays before they cause skin damage.

5. Why does sunburn happen?

Sunburn develops when the amount of UV exposure is greater than what can be protected against by the skin's melanin.

6. When is the sun at its strongest?

Usually from 10am to 4pm.

7. True or false: Clouds filter out UV rays.

False

8. What is meant by 'invisible sun'?

Even on cloudy, cool or overcast days, UV rays travel through the clouds.

9. What precautions should parents of babies take?

Babies under 6 months should be kept out of the sun.

10. Why is it important to reduce 'tanning'?

As the melanin increases in response to sun exposure, the skin tans.

11. True or false: Sunscreen should protect against UVC rays.

False

12. What should you look for when purchasing sunglasses?

Purchase sunglasses with labels ensuring that they provide 100% UV protection.

'cut your teeth'

She **cut her teeth** in the school dance club before joining the Royal School of Dance.

Someone deals with a difficult or unpleasant situation with determination.

What is the idiom?

'bit between your teeth'

When the team gets the **bit between their teeth**, they are unbeatable.

Something, especially a noise, is very annoying and can cause an uncomfortable feeling.

What is the idiom?

'a kick in the teeth'

Despite working hard, I wasn't given a gold star. It was a real **kick in the teeth**.

Someone is old or feeling old.

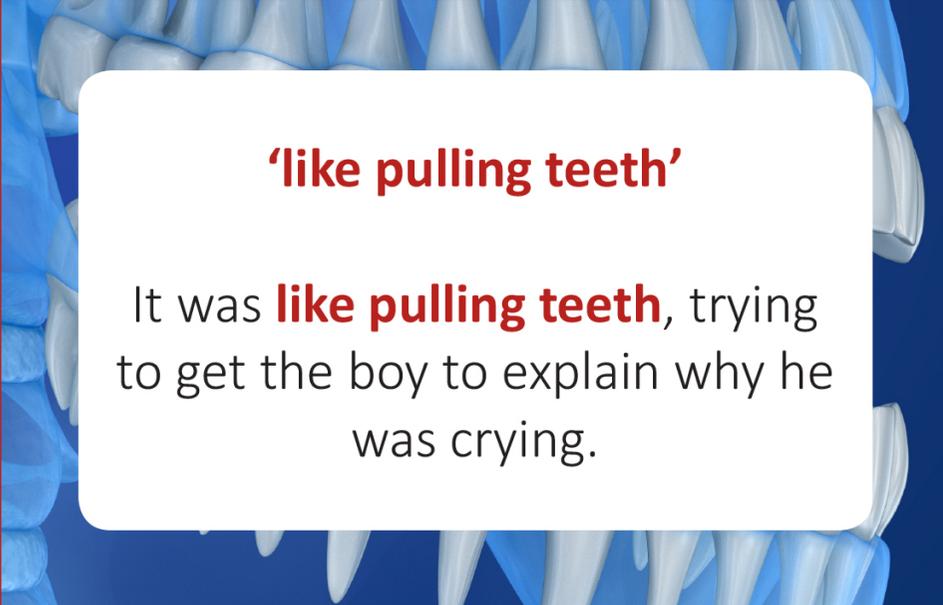
What is the idiom?

'as scarce as hen's teeth'

Willy Wonka's golden tickets were **as scarce as hen's teeth**.

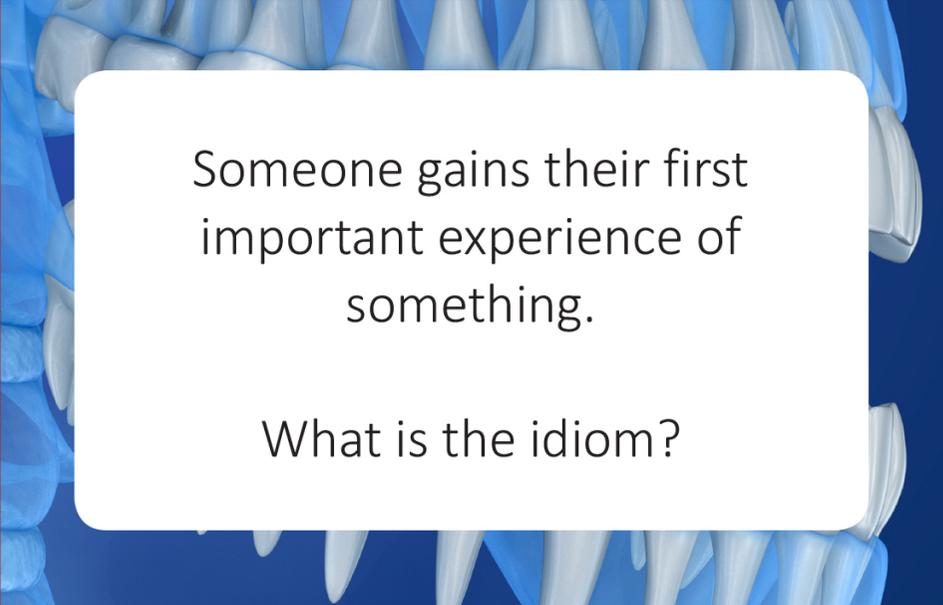
Something has some problems when it first starts.

What is the idiom?



