



**THIRD SPACE  
LEARNING**

# Strip Diagram Questions

**20 word problems suitable for  
strip diagrams**

**Grades 2 to 5**

## About this Resource

A strip diagram is a visual model used as support to solve an addition, subtraction, multiplication, or division equation or word problem. Students set up the rectangular model as two “strips,” one representing the total and one representing the parts. One or more quantities are unknown and the model will help provide students with a visual representation of the quantities in relation to the other unknown quantities as well as the known quantities in the problem. This helps students build an understanding of the relationships between the numbers while performing each operation.

The questions in this resource are designed to be solved with the aid of a strip diagram. The questions provide a strip diagram frame for pupils to use and the answers include completed strip diagrams.

## Questions

- 1 Three children were playing a computer game. They scored 45 points, 36 points and 11 points. How many points did they score altogether?


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- 2 Jinnie is 134cm tall. Her sister is 107cm tall. How much taller is Jinnie than her sister?

Jinnie	
Sister	

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- 3 Gingerbread men come in packets of 6. Max buys 4 packets. How many gingerbread men does he have?


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## Strip Diagram Questions | Grades 2 to 5

- 4 Becky has 56 tulips. She wants to share them equally into 8 vases. How many tulips should be in each vase?


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- 5 Miss Khan has 36 pens. She keeps 4 of the pens for herself and shares the remaining pens equally between four pots. How many pens are in each pot?


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- 6 There are 320 children in school today. They are divided into 2 groups. There are 60 more children in one group than the other. How many children are in each group?



- 7 Vera started her homework at 4:15 pm. She spent 28 minutes on her reading homework and 22 minutes on her math homework. What time did she finish her homework?

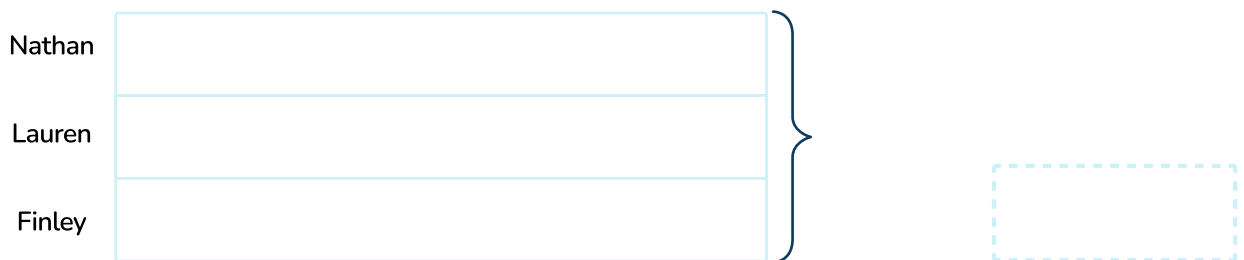

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## Strip Diagram Questions | Grades 2 to 5

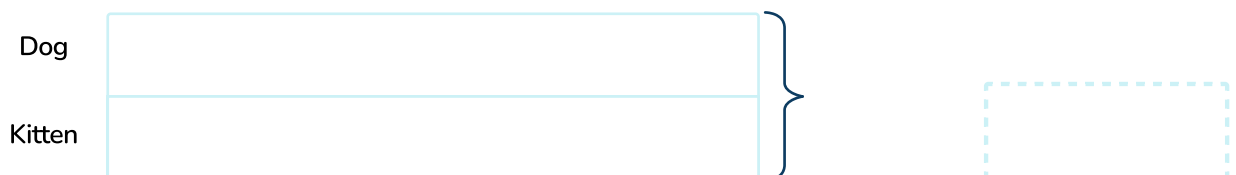
- 8 Mina and Stanley each have a piece of rope. Mina's piece of rope is 3 times the length of Stanley's piece of rope. If Mina's piece of rope is 72cm long, how long is Stanley's piece of rope?



- 9 Nathan sold 3 times as many cakes for his local Cub Scout group as Lauren. Finley sold twice as many cakes as Lauren. How many cakes did Nathan sell if they sold 36 cakes altogether?

