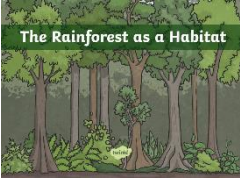
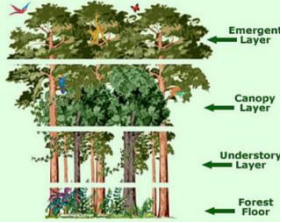


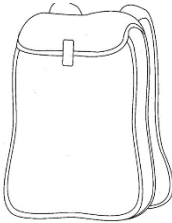
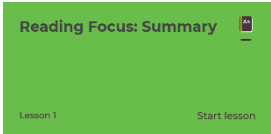
TIMETABLE FOR CLASS 6 – Week beginning 29.6.20

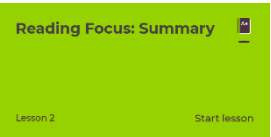

Hi Class 6,
I hope you are all well and have had a lovely weekend. As with the last few weeks, the weekly timetable below is still written for all children in Class 6, whether at home, in a Class 6 pod or key worker group. If you are in one of the Class 6 pods, then the activities set out below are to be completed during the week **but day 1 and 2 are to be completed when you are in school.** That means if you are in Pod A, you will complete days 1 and 2 on Monday and Tuesday, but if you are in Pod B, you will complete days 1 and 2 on Thursday and Friday. For your topic work this week, I have set some tasks, which are based on a short topic about the rainforests. I hope you enjoy it. Please keep emailing me your work – I love to see what you are producing.
Take care,
From Mr Penny

PE
9:00 – 9:35 PE with Joe Wicks @ <https://www.youtube.com/channel/UCAxW1XT0iEJo0TYIRfn6rYQ>

Stay Active As A Family At Home
See the SASP website to find many physical activities you can do at home.
<https://www.sasp.co.uk/home-family-activities>

	Maths (60 mins)	Literacy (60 mins)	Other (60 mins) – Rainforests	Ongoing
<p>Day 1 (Teacher led for Class 6 pods)</p>	<p>Open the following document on the school website: Flashback 4 week beginning 29.6.20 Complete Day 1 questions. Mark with answers on the next page.</p> <p>White Rose Maths – Summer Term Week 8 – Lesson 1 – Solve 2-step equations</p> <p>https://whiterosemaths.com/homelearning/year-6/</p> <p>Watch the video. Then complete the questions on the worksheet attached to this document under the spellings. There is also an answer sheet to mark your work when completed.</p>	<p>This week we will be using a video on the Literacy Shed called The Black Hat.</p> <p>Please click on the link below to access the video: https://www.literacyshed.com/blackhat.html</p> <p>Firstly, I would like you to complete the comprehension questions, which can be found under the spellings on this document. Rewatch the video, pause it at the time intervals given, and answer the questions. Once you have completed the questions, you can mark them with the answers given on the following page.</p> <p>Now I would like you to think about the creatures, which come out of the hat, and where they came from. Today and tomorrow, I would like you to plan and write a short descriptive 'portal tale' opening and build up about the boy going into/getting sucked into the hat and going to the location, which the animals come from. This could be the Amazon Rainforest (or other rainforest) or a magical world with lots of animals and trees in it. Your writing will be the 2nd chapter in the story or the sequel to the video.</p> <p>You will need to give the boy character a name, plan how he gets into the hat e.g. he is sucked in by a bright light and then what the rainforest location or other world he lands in looks like. I don't want you to write a long story, this should be a focussed opening and build up so try to focus on describing the forest with lots of adjectives, senses and figurative language e.g. metaphors.</p> <p>Today you need to focus on the planning so that you can crack on with the writing tomorrow.</p> <p>I have written an example text on this document under the spellings, which you can use to support you with ideas.</p>	<p>Rainforests</p> <p>We will be completing some work on rainforests this week. To begin with, I would like you to find out about rainforests by reading through the information on 'rainforest as a habitat' at the bottom of this timetable.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Now you have found out some information about rainforests, I would like to draw a diagram of the layers of a rainforest. Use the picture and information on picture 4 of the pictures given.</p> <p>Deforestation Unfortunately, many of the world's rainforests are being or have been cut down. This is due to many reasons. Please read through the information 'deforestation' at the bottom of this timetable.</p> <p>Then please write down 3 reasons behind deforestation, 3 effects of deforestation and 3 things we can do to limit the effects of deforestation.</p>	<p>Reading (everyday 15mins) Verbal tables (everyday 10 minutes) Spellings (either print out the sheet or attached, or create your own) Contact a friend or relative for a good chat</p>

<p>Day 2 (Teacher led for Class 6 pods)</p>	<p>Open the following document on the school website: Flashback 4 week beginning 29.6.20 Complete Day 2 questions. Mark with answers on the next page.</p> <p>White Rose Maths – Summer Term Week 8 – Lesson 2 – Find pairs of values</p> <p>https://whiterosemaths.com/homelearning/year-6/</p> <p>Watch the video. Then complete the questions on the worksheet (Find pairs of values (2)) attached to this document under the spellings. There is also an answer sheet to mark your work when completed.</p>	<p>Today I would like you to continue the writing we planned yesterday. You will need to look at your plan and really focus on describing the location the boy is transported to.</p> <p>The short piece of writing needs to start with the boy, who you may have named, being sucked into the hat. Make sure you have written about how this happens. Then I would like you to describe the travelling he does to the new location. Think about other portal tales that you're familiar with such as 'The Lion The Witch and the Wardrobe' when Lucy walks through the wardrobe into Narnia; or your character may have a sense of falling like Alice in 'Alice and Wonderland'.</p> <p>When the boy opens his eyes, he will now be in the new location. Really think about the senses when you start to describe what is around him. Then you may start to write about the boy walking through the location, or seeing lots of animals. Try to think about what he would do.</p> <p>If you have time left, you could get the boy to travel back to his home via the hat again.</p> <p>As I said yesterday, I really want you to focus on the description with this writing today.</p> <p>Remember to have a look at the example text on this document under the spellings as it can be used to support you.</p>	<p>History – Sir Walter Raleigh</p> <p>Four hundred years ago, Sir Walter Raleigh sailed the Atlantic Ocean in search of a place called El Dorado. His expedition took him to Guyana and his search led him to discover the country's rainforest. Four hundred years later, a group of children have taken on the challenge to follow in Raleigh's footsteps in their own expedition to Guyana.</p> <p>Watch the following video about their expedition:</p> <p>https://www.bbc.co.uk/teach/class-clips-video/geography-ks2-ks3-guyanas-endangered-animals/zmrqpg8</p> <p>When watching the video, I would like you to note down 5 things similar between Sir Walter Raleigh's expedition and the one the children are on now.</p> <p>When you have finished watching the video, I would like you to think about the expedition and what the children took with them. On a piece of paper, I would like you to draw a backpack and think about what you would take with you as non-essential items. Food, water, clothing and toiletries would be essential items. Draw and label your 5 items in your rucksack. You can take some extra luxury food or toiletries with you as non-essential items.</p>	<p>Reading (everyday 15mins) Verbal tables (everyday 10 minutes) Spellings (either print out the sheet or attached, or create your own) Contact a friend or relative for a good chat</p> 
<p>Day 3</p>	<p>Open the following document on the school website: Flashback 4 week beginning 29.6.20 Complete Day 3 questions. Mark with answers on the next page.</p> <p>MyMaths – Perimeter</p> <p>This is a revision task looking at perimeter. You should be fine with the homework task, however do make sure you look at the lesson if you are struggling.</p>	<p>For the next 3 days, we will be using the government recommended Oak National Academy website again.</p> <p>The focus is on Explanation texts based on the book The Faraway Tree this week. Today you will be completing a session with a reading focus.</p> <p>Firstly, click on the link below: https://classroom.thenational.academy/lessons/reading-focus-summary</p> <ol style="list-style-type: none"> 1. Watch the video and complete the questions with the teacher. 2. Pause the video, close the video and move onto the independent task in your book. 3. Click on the 'Resume video' box at the top of the page and mark your work. <p>Stop the video and do not complete the spellings section as I have set your spellings below.</p> 	<p>Geography – Animals of the Amazon Rainforest</p> <p>The Amazon Rainforest has an amazing array of plant and animal life and many new species are discovered all the time.</p> <p>Watch the video below on Espresso to find out about some new species recently discovered: Username: student3817 Password: milverton https://central.espresso.co.uk/espresso/primary_uk/subject/news/video/item1073848/grade2/index.html?source=search-all-all-all&source-keywords=amazon%20rainforest</p> <p>Now I would like you to have a read through the animal fact files under the spellings on this timetable. Which ones do you like? Which is the most interesting?</p> <p>Then I would like you to research an animal from the Amazon rainforest and make a fact file for it on the empty sheet under the fact files given. You could use non-fiction books or the internet to support you with this work.</p>	<p>Reading (everyday 15mins) Verbal tables (everyday 10 minutes) Spellings (either print out the sheet or attached, or create your own) Contact a friend or relative for a good chat</p>

