

# JANUARY PRIMARY MATHS CHALLENGE



Meet Matrix the Maths Monkey! This month Matrix is going on an adventure to the jungle and needs your help exploring! Try to answer as many problems as possible and submit your answers by asking a teacher or someone at home to email a photo of your work to [primarymathschallenge@wks.net](mailto:primarymathschallenge@wks.net) by Monday 1<sup>st</sup> February with your name and school on each sheet of paper you use. Try to be as creative as possible when presenting your solutions as you have the chance to be sent a certificate and there will be prizes available too. We hope you enjoy the challenge. Good luck!

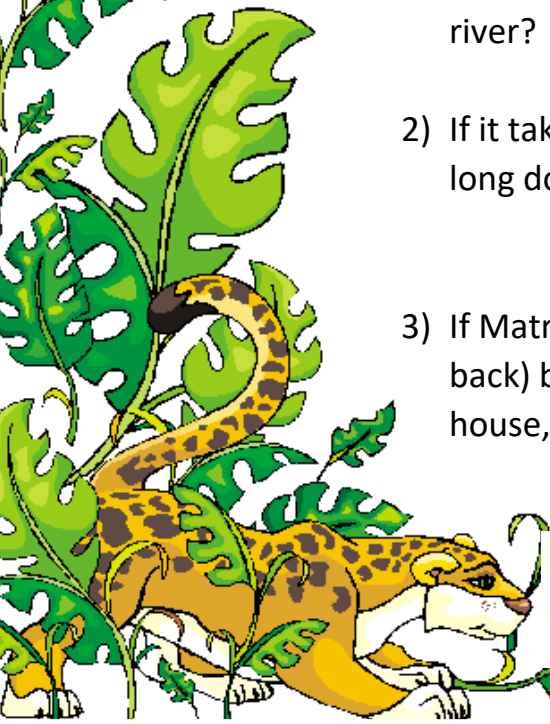


## HIPPO HUNT



Matrix wants to go to the river to see her friend, Hugo the hippo.

- 1) Hugo lives in the river which is 1 mile away. There is 1600m in a mile. If there is one tree every 5m, how many trees does she have to swing across to get to the river?
- 2) If it takes her 9 seconds to swing across 1 tree, how long does it take her to get to the river in minutes?
- 3) If Matrix wants to complete the journey (there and back) by 12:00, what time does she need to leave her house, if she spends half an hour at the river?



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# JUNGLE RIDDLE

Matrix the monkey walks through the jungle and is greeted by a Snake.



The snake asks Matrix if she could help her workout a riddle that she can't do by herself. She says to Matrix,

"If you add the number of legs of a lion



to the

number of petals on this jungle flower



, then multiply that

number by the number of wings that a parrot has



and

finally subtract how many spots there are on this ladybird ."



**Can you help Matrix find the answer to this riddle?**



















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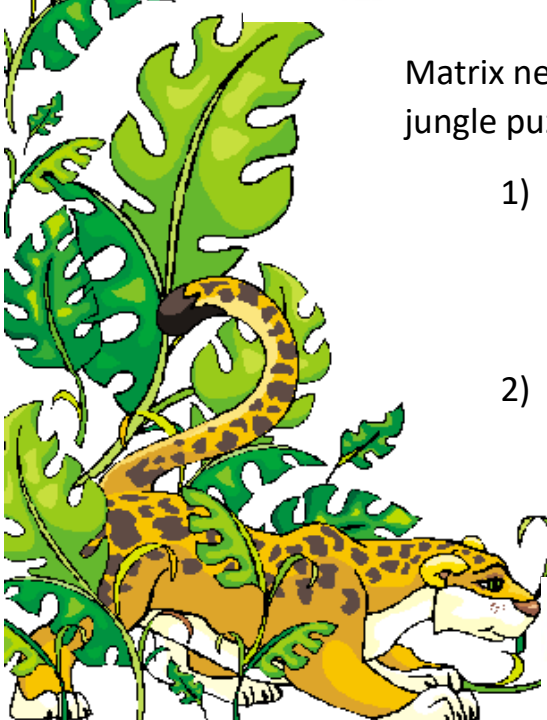


# JUNGLE PUZZLE

				28
				30
				18
				20
?	30	23	22	

Matrix needs your help! Can you help her to solve this jungle puzzle so that she can carry on with her adventure?