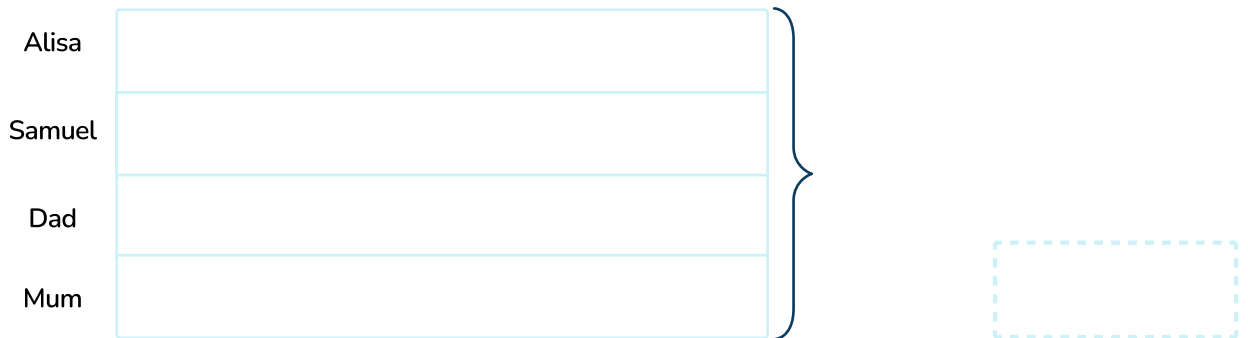


- 10 A vet weighs a large dog and a kitten. The large dog weighs 9 times the weight of the kitten. Altogether they weigh 22.5kg. What does the dog weigh?

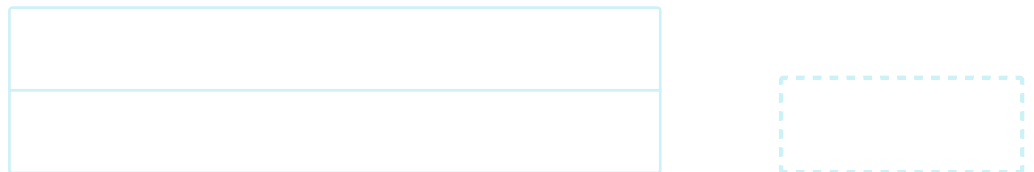


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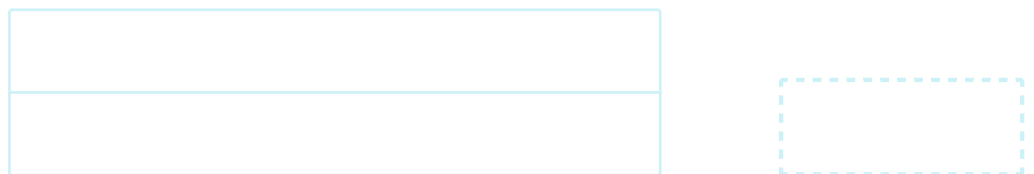
- 11 Alisa is double the height of her brother, Samuel. Samuel is 3 times smaller than his Dad. His mum is 10cm taller than his Dad. How tall could Alisa be if the family's total height is 4 metres 78cm?



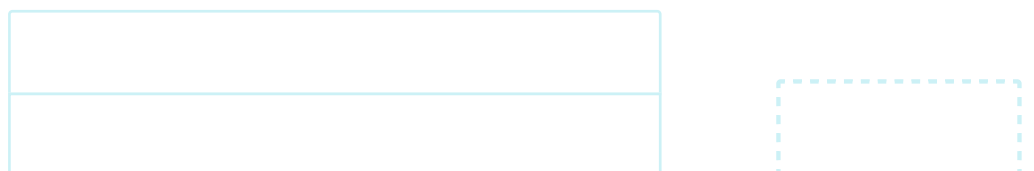
- 12 Angie made 8 pans of brownies for a bake sale. Each pan was cut into 24 brownies. So far she has sold 137 brownies. How many brownies are left?



- 13 What is  $\frac{3}{5}$  of 40?



- 14 John was given some money for his birthday. He spent \$30 of his birthday money on a new game. He has  $\frac{4}{7}$  of his birthday money left. How much was John given for his birthday?