<p>Day 4</p>	<p>Open the following document on the school website: Flashback 4 week beginning 29.6.20 Complete Day 4 questions. Mark with answers on the next page.</p> <p>White Rose Maths – Summer Term Week 9 – Lesson 1 – Area and perimeter</p> <p>https://whiterosemaths.com/homelearning/year-6/</p> <p>Watch the video. Then complete the questions on the worksheet attached to this document under the spellings. There is also an answer sheet to mark your work when completed.</p>	<p>We are using the Oak National Academy resources again and today you will be completing a session with a reading focus.</p> <p>Firstly, click on the link below: https://classroom.thenational.academy/lessons/reading-focus-summary-ea06ec</p> <ol style="list-style-type: none"> 1. Complete the introductory quiz. 2. Watch the video and complete the questions with the teacher. 3. Pause the video, close the video and move onto the independent task in your book. 4. Click on the 'Resume video' box at the top of the page and mark your work. <p>Stop the video and do not complete the spellings section as I have set your spellings below.</p> 	<p>Art – Henri Rousseau</p> <p>Today I would like you to look at artwork produced by a French artist called Henri Rousseau who painted jungles during the 19th century.</p> <p>Look through the PowerPoint: Rousseau artwork week beginning 29.6.20</p> <p>Then I would like you to plan and draw your own jungle picture in the style of Henri Rousseau.</p> <p>You can draw, paint or create a collage depending on the resources you have available at home.</p> 	<p>Reading (everyday 15mins) Verbal tables (everyday 10 minutes) Spellings (either print out the sheet or attached, or create your own) Contact a friend or relative for a good chat</p>
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Day 5 – This is now a choice day depending on how you have got on this week. You can either have a go at Day 5 below OR you can spend some quality time finishing learning from Days 1-4 OR you can do both. You can also ‘dip’ into Day 5 too. I don’t mind as long as you are continuing your learning as best you can.

<p>Day 5</p>	<p>Open the following document on the school website: Flashback 4 week beginning 29.6.20 Complete Day 5 questions. Mark with answers on the next page.</p> <p>White Rose Maths – Summer Term Week 9 – Lesson 2 – Area of triangles</p> <p>https://whiterosemaths.com/homelearning/year-6/</p> <p>Watch the video. Then complete the questions on the worksheet (Area of a triangle (3)) attached to this document under the spellings. There is also an answer sheet to mark your work when completed.</p>	<p>Click on the following link to see the video called The Black Hat on the Literacy Shed.</p> <p>Please click on the link below to access the video: https://www.literacyshed.com/blackhat.html</p> <p>Your task today is to write a blurb. Imagine that the video The Black Hat is going to be made into a thought-provoking picture book. You need to write a detailed blurb for the back of the book. Your blurb should make children of your own age excited about reading it.</p> <p>Try to: Entice the reader to want to know what happens in the story by telling them snippets of it (leave them with lots of questions in their minds). Give the reader an idea about the themes (magic, freedom, loss, beauty etc.). Choose your language carefully so that you can be concise.</p> <p>Have a read of some blurbs from your books at home, if you need any support with this.</p>	<p>Spelling test – ask someone to test you on your spellings from this week.</p> <p>Use this time to complete all of your work.</p>	<p>Reading (everyday 15mins) Verbal tables (everyday 10 minutes) Spellings (either print out the sheet or attached, or create your own) Contact a friend or relative for a good chat</p>
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Please choose five of the words in your list and write them in a sentence.

*Challenge! Can you write 5 sentences with two spellings in each?

1. _____

2. _____

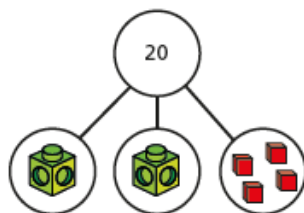
3. _____

4. _____


5. _____


Solve two-step equations

1 Here is a part-whole model.

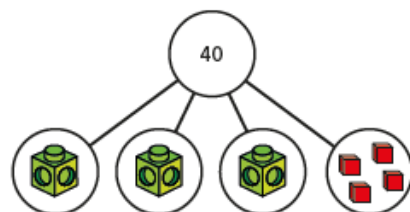


a) Write an equation for the part-whole model.

b) Solve the equation to work out the value of 

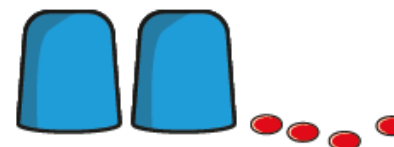
 =

2 If each multilink cube represents x , form and solve an equation to find the value x .



$x =$

3 There is the same number of counters under each cup.
There are 16 counters in total.



a) Use y to represent the number of counters under each cup.

Write an equation in terms of y .

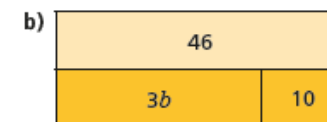
b) Solve the equation to find the value of y .

$y =$

c) How many counters are under each cup?

4 Write an algebraic equation to represent each bar model.

Find the values of a and b .



$a =$

$b =$



5 Solve the equations.

a) $5x + 1 = 31$

$x =$

b) $3x - 3 = 9$

$x =$

c) $4p - 11 = 3$

$p =$

d) $9 = 2y + 8$

$y =$

e) $10g - 2 = 46$

$g =$

f) $4 + 3y = 28$

$y =$

6 Dani thinks of a number.

She doubles it and adds 3

She gets the answer 15

a) Write an equation to represent Dani's problem.

b) Solve the equation to find her number.



7 Alex is y years old.

Her friend Brett is 3 years older.

The total of their ages is 25

How old are Alex and Brett?

Alex is

Brett is

8



a) Work out the cost of one banana and one orange.

One banana costs

One orange costs

b) Compare methods with a partner.



Find pairs of values (2)

- 1 Class 6 are trying to solve a number puzzle.

$$\triangle + \triangle + \bigcirc = 10$$

a)



The triangle could be 3 and the circle could be 4

Dexter

Do you agree with Dexter? _____

Explain why.

b)

The triangle is worth 4



Dora

What is the value of the circle in Dora's number puzzle?

$$\bigcirc = \square$$

- c) Find other pairs of values that the triangle and circle could equal.

Find three pairs.

$$\triangle = \square \quad \bigcirc = \square$$

$$\triangle = \square \quad \bigcirc = \square$$

$$\triangle = \square \quad \bigcirc = \square$$

- 2 a and b are whole numbers.

$$2a + b = 14$$

Complete the table to show different possible values for a and b .

a	0	1	2	3	4	5	6	7
$2a$	0	2						
b	14							
$2a + b$	14	14	14	14				

- 3 c and d are both integers less than 15 but greater than zero.

$$3c - d = 2$$

Complete the table to show different possible values for c and d .

c	1	2	3	4	5
$3c$	3				
d	1				
$3c - d$	2	2	2		

- b) Explain why there are no other possible values for c and d .



- 4 x and y are both multiples of 5 less than 100
If $2x = y$, circle the possible values of x and y .

$x = 20, y = 20$

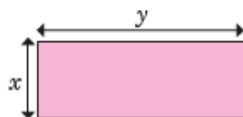
$x = 10, y = 20$

$x = 20, y = 10$

$x = 35, y = 70$

$y = 90, x = 45$

- 5 Here is a rectangle.
 x and y are both integers.



The rectangle has a perimeter of 28 cm.

