

# Reasoning and Problem Solving

## Fractions Consolidation – Year 2

### About This Resource

This resource is aimed at Year 2 Secure and has been designed to give children the opportunity to consolidate the skills they have learned in Spring Block 4 – Fractions.

The questions are based on a selection of the same ‘small steps’ that are addressed in the block, but are presented in a different way so children can work through the pack independently and demonstrate their understanding and skills.

### Small Steps

Make equal parts

Recognise a half

Find a half

Recognise a quarter

Find a quarter

Recognise a third

Find a third

Unit Fractions

Non-unit fractions

Equivalence of one half and two quarters

Find three quarters

Count in fractions

### National Curriculum Objectives

Mathematics Year 2: (2F1a) [Recognise, find, name and write fractions  \$\frac{1}{3}\$ ,  \$\frac{1}{4}\$ ,  \$\frac{2}{4}\$  and  \$\frac{3}{4}\$  of a length, shape, set of objects or quantity](#)

Mathematics Year 2: (2F1b) [Write simple fractions for example,  \$\frac{1}{2}\$  of  \$6 = 3\$](#)

Mathematics Year 2: (2F2) [Recognise the equivalence of  \$\frac{2}{4}\$  and  \$\frac{1}{2}\$](#)

Did you like this resource? Don't forget to [review](#) it on our website.

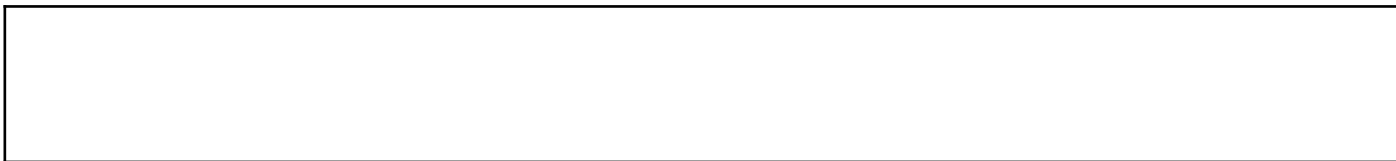
# Reasoning and Problem Solving – Fractions Consolidation – Year 2

Today, the children of Parkland Primary School are very excited. They are excited because they are going on a trip to the zoo. They find a partner and climb onto the coach. After a short while, they arrive at the car park. They climb off the coach and stand in a big group around the class teacher. Mrs Bates says, “There are too many of us to walk around the zoo as a whole class. I think it will be better if we split up into groups.”

1. How many different ways can Mrs Bates split the class into equal groups?



2. Mrs Bates decides to split the class into two equal groups. Has she correctly split the class in half? Explain why.

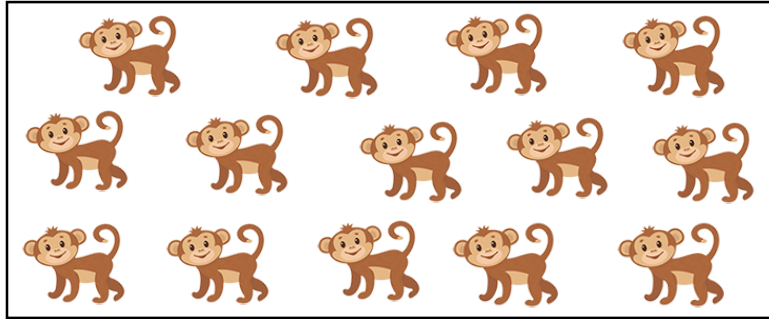
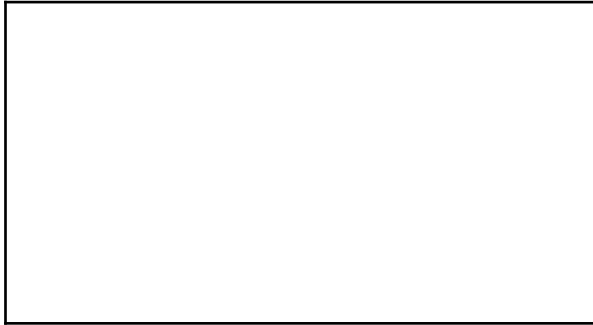


Once the children have been split into their groups, they are ready to enter the zoo. Mrs Bates has some very exciting news for them. She says, “The zoo keeper has allowed us to feed some of the animals. My group are going to feed the monkeys. The other group will get the chance to feed some animals later on. Let’s get going!”