- 1) Work out the value of each of the 4 different pictures. Make sure it works so that in the grid above the 4 pictures in each line added together make the number next to the line.
- 2) Bonus: Work out the missing number on the grid, where there is a question mark.



# BANANA SPLIT

Matrix and her two cousins Monty and Mirabella are playing in the jungle when they come across a huge stash of bananas!! Matrix, being the most curious of the monkeys, wants to know how many bananas there are in the pile. While her cousins argue about the best way to share the bananas between them, Matrix quickly counts the bananas, and when she has finished, she stands up and clears her throat loudly:

"So, what are we going to do with all these bananas?"

"There must be at least a hundred in that pile!" exclaims Mirabella, giddy with excitement.

"No, there aren't quite that many," Matrix informs her.

"Well, I think we should divide them equally between the three of us," suggests Monty. "It's the fairest way."

"If we do that, then we'll have 2 left over," says Matrix.

"OK then," says Mirabella, "why don't we go and see Old Mister Orangutan, and share them equally between the four of us?"

"We could," replies Matrix, "but then we'd have one banana left over."

"What about the twins, Charlie and Colin Chimpanzee? We could go and see them, and divide them between the five of us, so everybody gets the same amount," chips in Monty.

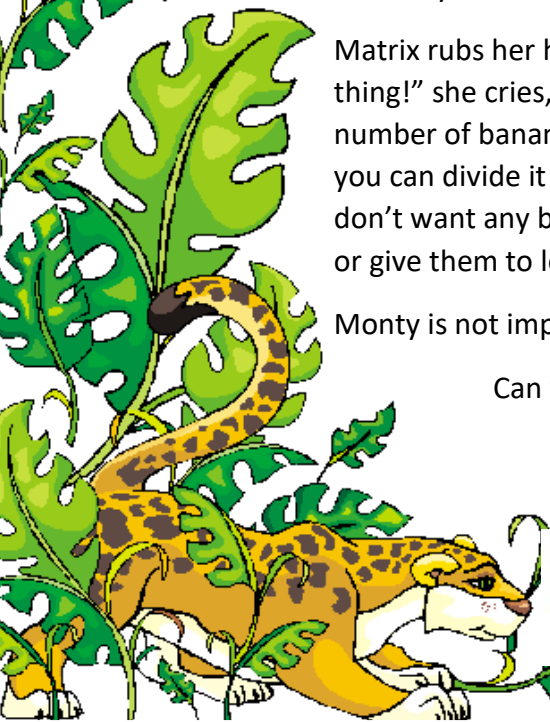
"If we had two more bananas, we'd have enough to share them equally between five of us, but unfortunately, we don't," replies Matrix.

"Is there *any* number of friends we could share the bananas between, and not have any left over?" enquires Mirabella, looking tired of this conversation.

Matrix rubs her hands together with glee. "Well, you see, that's the amazing thing!" she cries, excited to be explaining some maths to her cousins. "The number of bananas in the pile is a prime number – which means the only numbers you can divide it by without a remainder are 1 and the number itself. So if we don't want any bananas left over, we either have to give them all to one person, or give them to lots of people so everyone has one each. Isn't that interesting?"

Monty is not impressed. "So how many bananas do we have then?"

Can you work it out?