- a) Write an equation to represent the perimeter of the rectangle.

- b) List all the possible pairs of values for x and y .

Compare answers with a partner. How do you know you have found all the possible values?



- 6 Aisha is buying some stationery for school.
She spends exactly £1
List the possible combinations of pencils and pens that Aisha could have bought.



- 7 Ron has four digit cards.
- Two of the cards have the same value.
 - All of the cards are less than 10 but greater than zero.
 - All of the cards are odd.
 - The sum of the four cards is 24

Find two possible sets of cards.

Set 1

Set 2

- 8 $2ab = 48$

- a) Find a pair of possible values for a and b .

$a =$ $b =$

- b) Work with a partner to find as many pairs of values as you can.



Area and perimeter

1 Use the words to complete the sentences.

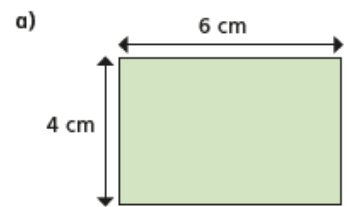
perimeter cm^2 cm m

area m^2 inside around

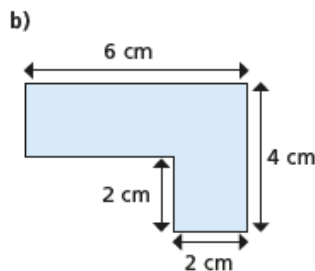
_____ is the amount of space _____ a two-dimensional shape. It can be measured in units such as _____ or _____

_____ is the distance _____ a two-dimensional shape. It can be measured in units such as _____ or _____

2 Work out the areas and perimeters of the shapes.

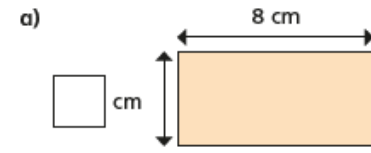


perimeter = cm
area = cm^2

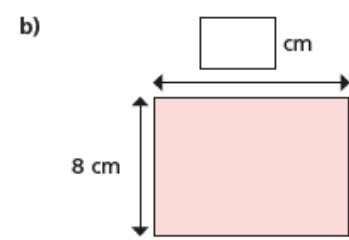


perimeter = cm
area = cm^2

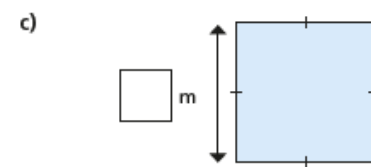
3 Work out the missing values.



area = 32 cm^2
perimeter = cm

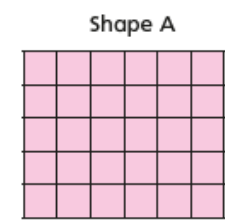


area = cm^2
perimeter = 40 cm

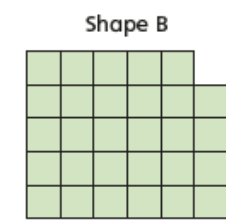


area = m^2
perimeter = 36 m

4 Work out the areas and perimeters of the shapes.



area = cm^2
perimeter = cm



area = cm^2
perimeter = cm

What do you notice?



5



Tommy

If you start with a rectilinear shape, when you increase the area, the perimeter will increase.

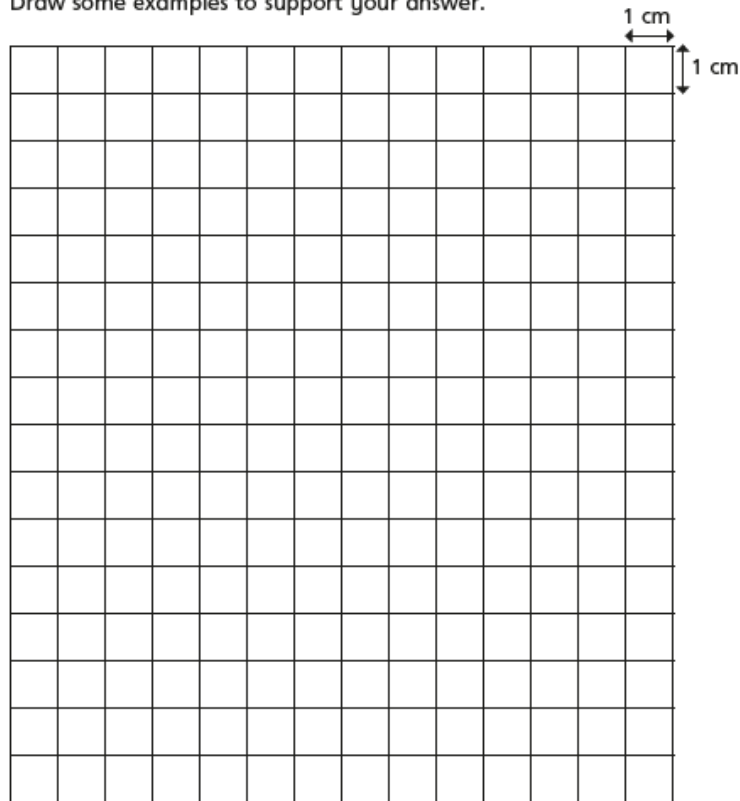
Amir



It depends on the shape.

Who do you agree with? _____

Draw some examples to support your answer.

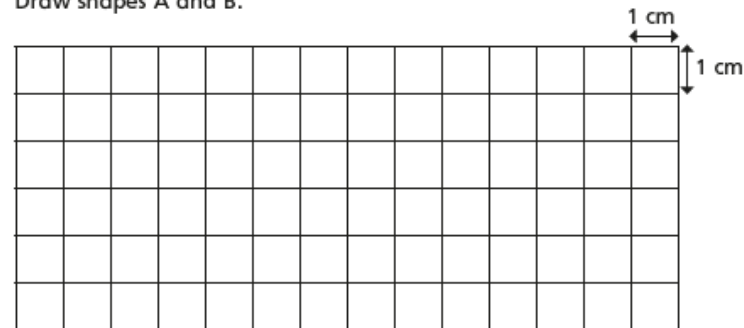


6

Two rectilinear shapes, A and B, each have an area of 12 squares.

- Shape A has the largest perimeter possible.
- Shape B has the smallest perimeter possible.

Draw shapes A and B.



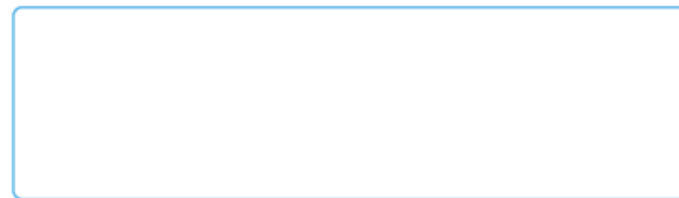
What do you notice?

7

Mr Jones has 50 m of fencing.

He wants to make a rectilinear enclosure using all the fencing.

- a) Draw an example of a shape he could make. Give units on your diagram.



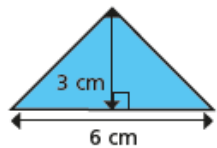
b) What is the greatest possible area of the enclosure?

c) What is the smallest possible area of the enclosure?



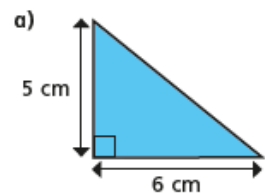
Area of a triangle (3)

1 Calculate the area of the triangle.

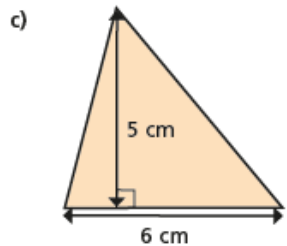


area = cm²

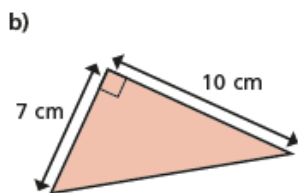
2 Calculate the area of the triangles.