The children head off towards the gates of the zoo. Once inside, Mrs Bates’s group go in search of the monkeys.

# Reasoning and Problem Solving – Fractions Consolidation – Year 2

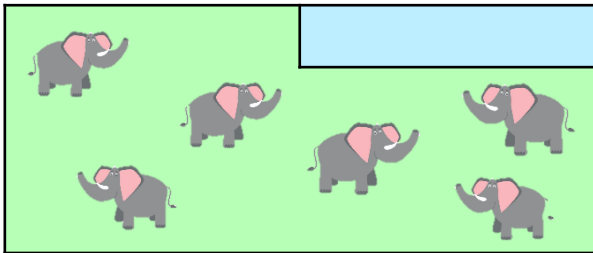
3. The zoo keeper is waiting for them by the monkey cage. She looks a bit sad. She tells the children that there are only enough bananas to feed  $\frac{1}{2}$  of the monkeys. How many monkeys will get a banana?



Luckily, the zoo keeper finds some more bananas. Now all of the monkeys have been fed.

4. Next, the children go to see the elephants. Mrs Bates says that  $\frac{1}{4}$  of their field is full of water because elephants like to play in it.

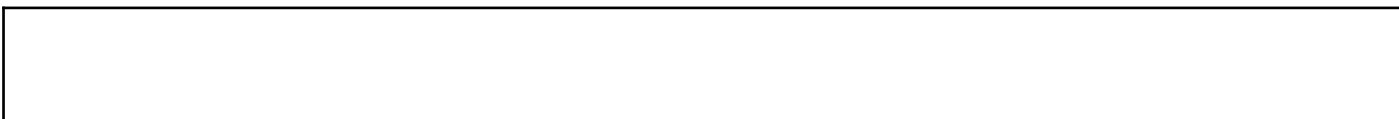
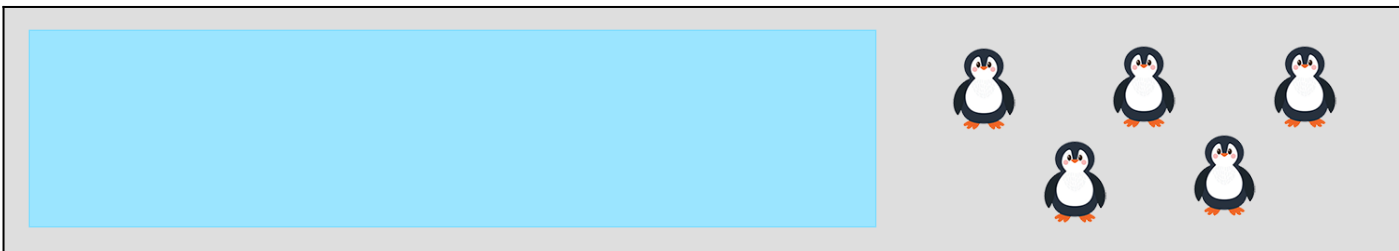
Is Mrs Bates correct? Explain why.



The elephants are great fun to watch. They love to fill their trunks with water and spray it all over themselves. They look nice and cool.

The other group go to watch the penguins. The penguins love being in the water even more than the elephants.

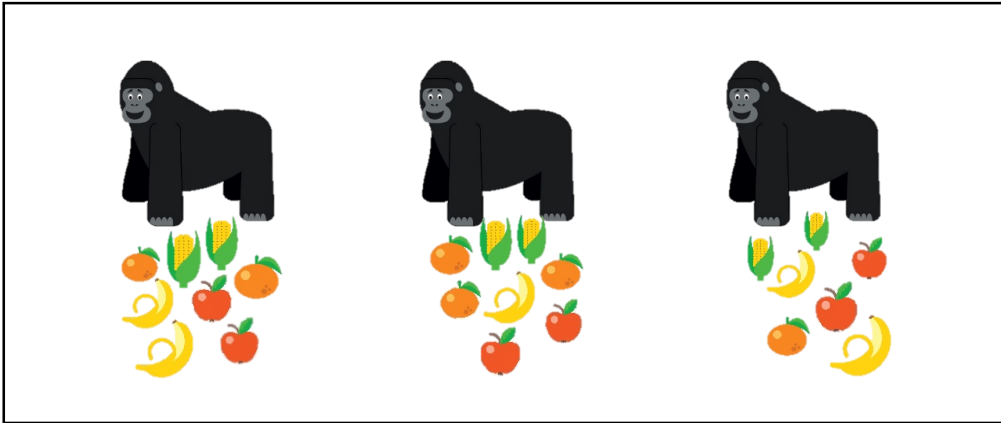
5. The zoo keeper says that the children can only see  $\frac{1}{4}$  of the penguins. The rest of them are hiding in the pool. How many penguins are there in total?