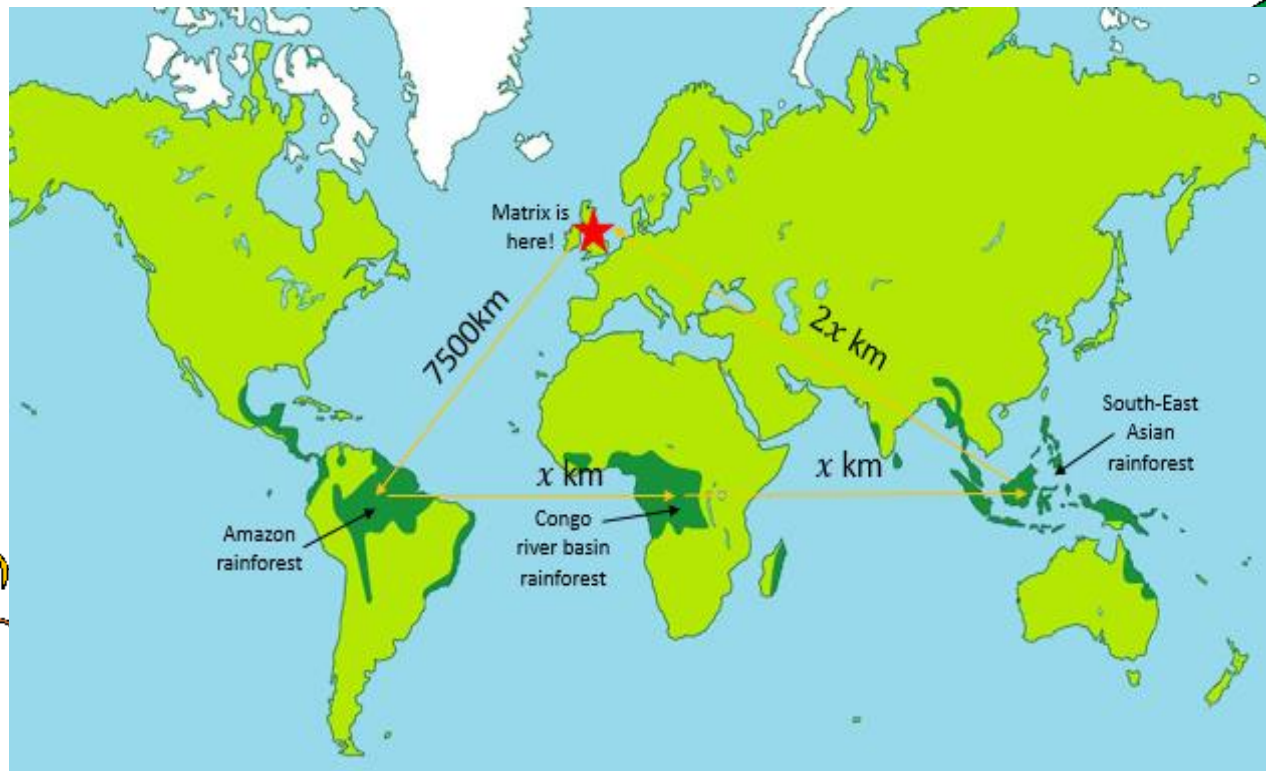


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# RAINFOREST RAMBLING



Matrix wants to travel from West Kirby to the three biggest rainforests in the world, which are labelled on the map above. The yellow lines show the path that Matrix is going to take. The distance from the Amazon rainforest to the Congo river basin rainforest is  $\frac{8}{10}$  of the distance from West Kirby to the Amazon rainforest.

- What is the distance from the Amazon rainforest to the Congo river basin rainforest?
- If Matrix's plane flies at 800km per hour, how many hours will it take her to travel from the South-East Asian rainforest back to West Kirby?

Hint:  $2x$  means 2 times the value of  $x$



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# JUNGLE MAZE

Matrix is lost in the jungle and needs to find her way out quickly. The other monkeys in the jungle decide to play a game with her. They leave different items around the jungle 'maze'. Each item tells her how many bananas to leave at that spot.