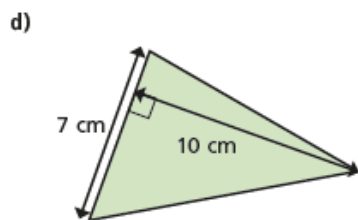
area = cm²



area = cm²

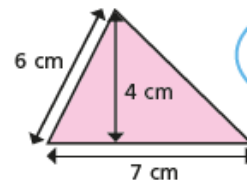


area = cm²



area = cm²

3 What mistake has Dora made?

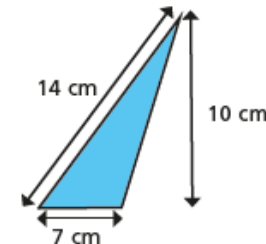
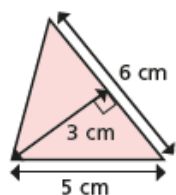
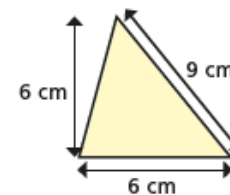
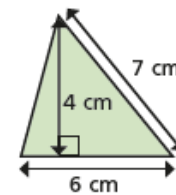


To find the area you do
 $7 \times 6 \div 2 = 21 \text{ cm}^2$



4 Label the base of each triangle *b*.

Label the perpendicular height *h*.

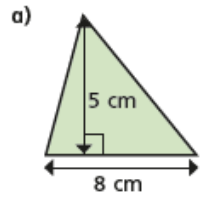


5 Are the statements always, sometimes or never true?

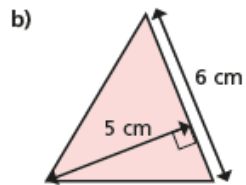
The side at the bottom of a triangle is the base.

The perpendicular height is equal to the vertical height.

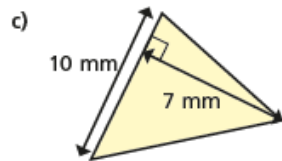
6 Calculate the area of the triangles.



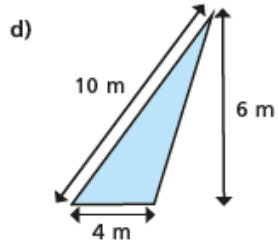
area = cm²



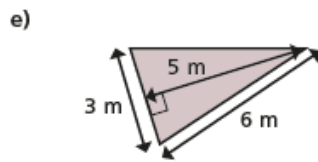
area = cm²



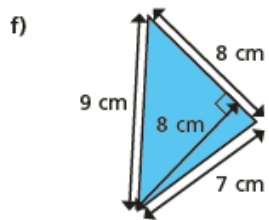
area = mm²



area = m²

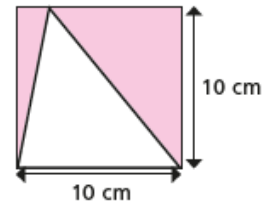


area = m²



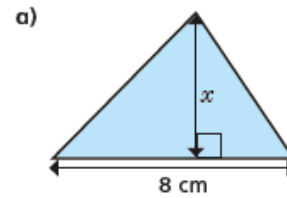
area = cm²

7 Find the area of the shaded region.

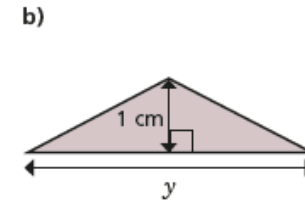


area = cm²

8 The area of each triangle is 12 cm². Find the missing lengths.

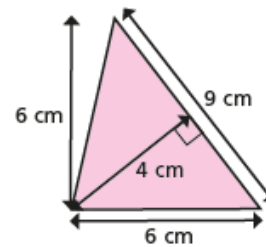


$x =$ cm



$y =$ cm

9 Show two ways you can work out the area of the triangle.

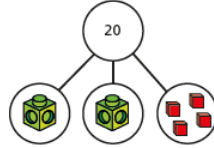


Compare answers with a partner.



Solve two-step equations

1 Here is a part-whole model.



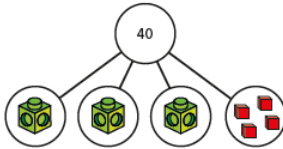
a) Write an equation for the part-whole model.

$$2x + 4 = 20$$

b) Solve the equation to work out the value of

$$\text{die} = 8$$

2 If each multilink cube represents x , form and solve an equation to find the value x .



$$x = 12$$

5 Solve the equations.

a) $5x + 1 = 31$

$$x = 6$$

b) $3x - 3 = 9$

$$x = 4$$

c) $4p - 11 = 3$

$$p = 35$$

d) $9 = 2y + 8$

$$y = 0.5$$

e) $10g - 2 = 46$

$$g = 4.8$$

f) $4 + 3y = 28$

$$y = 8$$

6 Dani thinks of a number. She doubles it and adds 3. She gets the answer 15.

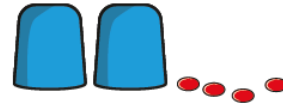
a) Write an equation to represent Dani's problem.

$$2x + 3 = 15$$

b) Solve the equation to find her number.

$$6$$

3 There is the same number of counters under each cup. There are 16 counters in total.



a) Use y to represent the number of counters under each cup. Write an equation in terms of y .

$$2y + 4 = 16$$

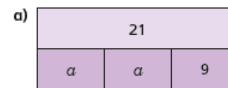
b) Solve the equation to find the value of y .

$$y = 6$$

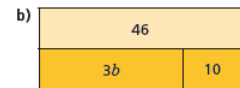
c) How many counters are under each cup?

$$6$$

4 Write an algebraic equation to represent each bar model. Find the values of a and b .



$$a = 6$$



$$b = 12$$

7 Alex is y years old. Her friend Brett is 3 years older. The total of their ages is 25. How old are Alex and Brett?

Alex is 11

Brett is 14

8



a) Work out the cost of one banana and one orange.

One banana costs $32p$

One orange costs $28p$

b) Compare methods with a partner.

Find pairs of values (2)



1 Class 6 are trying to solve a number puzzle.

$$\triangle + \triangle + \bigcirc = 10$$

a)



The triangle could be 3 and the circle could be 4

Dexter

Do you agree with Dexter? Yes

Explain why.

$$3 + 3 + 4 = 10$$

b)

The triangle is worth 4



Dora

What is the value of the circle in Dora's number puzzle?

$$\bigcirc = 2$$

c) Find other pairs of values that the triangle and circle could equal.

Find three pairs.

$$\begin{aligned} \triangle &= 1 & \bigcirc &= 8 \\ \triangle &= 2 & \bigcirc &= 6 \end{aligned}$$

$$\triangle = 5 \quad \bigcirc = 0$$

4 x and y are both multiples of 5 less than 10
If $2x = y$, circle the possible values of x and y .

$x = 20, y = 20$
 $x = 10, y = 20$
 $x = 20, y = 10$
 $x = 35, y = 70$
 $y = 90, x = 45$

5 Here is a rectangle.
 x and y are both integers.



The rectangle has a perimeter of 28 cm.

a) Write an equation to represent the perimeter of the rectangle.

$$2x + 2y = 28$$

b) List all the possible pairs of values for x and y .

$$\begin{aligned} x=1 & y=13 & x=5 & y=9 \\ x=2 & y=12 & x=6 & y=8 \\ x=3 & y=11 & & \\ x=4 & y=10 & & \end{aligned}$$

Compare answers with a partner. How do you know you have found all the possible values?

2 a and b are whole numbers.

$$2a + b = 14$$

Complete the table to show different possible values for a and b .

a	0	1	2	3	4	5	6	7
$2a$	0	2	4	6	8	10	12	14
b	14	12	10	8	6	4	2	0
$2a + b$	14	14	14	14	14	14	14	14

3 c and d are both integers less than 15 but greater than zero.

$$3c - d = 2$$

Complete the table to show different possible values for c and d .

c	1	2	3	4	5
$3c$	3	6	9	12	15
d	1	4	7	10	13
$3c - d$	2	2	2	2	2

b) Explain why there are no other possible values for c and d .

If c was 16 d would be greater than 15

6 Aisha is buying some stationery for school.
She spends exactly £1



List the possible combinations of pencils and pens that Aisha could have bought.

10 pencils
6 pens & 1 pencil
2 pens & 7 pencils
4 pens & 4 pencils

7 Ron has four digit cards.

- Two of the cards have the same value.
- All of the cards are less than 10 but greater than zero.
- All of the cards are odd.
- The sum of the four cards is 24

Find two possible sets of cards.