## Strip Diagram Questions | Grades 2 to 5

- 15 Oliver took a 450g cake out of its container. He ate  $\frac{2}{9}$  of the cake before returning the rest to the container. How much did he eat


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- 16 Olivia has a bucket that, when filled, holds 4 liters of water. She has some empty jugs that can contain two-thirds of a liter each. How many jugs can she completely fill using the bucket?


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- 17 Sandy's grandad has given everyone money for Christmas. He gave Sandy and her brother  $\frac{3}{5}$  of the money. He gave mom  $\frac{1}{2}$  of the remaining money and had \$100 left. How much did he have to begin with?


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- 18 The tallest flower in Ellie's garden is 2.74 meters. The shortest flower is 0.95 meters. How much taller is the tallest flower than the shortest flower?

Tallest flower		
Shortest flower		

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## Strip Diagram Questions | Grades 2 to 5

- 19 Harry and his brother collected bottles and cans to earn spending money for the summer. Harry earned 3 times as much money as his brother. If Harry's brother earned \$12.45, how much money did Harry earn?

Harry	<input type="text"/>	<input type="text"/>
Harry's brother	<input type="text"/>	

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- 20 Priya sells friendship bracelets at the school store for \$3.75. This morning she sold 6 bracelets. How much money did she make?

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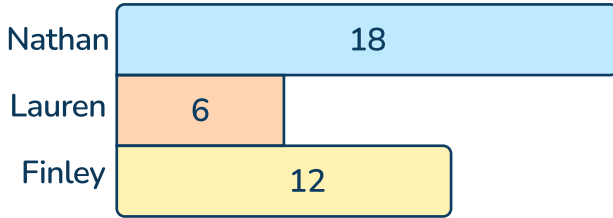
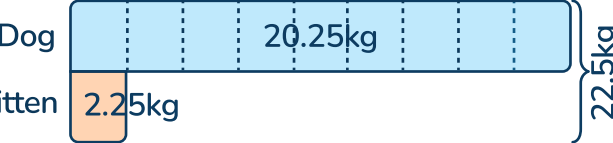
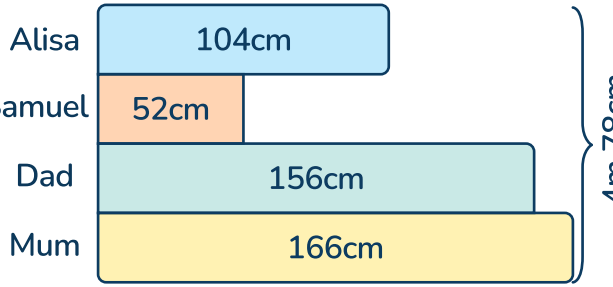
## Answers

Question Number	Question	Answer	Strip Diagram	Standard
1	Three children were playing a computer game. They scored 45 points, 36 points and 11 points. How many points did they score altogether?	$45 + 36 + 11 = 92$		2.NBT.B.6 2.NBT.B.7
2	Jinnie is 134cm tall. Her sister is 107cm tall. How much taller is Jinnie than her sister?	$134\text{cm} - 107\text{cm} = 27\text{cm}$		2.NBT.B.7
3	Gingerbread men come in packets of 6. Max buys 4 packets. How many gingerbread men does he have?	$6 \times 4 = 24$		3.OA.C.7
4	Becky has 56 tulips. She wants to share them equally into 8 vases. How many tulips should be in each vase?	$56 \div 8 = 7$		3.OA.C.7

## Strip Diagram Questions | Grades 2 to 5 | Answers

Question Number	Question	Answer	Strip Diagram	Standard
5	Miss Khan has 36 pens. She keeps 4 of the pens for herself and shares the remaining pens equally between four pots. How many pens are in each pot?	$36 - 4 = 32$ $32 \div 4 = 8$		3.OA.C.7 3.OA.D.8
6	There are 320 children in school today. They are divided into 2 groups. There are 60 more children in one group than the other. How many children are in each group?	130 and 190		3.OA.D.8
7	Vera started her homework at 4:15 pm. She spent 28 minutes on her reading homework and 22 minutes on her math homework. What time did she finish her homework?	$28 + 22 = 50$ minutes $4:15 \text{ pm} + 50 \text{ minutes} = 5:05 \text{ pm}$		3.MD.A.1
8	Mina and Stanley each have a piece of rope. Mina's piece of rope is 3 times the length of Stanley's piece of rope. If Mina's piece of rope is 72cm long, how long is Stanley's piece of rope?	$72\text{cm} \div 3 = 24\text{cm}$		4.OA.A.1