Leave 2 bananas



Leave 3 bananas



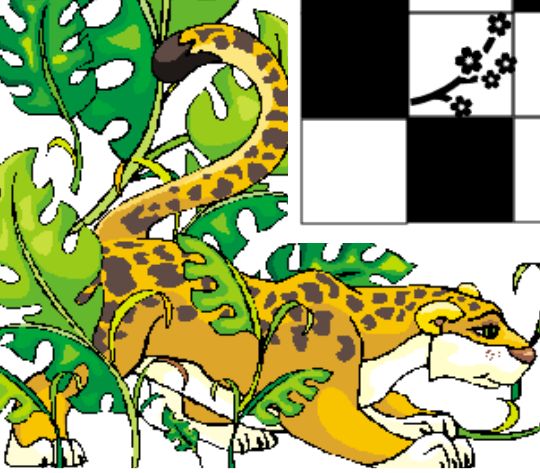
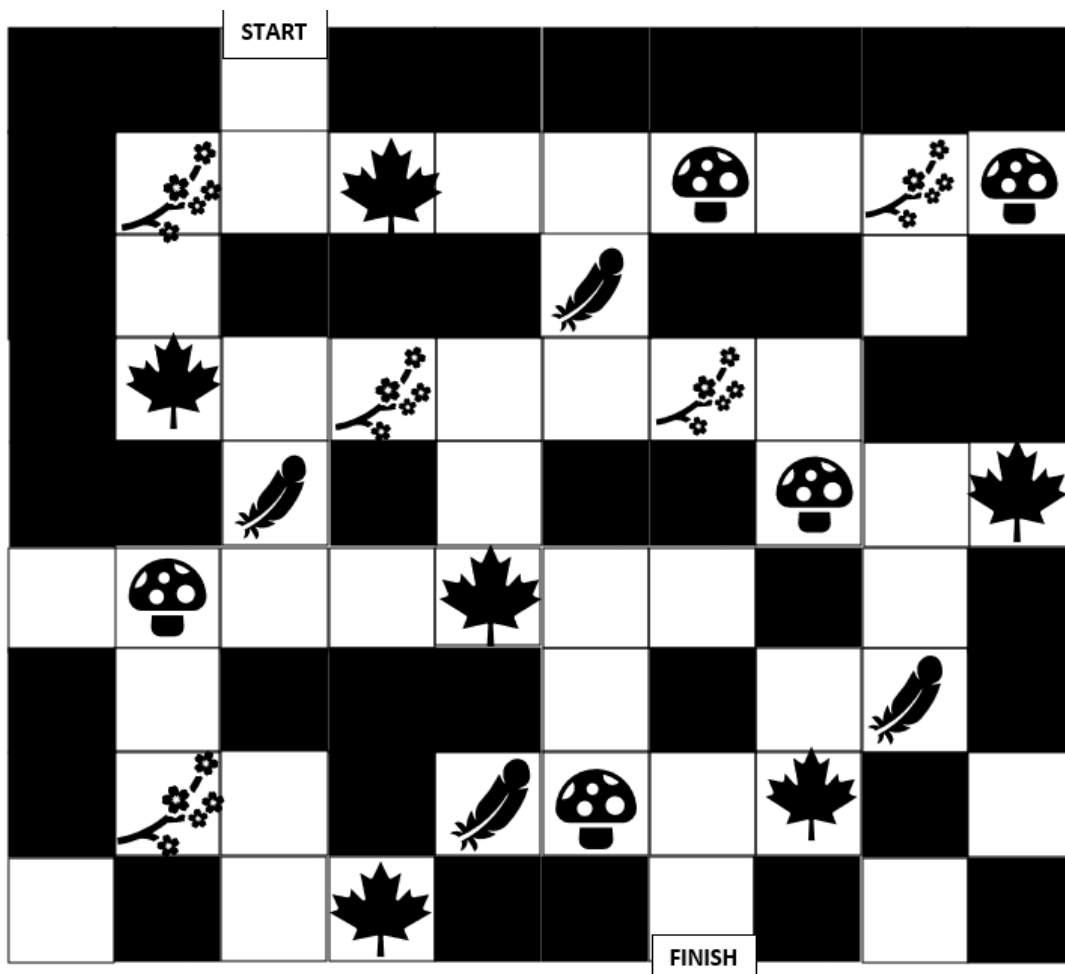
Leave 4 bananas



Leave 7 bananas

The above symbols represent the different items left by the other monkeys. Each square that contains one of the four symbols means Matrix must leave x number of bananas. In the maze below, the white squares represent the path that she can travel on. The black squares represent a wall blocking her path. She can only move vertically and horizontally; she cannot move diagonally.

Find the path that allows her to keep the most bananas.



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