Set 1 $\boxed{1} \boxed{5} \boxed{9} \boxed{9}$

Set 2 $\boxed{1} \boxed{7} \boxed{7} \boxed{9}$

8

$$2ab = 48$$

a) Find a pair of possible values for a and b .

e.g. $a = \boxed{6} \quad b = \boxed{4}$

b) Work with a partner to find as many pairs of values as you can.



Area and perimeter

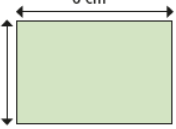
1 Use the words to complete the sentences.

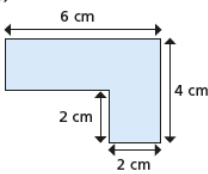
- perimeter cm^2 cm m
 area m^2 inside around

Area is the amount of space inside a two-dimensional shape. It can be measured in units such as cm^2 or m^2 .

Perimeter is the distance around a two-dimensional shape. It can be measured in units such as cm or m.

2 Work out the areas and perimeters of the shapes.

a)  perimeter = 20 cm
 area = 24 cm^2

b)  perimeter = 20 cm
 area = 16 cm^2

5



Tommy

If you start with a rectilinear shape, when you increase the area, the perimeter will increase.

Amir

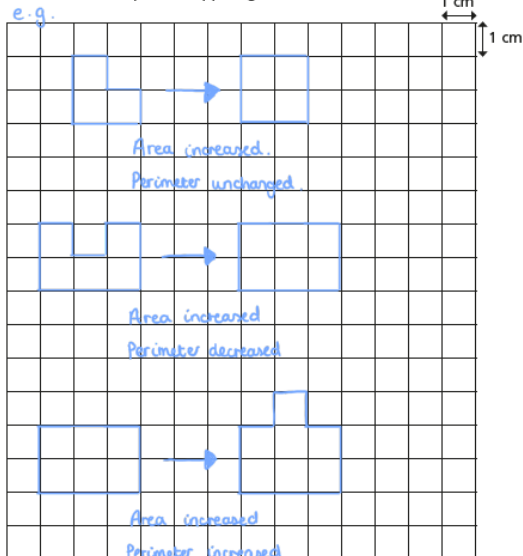
It depends on the shape.



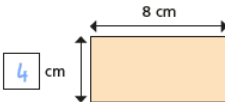
Who do you agree with? Amir

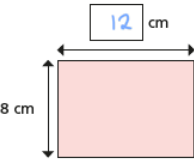
Draw some examples to support your answer.

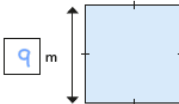
e.g.



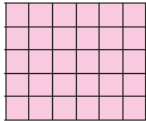
3 Work out the missing values.

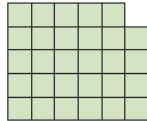
a)  area = 32 cm^2
 perimeter = 24 cm

b)  area = 96 cm^2
 perimeter = 40 cm

c)  area = 81 m^2
 perimeter = 36 m

4 Work out the areas and perimeters of the shapes.

Shape A:  area = 30 cm^2
 perimeter = 22 cm

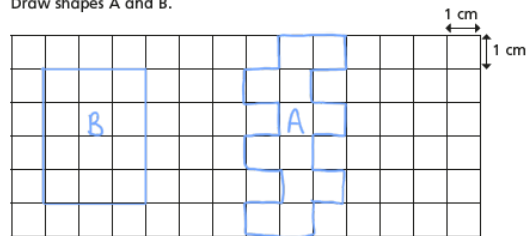
Shape B:  area = 29 cm^2
 perimeter = 22 cm

What do you notice?

6 Two rectilinear shapes, A and B, each have an area of 12 squares.

- Shape A has the largest perimeter possible.
- Shape B has the smallest perimeter possible.

Draw shapes A and B.



What do you notice?

7 Mr Jones has 50 m of fencing.

He wants to make a rectilinear enclosure using all the fencing.

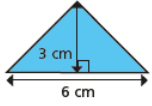
a) Draw an example of a shape he could make. Give units on your diagram.

e.g. 

- b) What is the greatest possible area of the enclosure? 156 m^2
 c) What is the smallest possible area of the enclosure? 24 m^2

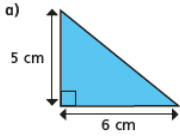
Area of a triangle (3)

1 Calculate the area of the triangle.

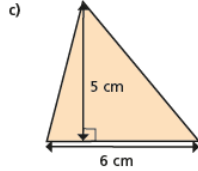


area = cm²

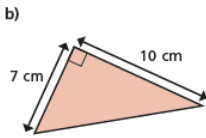
2 Calculate the area of the triangles.



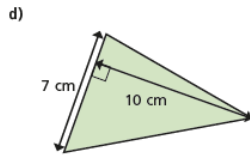
area = cm²



area = cm²

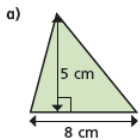


area = cm²

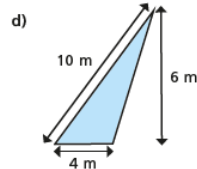


area = cm²

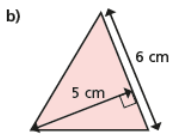
6 Calculate the area of the triangles.



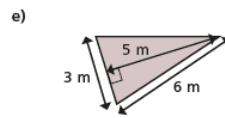
area = cm²



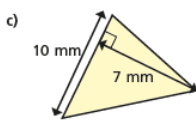
area = m²



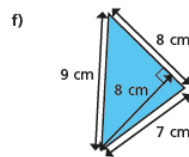
area = cm²



area = m²

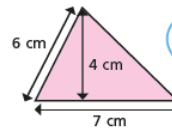


area = mm²

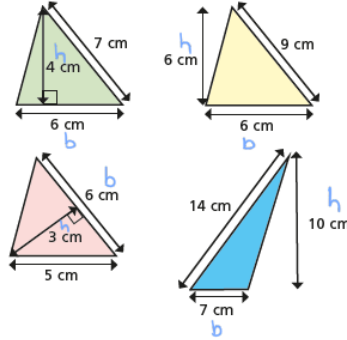


area = cm²

3 What mistake has Dora made?



4 Label the base of each triangle *b*. Label the perpendicular height *h*.



5 Are the statements always, sometimes or never true?

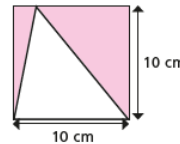
The side at the bottom of a triangle is the base.

Sometimes

The perpendicular height is equal to the vertical height.

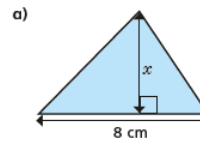
Sometimes

7 Find the area of the shaded region.

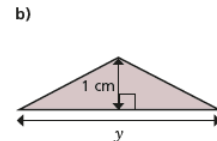


area = cm²

8 The area of each triangle is 12 cm². Find the missing lengths.

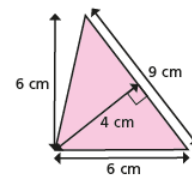


x = cm



y = cm

9 Show two ways you can work out the area of the triangle.



$\frac{9 \times 4}{2} = 18 \text{ cm}^2$

$\frac{6 \times 6}{2} = 18 \text{ cm}^2$

Compare answers with a partner.



The Black Hat comprehension questions

Watch the video up to 32 seconds, just before the boy finds the hat.

1. What sounds does the boy hear in the forest?
2. What 4 adjectives are used to describe the forest?

Watch the video up to 50 seconds, when the boy falls asleep.

3. What happened when he took the hat off and fell asleep?

Watch the video up to 1 minute 30 seconds, when the boy had put the animals into jars and cages.

4. Why did the boy put the creatures into jars and cages?

Watch the video up to 2 minutes 50 seconds, when the boy releases the animals.

5. Why did the boy let all of the creatures free in the woods?

The Black Hat comprehension questions with answers

Watch the video up to 32 seconds, just before the boy finds the hat.

1. What sounds does the boy hear in the forest?
Creak of a branch and crunch of twig
2. What 4 adjectives are used to describe the forest?
Damp, dark, deep and big.

Watch the video up to 50 seconds, when the boy falls asleep.

3. What happened when he took the hat off and fell asleep?
Strange creatures climbed out of it.

Watch the video up to 1 minute 30 seconds, when the boy had put the animals into jars and cages.