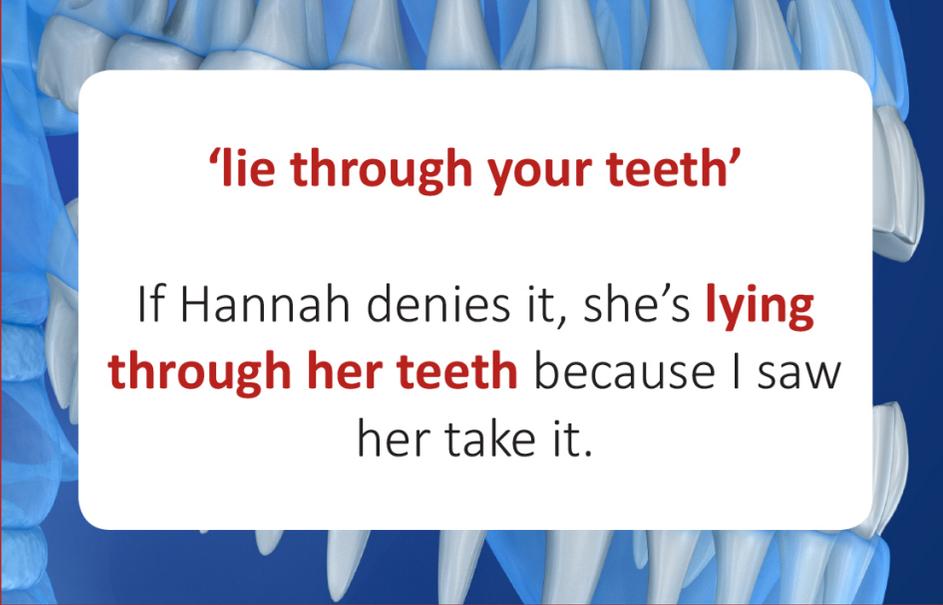
'like pulling teeth'

It was **like pulling teeth**, trying to get the boy to explain why he was crying.



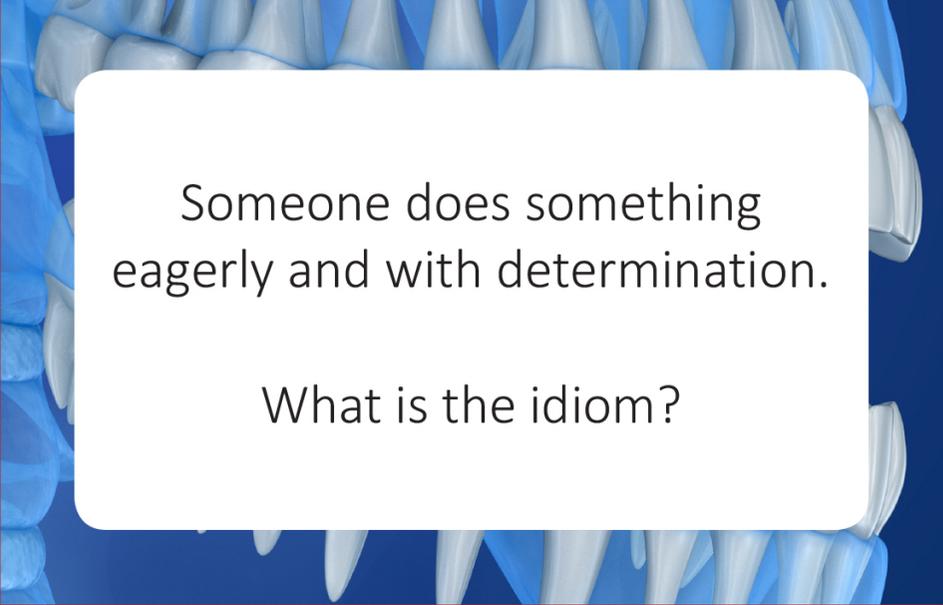
Someone gains their first important experience of something.

What is the idiom?



'lie through your teeth'

If Hannah denies it, she's **lying through her teeth** because I saw her take it.



Someone does something eagerly and with determination.

What is the idiom?

'fed up to the back teeth'

I'm **fed up to the back teeth** of being bullied.

Someone tries very hard to achieve something.

What is the idiom?

'by the skin of your teeth'

We made it to school on time **by the skin of our teeth**.

Something is very rare and almost impossible to find.

What is the idiom?

'grit your teeth'

I decided to **grit my teeth** and tidy my bedroom.

Someone is disappointed about something that has happened.

What is the idiom?

'a sweet tooth'

The boy has **a sweet tooth**, and adores chocolate.

Someone says something that is completely untrue.

What is the idiom?

‘long in the tooth’

Grandma was feeling **long in the tooth**, and didn't have much energy.

It is very difficult to encourage someone to do or say something.

What is the idiom?

‘set your teeth on edge’

The high-pitched noise really **set her teeth on edge**.

Someone narrowly escapes a disaster.

What is the idiom?

'fight tooth and nail'

I'm going to **fight tooth and nail** to become the new football captain.

Someone is annoyed by something that has gone on for too long.

What is the idiom?

'teething problems'

The new morning routine had a few **teething problems**.

Someone likes sweet food, such as chocolates and sweets.

What is the idiom?