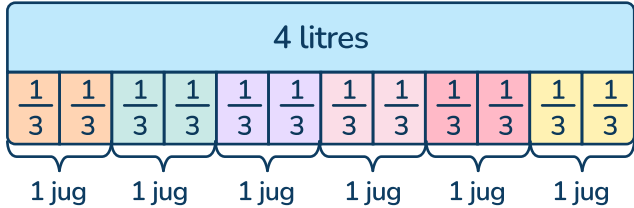
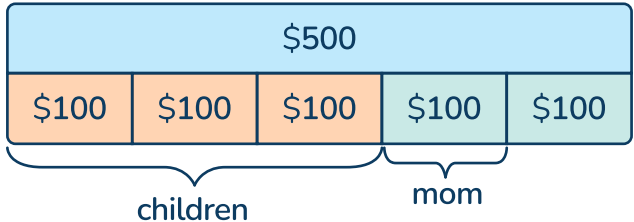
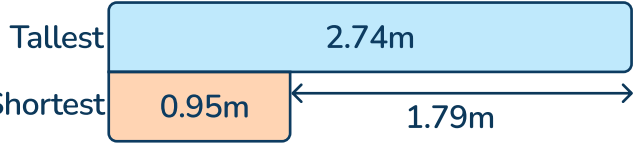
Strip Diagram Questions | Grades 2 to 5 | Answers

Question Number	Question	Answer	Strip Diagram	Standard
9	Nathan sold 3 times as many cakes for his local Cub Scout group as Lauren. Finley sold twice as many cakes as Lauren. How many cakes did Nathan sell if they sold 36 cakes altogether?	Nathan = 18 Lauren = 6 Finley = 12	 <p>A horizontal strip diagram with three rows. The top row is labeled 'Nathan' and has a light blue bar with the number '18' inside. The middle row is labeled 'Lauren' and has an orange bar with the number '6' inside. The bottom row is labeled 'Finley' and has a yellow bar with the number '12' inside.</p>	4.OA.A.1
10	A vet weighs a large dog and a kitten. The large dog weighs 9 times the weight of the kitten. Altogether they weigh 22.5kg. What does the dog weigh?	Dog and Kitten make up 10 shares of the total. $22.5 \div 10 = 2.25\text{kg}$ kitten is 2.25kg dog is $2.25\text{kg} \times 9 = 20.25\text{kg}$ $20.25\text{kg} + 2.25\text{kg} = 22.5\text{kg}$	 <p>A horizontal strip diagram with two rows. The top row is labeled 'Dog' and has a light blue bar divided into 10 equal segments by vertical dashed lines. The number '20.25kg' is written in the middle of the bar. The bottom row is labeled 'Kitten' and has an orange bar with the number '2.25kg' inside. A large curly bracket on the right side of the diagram spans both rows and is labeled '22.5kg'.</p>	4.OA.A.1
11	Alisa is double the height of her brother, Samuel. Samuel is 3 times smaller than his Dad. His mum is 10cm taller than his Dad. How tall could Alisa be if the family's total height is 4 metres 78cm?	Alisa 104cm Samuel 52cm Dad 156cm Mum 166cm	 <p>A horizontal strip diagram with four rows. The top row is labeled 'Alisa' and has a light blue bar with the number '104cm' inside. The second row is labeled 'Samuel' and has an orange bar with the number '52cm' inside. The third row is labeled 'Dad' and has a light green bar with the number '156cm' inside. The bottom row is labeled 'Mum' and has a yellow bar with the number '166cm' inside. A large curly bracket on the right side of the diagram spans all four rows and is labeled '4m 78cm'.</p>	4.OA.A.1