4. Why did the boy put the creatures into jars and cages?
To stop them from escaping.

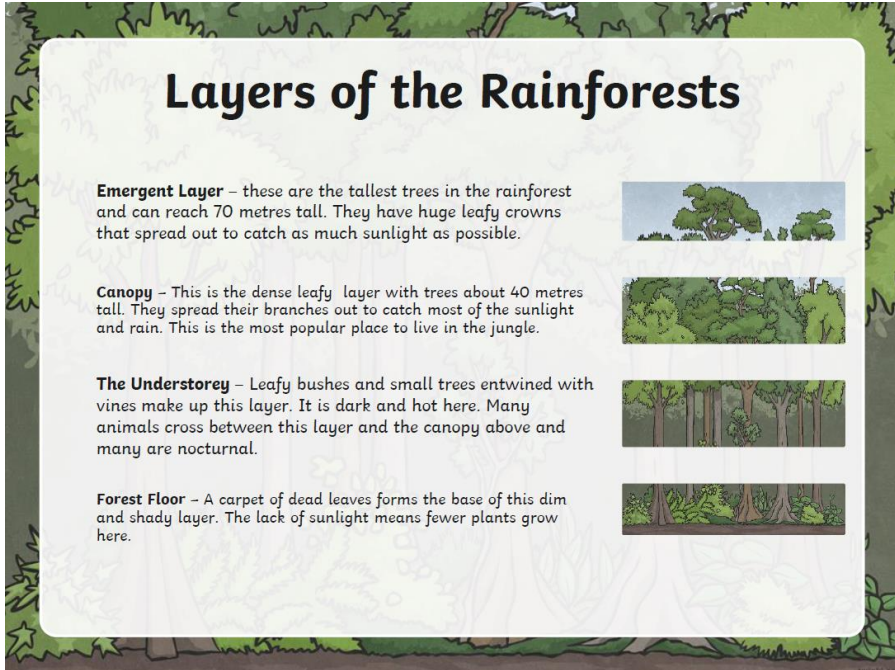
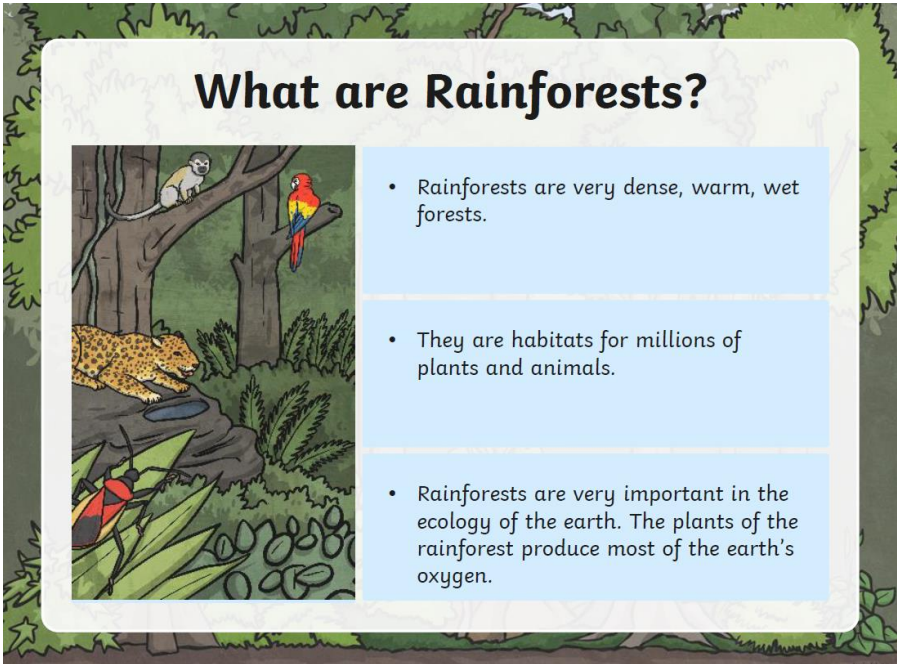
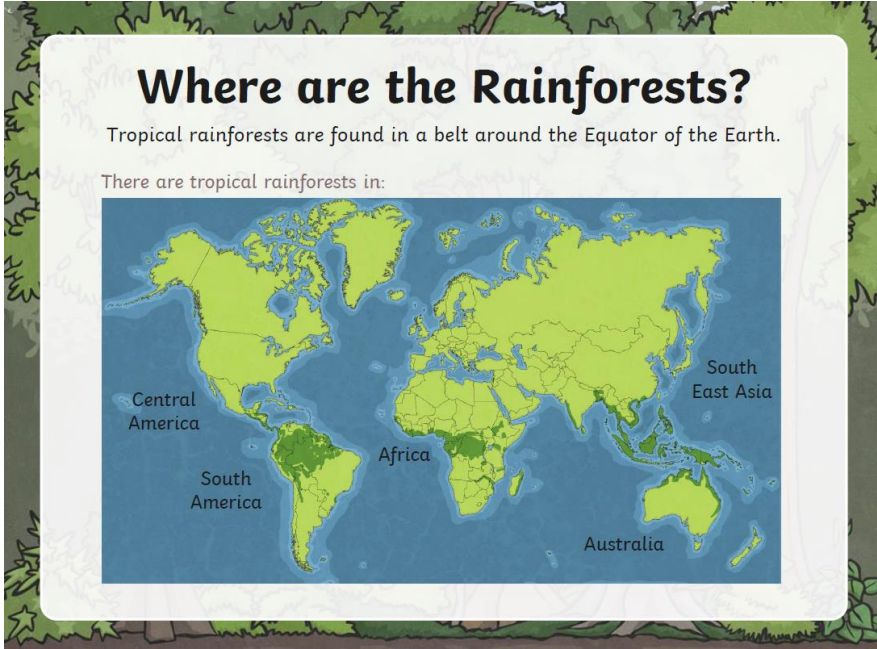
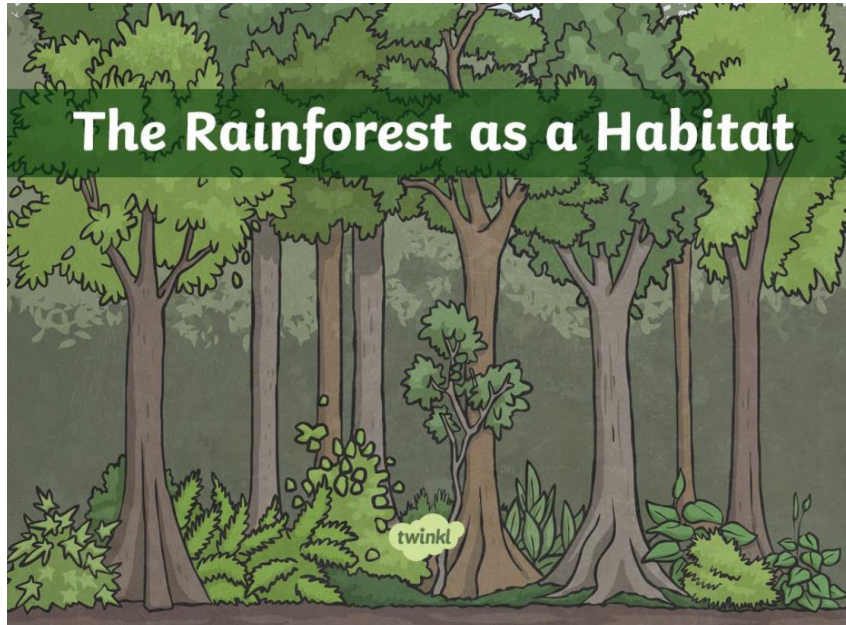
Watch the video up to 2 minutes 50 seconds, when the boy releases the animals.

5. Why did the boy let all of the creatures free in the woods?
Many answers are possible for this question, here are some examples. He now knew they should be free and not locked away. He realised that locking away animals is unkind. He felt guilty about locking them away. The animals needed freedom for their true beauty to show.

