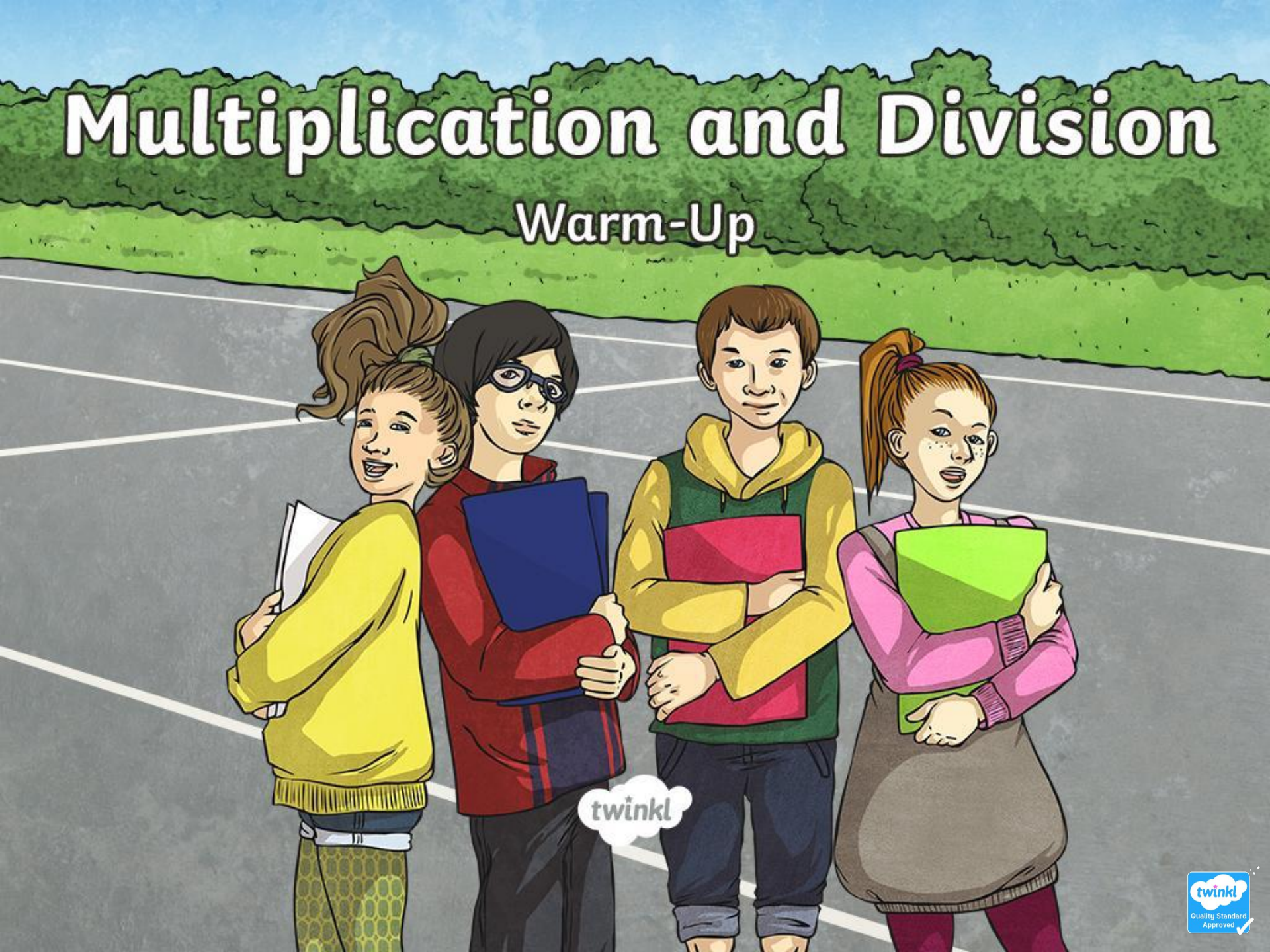
Multiplication and Division

Warm-Up



Recall Multiplication Facts for the 3 Times Table

Match up the calculation with its answer.
Click on each calculation to reveal the answer.

3 x 3 = **9**	4 x 3 = **12**	2 x 3 = **6**	1 x 3 = **3**
9 x 3 = **27**	7 x 3 = **21**	5 x 3 = **15**	11 x 3 = **33**
6 x 3 = **18**	12 x 3 = **36**	10 x 3 = **30**	8 x 3 = **24**

21	12	18	27	3	36
15	24	6	30	33	9

Recall Division Facts for the 3 Times Table

Match up the calculation with its answer.
Click on each calculation to reveal the answer.