# Reasoning and Problem Solving – Fractions Consolidation – Year 2

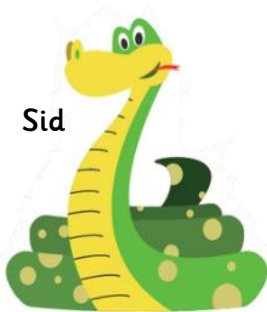
Next, the children go to find the gorilla enclosure. They see 3 big gorillas who are waiting for their dinner. The zoo keeper arrives with their food.

6. Each gorilla should get a third of the food. Has the zoo keeper shared the food correctly? Explain why.



After the gorilla cage, the children race off to the reptile house. The zoo keeper says that the children can hold a snake if they want to. She brings out 2 snakes for them to hold.

7. Sid is a big snake and he weighs 18kg. Susan is smaller than Sid. She is a third of his weight. How heavy is Susan?



Sid

18kg



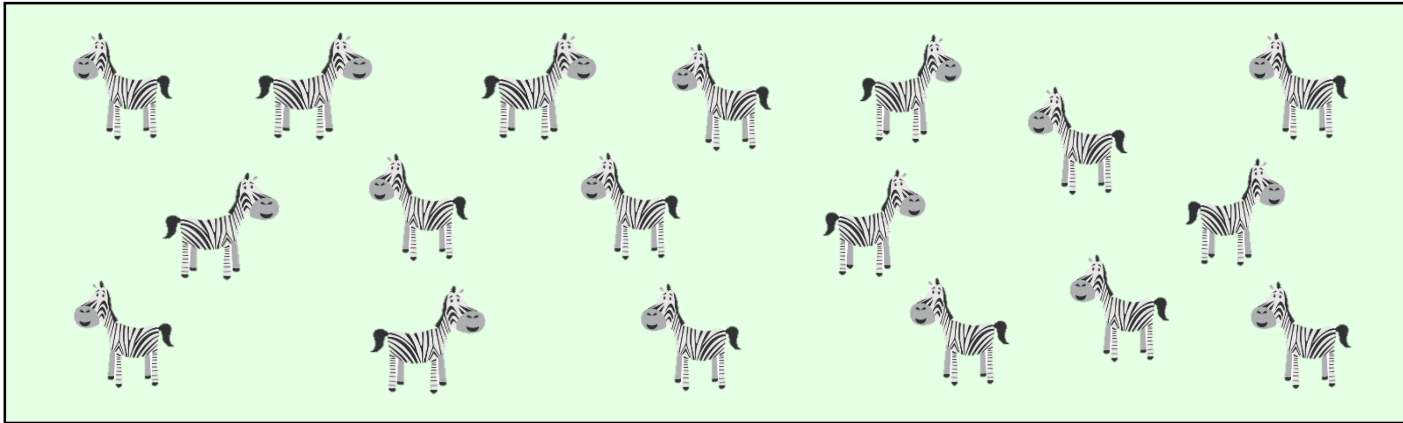
Susan

After holding the snakes for a while, the teacher decides it's time for the 2 groups to meet back up again. She wants everyone to go for a ride on the cable car. Mrs Bates follows the map to take them all to the cable car station.

# Reasoning and Problem Solving – Fractions Consolidation – Year 2

The cable car gives the children a brilliant view of the whole zoo. They also get to have a nice rest at the same time. The cable car takes them over a field full of zebras.

8. Thomas says, “I can find  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{1}{3}$  of these zebras so that they are sorted into equal groups.” Is Thomas correct? Explain why.



9. Whilst relaxing on the cable car, Mrs Bates asks the children to vote for their favourite animal.

$\frac{1}{3}$  of the class vote for the snake. The rest of the class vote for the gorilla. What fraction of the class like the gorilla best?

The cable car ride comes to an end. The children get off next to the bird enclosure. The enclosure is full of flamingos and ostriches.