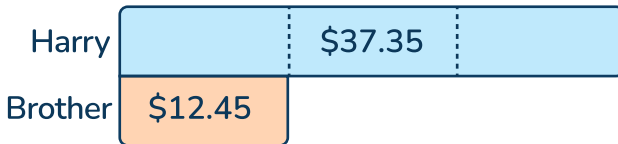
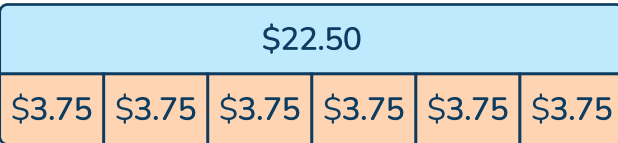
## Strip Diagram Questions | Grades 2 to 5 | Answers

Question Number	Question	Answer	Strip Diagram	Standard
12	Angie made 8 pans of brownies for a bake sale. Each pan was cut into 24 brownies. So far she has sold 137 brownies. How many brownies are left?	$24 \times 8 = 192$ $192 - 137 = 55$ There are 55 left		4.OA.A.3
13	What is $\frac{3}{5}$ of 40?	$40 \div 5 = 8$ $8 \times 3 = 24$		4.NF.B.4 4.NBT.B.5
14	John was given some money for his birthday. He spent \$30 of his birthday money on a new game. He has $\frac{4}{7}$ of his birthday money left. How much was John given for his birthday?	$\frac{3}{7} = \$30$ $\frac{1}{7} = \$10$ $\frac{7}{7} = \$70$ birthday money received		4.NF.B.4
15	Oliver took a 450g cake out of its container. He ate $\frac{2}{9}$ of the cake before returning the rest to the container. How much did he eat?	$450 \div 9 = 50\text{g}$ for $\frac{1}{9}$ $50\text{g} \times 2 = 100\text{g}$ for $\frac{2}{9}$		4.NF.B.4

Strip Diagram Questions | Grades 2 to 5 | Answers

Question Number	Question	Answer	Strip Diagram	Standard
16	Olivia has a bucket that, when filled, holds 4 liters of water. She has some empty jugs that can contain two-thirds of a liter each. How many jugs can she completely fill using the bucket?	12 thirds in total. $2 \text{ thirds} \times 6 = 12$ 6 jugs.		4.NF.B.4
17	Sandy's grandad has given everyone money for Christmas. He gave Sandy and her brother $\frac{3}{5}$ of the money. He gave mom $\frac{1}{2}$ of the remaining money and had \$100 left. How much did he have to begin with?	Mom \$100 ( $\frac{1}{2}$ of $\frac{2}{5}$ which is $\frac{1}{5}$ ) $\frac{2}{5} = \$200$ $\frac{5}{5} = \$500$		5.NF.B.4
18	The tallest flower in Ellie's garden is 2.74 meters. The shortest flower is 0.95 meters. How much taller is the tallest flower than the shortest flower?	$2.74\text{m} - 0.95\text{m} = 1.79\text{m}$		5.NBT.B.7

Strip Diagram Questions | Grades 2 to 5 | Answers

Question Number	Question	Answer	Strip Diagram	Standard
19	Harry and his brother collected bottles and cans to earn spending money for the summer. Harry earned 3 times as much money as his brother. If Harry's brother earned \$12.45, how much money did Harry earn?	$\$12.45 \times 3 = \$37.35$	 <p>A strip diagram with two rows. The top row is labeled 'Harry' and is a single light blue bar divided into three equal segments by two vertical dashed lines. The middle segment is labeled '\$37.35'. The bottom row is labeled 'Brother' and is a single orange bar representing one segment, labeled '\$12.45'.</p>	5.NBT.B.7
20	Priya sells friendship bracelets at the school store for \$3.75. This morning she sold 6 bracelets. How much money did she make?	$\$3.75 \times 6 = \$22.50$	 <p>A strip diagram with two rows. The top row is a single light blue bar labeled '\$22.50'. The bottom row consists of six equal orange bars, each labeled '\$3.75'.</p>	5.NBT.B.7

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