9 ÷ 3 = **3**	33 ÷ 3 = **11**	3 ÷ 3 = **1**	24 ÷ 3 = **8**
18 ÷ 3 = **6**	12 ÷ 3 = **4**	6 ÷ 3 = **2**	30 ÷ 3 = **10**
27 ÷ 3 = **9**	21 ÷ 3 = **7**	15 ÷ 3 = **5**	36 ÷ 3 = **12**

4	11	9	6	3	7
2	12	1	5	10	8

Recall Multiplication and Division Facts for the 3 Times Tables

Reasoning Challenge

Look at these calculations:

4 x 3 = 12	27 ÷ 3 = 9
12 ÷ 3 = 4	9 x 3 = 27

Talk about the patterns you can see.

Can you think of similar examples using the 4 times table?

Can you think of similar examples using the 8 times table?

Recall Multiplication Facts for the 4 Times Table

Match up the calculation with its answer.
Click on each calculation to reveal the answer.

5 x 4 = **20**	11 x 4 = **44**	2 x 4 = **8**	10 x 4 = **40**
8 x 4 = **32**	1 x 4 = **4**	12 x 4 = **48**	4 x 4 = **16**
3 x 4 = **12**	6 x 4 = **24**	7 x 4 = **28**	9 x 4 = **36**

24	36	12	4	40	32
48	44	8	28	16	20

Recall Division Facts for the 4 Times Table

Match up the calculation with its answer.
Click on each calculation to reveal the answer.

4 ÷ 4 = **1**	36 ÷ 4 = **9**	16 ÷ 4 = **4**	20 ÷ 4 = **5**
44 ÷ 4= **11**	12 ÷ 4 = **3**	32 ÷ 4 = **8**	40 ÷ 4 = **10**
24 ÷ 4 = **6**	48 ÷ 4 = **12**	8 ÷ 4 = **2**	28 ÷ 4 = **7**

3	8	6	4	5	12
9	7	2	11	10	1

Recall Multiplication Facts for the 8 Times Table

Match up the calculation with its answer.
Click on each calculation to reveal the answer.

12 x 8 = **96**	9 x 8 = **72**	2 x 8 = **16**	10 x 8 = **80**
8 x 8 = **64**	1 x 8 = **8**	5 x 8 = **40**	4 x 8 = **32**
3 x 8 = **24**	6 x 8 = **48**	7 x 8 = **56**	11 x 8= **88**

48	88	24	8	32	16
40	72	64	56	80	96

Recall Division Facts for the 8 Times Table

Match up the calculation with its answer.
Click on each calculation to reveal the answer.

16 ÷ 8 = **2**

64 ÷ 8 = **8**

8 ÷ 8 = **1**

80 ÷ 8 = **10**

56 ÷ 8 = **7**

72 ÷ 8 = **9**

96 ÷ 8 = **12**

40 ÷ 8 = **5**

24 ÷ 8 = **3**

48 ÷ 8 = **6**

88 ÷ 8 = **11**

32 ÷ 8 = **4**

9 | 12 | 3 | 1 | 10 | 6

8 | 4 | 11 | 7 | 5 | 2

Use Multiplication and Division Facts for the 3, 4 and 8 Multiplication Tables

Reasoning Challenge

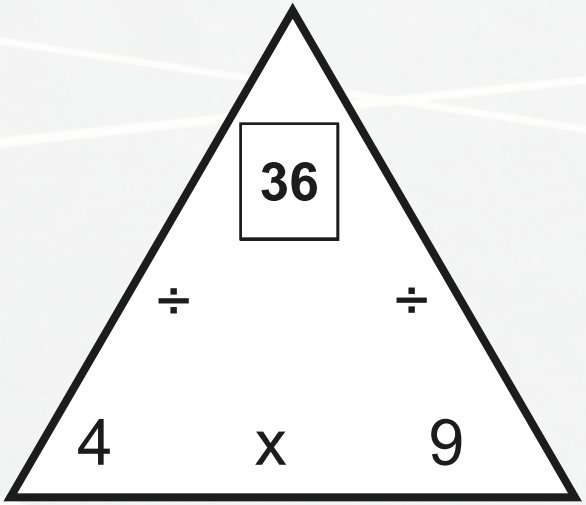
Work out the missing numbers:

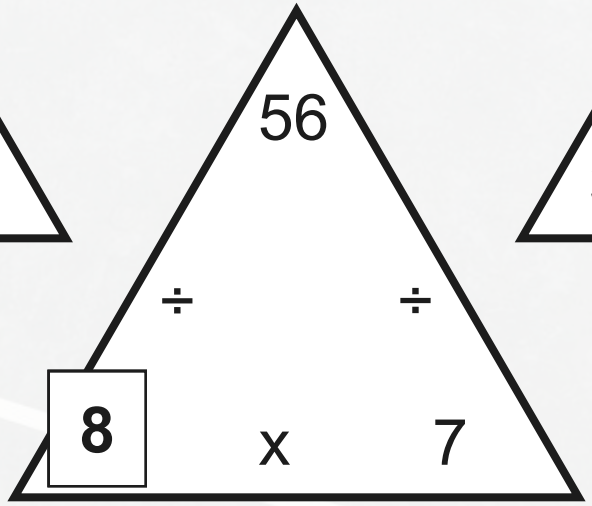
3 x 9 = 27	21 ÷ **3** = 7
4 x **8** = 32	**33** ÷ 3 = 11
8 x **8** = 64	96 ÷ **8** = 12
3 x 4 = 12	**56** ÷ 8 = 7
9 x 8 = 72	44 ÷ **4** = 11

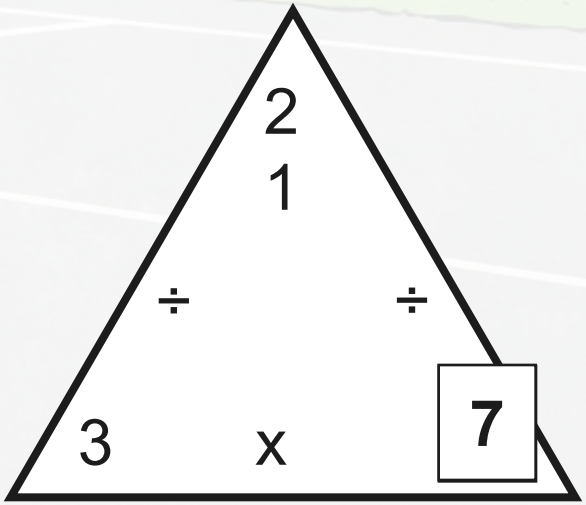
Answers

Use Multiplication and Division Facts for the 3, 4 and 8 Multiplication Tables

Fill in the missing numbers, then make your own multiplication and division number triangle and test a friend.







Answers

Use Multiplication and Division Facts for the 3, 4 and 8 Multiplication Tables

The tyres need replacing on 7 cars. How many tyres will be needed altogether?

7 x 4 = 28 tyres altogether

Neil has bought a length of wood which measures 56cm. He cuts it into 4 equal pieces. How long will each piece be?

56 ÷ 4 = 14cm

At the football game, every player gets an orange to eat at half time. Oranges are sold in bags of 8. If there are 66 players, how many bags will need to be bought?

9 bags would be needed as 8 bags would only provide 64 oranges.

There are 3 crackers inside every packet. During the week, I ate 5 packets. How many crackers is this altogether?

5 x 3 = 15 crackers altogether

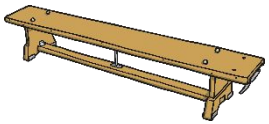
Answers

Write and Calculate Mathematical Statements for Multiplication

There are 12 oatmeal bars in a pack. I buy 8 packs. How many bars is that altogether?
12 x 8 = 96 oatmeal bars
Each individual bar costs 8p.
How much have I paid altogether?
96 x 8p = £7.68

One table is 2m long. 4 tables are put together, one next to the other, to make one long table for the party food.
How long is this altogether in metres?
2m x 4 = 8m
If one table costs £35, how much did the tables cost altogether? **£35 x 4 = £140**

In the school hall, 4 benches are needed in every row for assembly. There are 3 rows altogether. How many benches is this?
4 x 3 = 12 benches
What if there were 5 rows, how many benches would be needed?
4 x 5 = 20 benches
How many benches would be needed for 10 rows? **4 x 10 = 40 benches**



It take 5 minutes for Sam to walk from his house to his school. He walks back home too. How long is his daily journey?
5 minutes x 2 = 10 minutes walking every day
For how long does he walk to and from school during the week?
10 minutes per day x 5 days = 50 minutes
Sam is moving house. His journey to and from school will now take him 16 minutes in total. For how long will he be walking to and from school during the week now? **16 minutes per day x 5 days = 80 minutes**

Answers

Write and Calculate Mathematical Statements for Division

5 footballs fit in one bag. How many bags will be needed to store 35 footballs?

35 ÷ 5 = 7 bags

90 eggs are shared between 10 classes for their recipe. How many eggs will each class get?

90 ÷ 10 = 9 eggs

The farmer shares 16 pints of milk with his 4 friends, how many pints of milk does each friend get?

16 pints ÷ 4 = 4 pints

I need to put 2 sweets in each party bag. I have 36 sweets. How many party bags will this make?

36 ÷ 2 = 18 party bags

The rope is 88m long. It is cut into 8 equal pieces. How long is each piece?

88m ÷ 8 = 11m

I decide to share my marble collection between my three brothers. I have 48 marbles in total. How many marbles will each of my brothers get?