The Black Hat – Chapter 2

Tim placed the hat down and drifted to sleep. He was woken only a few minutes later, the hat was emitting a small light across his bedroom. The light was a strange orange beam, which appeared to be almost clawing at Tim's arm. Puzzled, he got up out of bed and stared at the hat, edging closer towards it. What was he to do? Should he call out for Grandma? As he decided to take a closer look it grabbed him! Tim was plunged violently forwards and into the hat – it seemed to stretch around his body and swallow him, but Tim felt absolutely no pain. Down, down down he fell into nothingness. All around him, he could hear strange sounds; a myriad of unfamiliar noise surrounded him. Tim could make out a faint birdcall but the rest was unknown. Just when he thought he would fall forever, he suddenly slowed and Tim closed his eyes bracing himself for what was next.

He landed on something quite soft. Bravely, he opened his eyes with caution and what met them was nothing short of amazing...



Animals in the Rainforests

Rainforests are home to a variety of different animal species

Insects



Butterflies and Beetles

Arachnids



Spiders and Ticks

Reptiles



Snakes and Lizards

Amphibians



Toads and Frogs

Birds



Parrots and Toucans

Mammals



Apes and Jaguars

Different animals live in different layers of the rainforest



Birds live in the canopy layer and the emergent layer.



Insects are found almost everywhere. The Morpho butterfly lives in the canopy and has a wing span of 18cm.



Large animals like jaguars generally live on the forest floor, but others like monkeys and sloths are more arboreal.

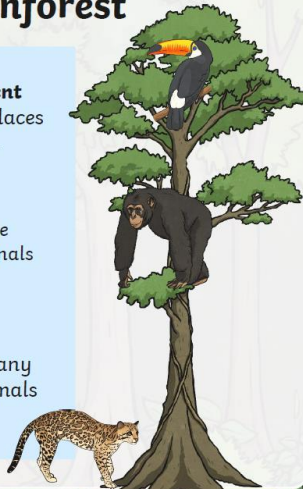
Meaning of **Arboreal**
- living in trees

Different animals live in different layers of the rainforest

Many birds live in the **emergent layer**. They look for nesting places and are away from predators.

The **understorey layer** gets little light and is home to many animals like frogs, bats, apes and owls.

The **forest floor** is home to many insects, spiders and large animals like jaguars and ocelots.



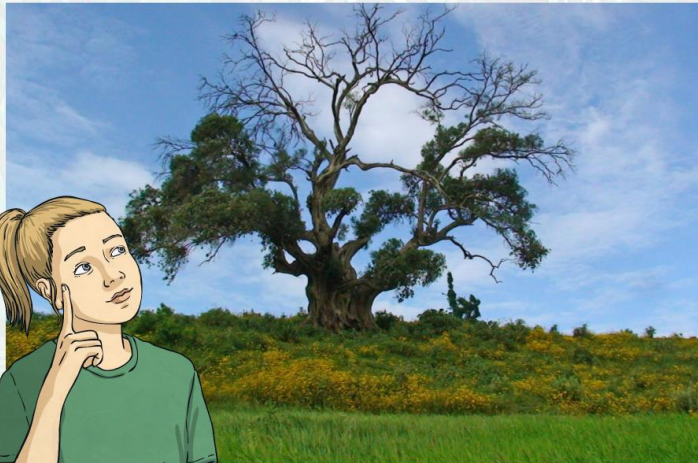
Deforestation

Think about It

What do you think about when you look at these pictures?

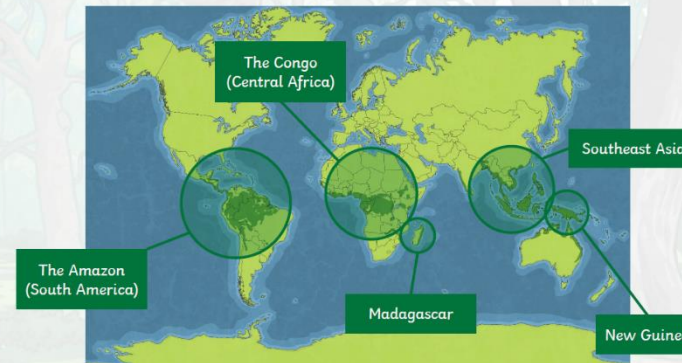


What about a tree or perhaps a forest?



Forest Fact

Around 30% of the Earth is covered by trees.



Why Are Rainforests so Important?

Rainforests cover only 6% of the Earth but they are home to 50% of all plant and animal species. In just four square miles you might find:

1,500 flowering plants



400 species of birds



750 species of trees



150 species of butterflies



And much more!



Why Are Rainforests so Important?

Rainforests are often known as the 'lungs of the Earth'. The trees absorb harmful carbon dioxide and produce 20% of the oxygen in Earth's atmosphere.

25% of medicines come from plants found in the rainforest.



Forest Fact

The rainforests are disappearing.



Do you know why the rainforests are disappearing?

What Is Deforestation?

Deforestation occurs when trees are cut down across a wide area which is then permanently cleared for another use.



Did You Know...?

Every 20 minutes, an area of rainforest the size of 20 football pitches is cut down. If this rate continues, there will be no rainforests in 100 years.

Why Are the Rainforests Cut Down?



Trees are useful and valuable. Among other things, they are used for paper, building and firewood.



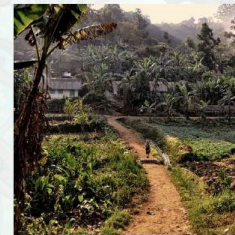
The rainforest is home to a unique variety of tree species. Hardwoods such as teak or mahogany are strong and so are perfect for building and for making furniture. However, these trees are slow growing and are not easy to replace.



There are over 7 billion people on the planet. This number keeps growing.



All of these people need food so land is cleared for farming.



Subsistence Farming

Known as slash and burn, families cut down small parts of the forest and burn it to improve the soil and make room for cattle.

It is small scale and the forest can regenerate. But with more people taking more land, this chance of recovery is slower. Up to 48% of all deforestation is caused by subsistence farming.



Commercial Farming

This is farming that happens on a large scale. It is led by companies who need to produce on a much bigger scale to provide food and products for the wider world.

Forest is cleared permanently for:

- **Cattle grazing:** this provides meat for restaurant chains and supermarkets.
- **Crops:** such as sugar cane and palm oil.

What Are the Effects of Deforestation?



Soil erosion: Tree roots help hold the soil and prevent it being washed away. Without trees, the soil is washed into rivers and streams, blocking them, causing flooding and contaminated drinking water.

Droughts: Trees are an important part of the water cycle. Without them, there could be a lack of rain.

Habitat loss: Animals and plants lose their home so some may become endangered or extinct.

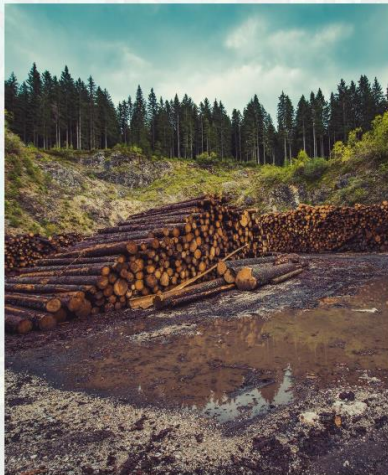
What Are the Effects of Deforestation?



Climate change: Scientists believe deforestation has a worldwide effect on climate. Trees store carbon dioxide. When they are cut down, carbon dioxide builds up in the atmosphere and is known as a greenhouse gas which causes global warming.

Lack of biodiversity: The number of different species becomes smaller.

What Can we do to Help?



Paper: use less and recycle any paper you do use.

Plant a tree: this could help to reduce the impact of deforestation.

Cardboard and wood: recycle cardboard and wood as much as possible.

Use recycled wood products: this will stop more trees being cut down.

Buy and use sustainable wood products: this will help reduce excessive tree cutting.

Potoo

Potoos are a noisy, strange-looking bird, which can often be found in the canopy of the Amazon rainforest. There are several types of potoo, including the common potoo, the great potoo and the long-tailed potoo.



These birds are nocturnal so are mainly active at night. They spend their days perched upright on trees or branches. They make a distinctive squawking sound, which can sound quite haunting, and they are at their loudest at night. The common potoo's song has been described as sounding like the words, 'poor me, poor me, alone'.