10. Gavin says:

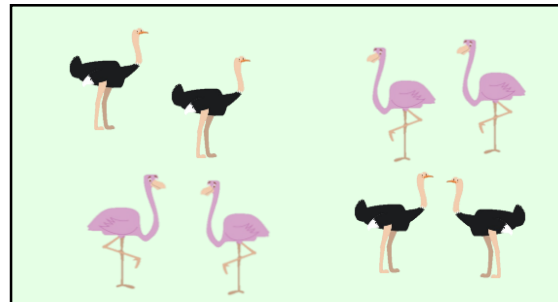


I think that  $\frac{1}{2}$  of the birds are flamingos.

Rosa says:



I think that  $\frac{2}{4}$  of the birds are flamingos.



Who is correct? Explain why.

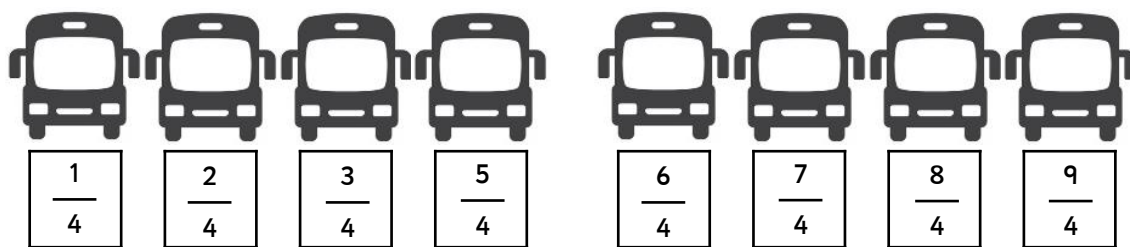
## Reasoning and Problem Solving – Fractions Consolidation – Year 2

Sadly, it's now time to leave the zoo. The children walk towards the exit but they are allowed to visit the shop before they leave. The children are given 20 minutes to spend in the shop.

11. Mrs Bates tells the children that they have already been in the shop for  $\frac{3}{4}$  of the time they have been given. How long have they been in the shop?

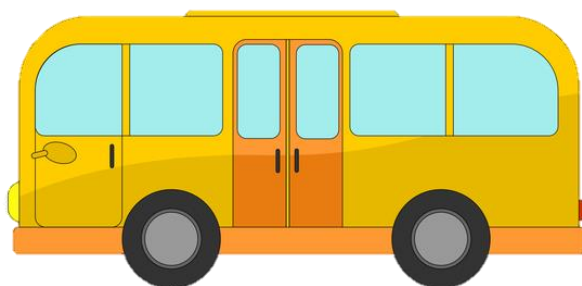
Now that everyone has bought their gift, it was off to the car park. The children can't remember where the coach was parked. "Not to worry," says Mrs Bates, "I remember that the coach was  $\frac{6}{4}$  of the way along the line."

12. The children help Mrs Bates count the coaches along the row.



The children walk  $\frac{6}{4}$  of the way down the line. They stop in front of the coach but it isn't their coach. Explain their mistake.

The children correct their mistake and find the right coach. They pile onboard ready to go home. It has been a fun but tiring day out at the zoo.



**classroomsecrets.com**

## Reasoning and Problem Solving – Fractions Consolidation – Year 2

1. The class can be split into: 1 group of 10 children, 2 groups of 5 children, 5 groups of 2 children or 10 groups of 1 child.
2. Mrs Bates hasn't split the class in half as the groups are not equal. There are 4 children in one group and 6 children in the other. There should be 5 children in each group.
3. There are 14 monkeys altogether so only 7 of them will get a banana.
4. The rectangle will need to be split into 4 equal parts to show that less than a quarter of the field is water.
5. There are 20 penguins in total.
6. No, because the food has not been shared into 3 equal groups. 2 gorillas have 8 pieces of fruit and vegetables, whilst 1 gorilla only has 7 pieces.
7. 6kg
8. Thomas can find 1 half of the zebras, which would give him 2 groups of 9. He could also find 1 third of the zebras, which would give him 3 groups of 6. He would not be able to find on 1 quarter of the zebras as this would lead to unequal groups of zebras.
9. 2 thirds of the class like the gorilla best.
10. They are both correct. 1 half of 8 is 4 and 2 quarters of 8 is also 4.
11. The children have been in the shop for 15 minutes.
12. The children have missed out 4 quarters (or one whole). The last fraction in the sequence should be 8 quarters.