Appearance

Potoos have huge, gaping mouths and large eyes. Their feathers are brown, grey and black, which is perfect for the bird to camouflage among tree trunks and bark. Often, potoos can be found perching vertically, blending into their surroundings with an appearance resembling a broken tree branch.

Diet

The potoo mostly eats bugs and insects, including grasshoppers, moths and beetles. They use their huge eyes for spotting flying insects in the dark and their wide mouth for capturing them and swallowing them whole.

Habitat

Potoos can be found in humid forests in Central and South America. They live in the high branches of trees, camouflaged among the tree bark.

Interesting Facts

- The potoo lays a single egg but generally does not build a nest for it. Instead, the egg is held in a nook or on a stump of a tree branch.
- Both the male and female potoos take turns to incubate the egg before it hatches.

"Mrs. Man" by julian kardoso is licensed under CC BY 2.0

Sloth

Sloths are known for being particularly slow-moving creatures; all of their movements are careful and deliberate. They are mostly nocturnal and spend up to 90% of their time hanging upside down. Sloths have fairly poor vision and hearing so they rely on a strong sense of smell and touch.



Appearance

Species of sloths are divided into two families: two-toed sloths and three-toed sloths. Both of these species share similar appearance characteristics, including thick fur, rounded heads, flat snouts and stumpy tails. As they spend so much of their time hanging from branches, they have long curved claws to help with grip. Typically, they are between 60cm and 80cm in size, weighing anything between 2kg to 10kg.

As they move so little, they often have algae growing on their fur. Their fur provides the algae with a place to grow and the green colouring from the algae provides camouflage for the sloth. What's more, with insects feeding on the algae, it makes the sloth's whole body like a mini jungle habitat of its own!

Diet

Some sloth species eat nothing but leaves, while others also eat fruit, insects and even small lizards. No other mammal digests its food as slowly as the sloth. It can take up to a whole month to digest a single leaf. In fact, the slow movements of the sloth are mainly because of their leaf-based diet, which is low in energy and creates a slow metabolism.

Habitat

Sloths are mostly found in Central and South American rainforests and they mainly live among the branches of trees. They eat, sleep and even give birth while hanging from the branches.

Interesting Facts

- The sloth moves at an average speed of approximately two to four metres per minute.
- Sloths are surprisingly good swimmers and can swim about three or four times quicker than they can move on land. They are also able to hold their breath for long periods (even more than half an hour) while under water.

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Emerald Tree Boa

The emerald tree boa is a non-venomous snake, which is often found in the Amazon rainforest. They are fairly solitary animals and only descend to the ground in order to climb a different tree. However, they can move quite swiftly from tree to tree among the branches and foliage. As they are nocturnal, they are mostly active at night.

Appearance

The emerald tree boa is distinctively bright green in colour with a yellow underside. They have an irregular, zigzag pattern along their back, which is sometimes compared to a lightning bolt, and they are similar in appearance to the green tree python. These highly colourful traits mean they are often considered one of the most beautiful snakes in the world.

Adult emerald tree boas can grow to reach up to 2 metres in length and over 1kg in weight. They have vertical pupils – similar to that of cats – which help them to detect their prey's movement. They have a pair of long, sharp teeth, pointed backwards, and a forked tongue. Their heads are relatively large and flat.

Diet

They feed mostly on small mammals, such as rats, bats and possums. Younger snakes may also eat other reptiles and amphibians. They can be hunted themselves by birds of prey, such as the eagle.

Habitat

As indicated by their name, these snakes spend most of their time inhabiting trees. Their habitat is 'arboreal', which means 'related to or resembling trees'. They usually coil themselves around branches during the day and rest their head in the middle of the coil. They can often be found near rivers or swamps but are not dependent on open water.

Interesting Facts

- Emerald tree boas have a life expectancy of approximately 20 years in captivity or slightly less in the wild.
- They are not dangerous to humans and are therefore sometimes kept as pets.



"Emerald Tree Boa" by Eric Kirby is licensed under CC BY 2.0

Red-Eyed Tree Frog

The red-eyed tree frog is just one of many species of frog that lives in the rainforest.

Appearance

As their name suggests, they are mainly known for their huge, bright red eyes. Many scientists believe that their red eyes work as a way of startling predators. When disturbed, they open their eyes and flash the distinctive colour, possibly taking other animals by surprise, to give themselves an opportunity to hop to safety.

The rest of their body is neon green in colour, with a hint of blue and yellow at the sides. They have specially adapted suction-cup toes which help them to cling on to tree branches and leaves.

The male frog is around two inches long, while the female is slightly bigger at up to three inches in length.

Diet

Red-eyed tree frogs are generally considered to be carnivores and mainly eat at night. Their most common prey includes moths, crickets, flies and grasshoppers but they have been known to eat most creatures that fit into their mouths. This could even include other smaller frogs! They hide under leaves and in other concealed spots to ambush their prey with long sticky tongues.

Habitat

They are commonly found in the tropical lowland rainforests or surrounding hills. They mostly inhabit areas close to rivers or ponds and are excellent swimmers. As they are also very capable climbers, they attach themselves to the underside of leaves. This is where they rest during the day as well as clinging to branches and trunks.

Interesting Facts

- Their average lifespan in the wild is around 5 years.
- Male frogs can quiver, and even shake the branch of the tree where they are residing, in order to attract the attention of the females. This is accompanied by a loud croaking in order to establish their territory.



"Red Eyed Tree Frog" by Douglas Tohill is licensed under CC BY 2.0

Scarlet Macaw

The scarlet macaw is one of several species of macaw. The macaws are distinguishable thanks to their differing colours of plumage. Other species include the blue-and-yellow macaw, the great green macaw and the red-fronted macaw. There are at least 17 known species altogether.

Most macaws are intelligent, social birds which often gather together in flocks of ten or more. They make a very loud, throaty squawking noise.



Appearance

Despite their name, scarlet macaws are multicoloured: predominantly red, yellow and blue. Their bodies are between 80cm and 90cm long; around half of this is made up of their long, pointed tail feathers. Their average weight is around 1kg and they have large, powerful beaks that can crack open nuts. They also use their dry, scaly tongue to eat.

Diet

They mostly eat fruit and seeds or nuts, but can also eat insects. During the day, they will fly huge distances to gather food to eat – when flying, they can reach speeds of up to 35 miles per hour! Some macaws have even been seen eating clay or soft soil from riverbanks.

Habitat

Flocks of macaws tend to sleep near each other in the trees at night. They thrive in the tropical, humid atmosphere of the rainforest and can usually be found in either the emergent or canopy layers of the forest.

Interesting Facts

- Macaws can live up to 40-50 years old.
- Scarlet macaws are now considered endangered, primarily due to their capture as exotic pets and to the increasing loss of their natural habitat.

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Jaguar

The elegant jaguar is a member of the wild cat family that can be found in the rainforest regions. It is the largest of all cats in the Americas and is the third largest in the world (behind the lion and the tiger). They are solitary creatures who tend to live and hunt alone. A male jaguar will aggressively protect its territory from other males.



Appearance

Jaguars are famous for their beautiful, spotted coats of fur. They can reach up to six feet in length, from their nose to the tip of their tail, and up to three feet tall at the shoulder. They have very powerful jaws and sharp teeth – strong enough to crack bones or pierce a turtle shell. Like most big cats, they can let out a loud and menacing roar.

Diet

Jaguars mostly hunt for prey at night. They are carnivores with a wide range of smaller animals as potential prey. This extensive list of possible meals includes squirrels, deer and monkeys. They are also known to eat birds and to snatch fish and turtles from the water.

Habitat

Jaguars are found in rainforests as well as grasslands and woodlands. They spend much of their time on the ground or the forest floor, using their soft padded paws to stalk quietly through the undergrowth. They are also capable of climbing trees either to hunt or to rest. Unlike many other big cats, jaguars are also known to enjoy being around water to hunt, bathe and play.

Interesting Facts

- Jaguars have no threat from any natural predators – except for humans. Many are shot and killed through fear. They are also hunted for their fur, although this trade has declined in modern times.

"Jaguar, Abel" by Eric Kirby is licensed under CC BY 2.0

Rainforest Animal Fact File

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Image of my animal	Introduction
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Appearance

Habitat

Diet

Interesting Facts

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