48 ÷ 3 = 16 marbles

Answers

Work out the following calculations in your head and using formal written methods.

8 x 6 = **48**

42 x 2 = **84**

10 x 7 = **70**

94 ÷ 2 = **47**

37 x 8 = **296**

60 ÷ 4 = **15**

9 x 5 = **45**

85 ÷ 5 = **17**

96 ÷ 8 = **12**

93 ÷ 3 = **31**

19 x 3 = **57**

60 ÷ 10 = **6**

45 x 8 = **360**

72 ÷ 3= **24**

12 x 4 = **48**

Answers

Write and Calculate Mathematical Statements for Multiplication and Division

Reasoning Challenge

Work out the answers to these calculations.

8 x 4 =	32
18 x 4 =	72
28 x 4 =	112
38 x 4 =	152
48 x 4 =	192

Describe the pattern to your partner.

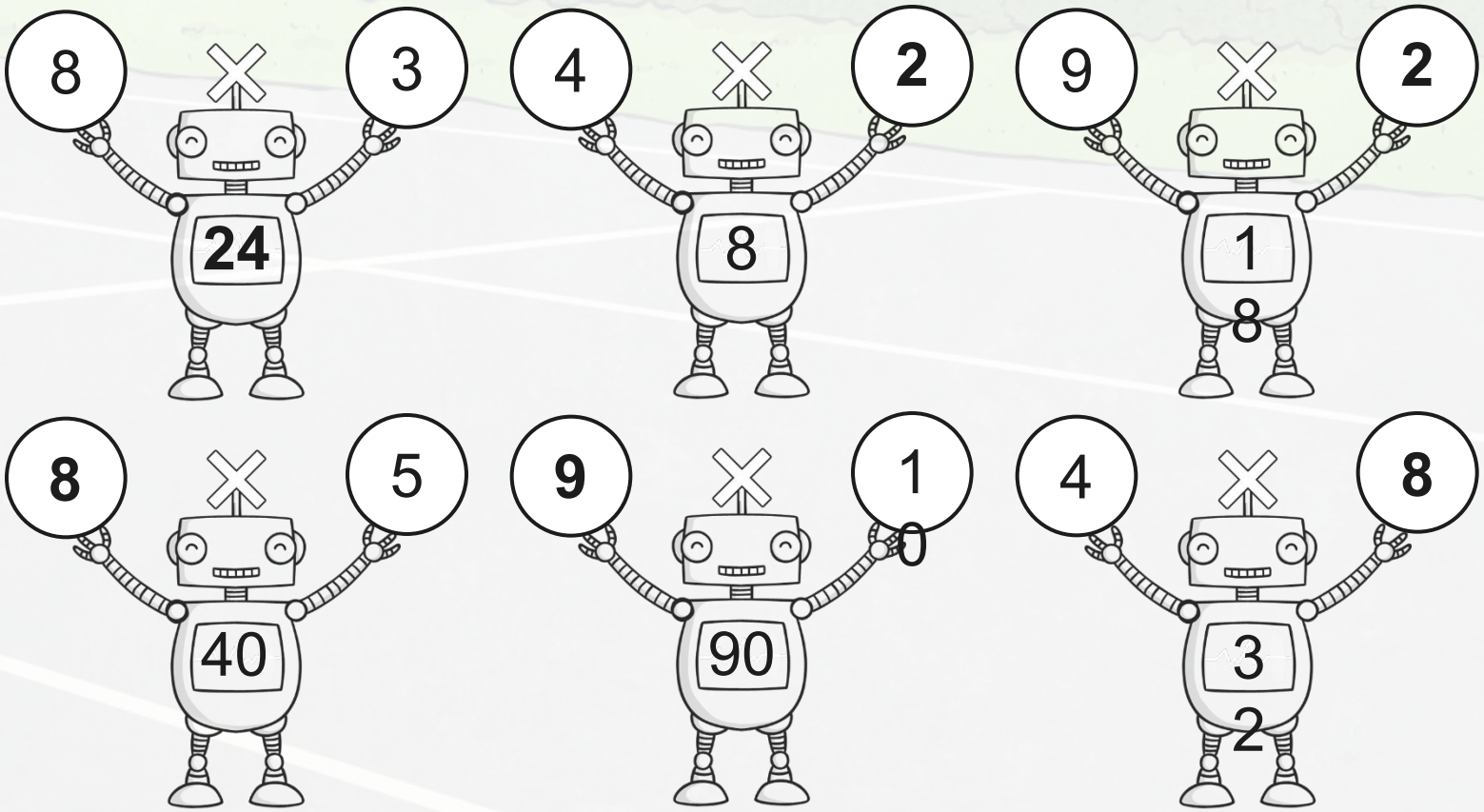
Add 40 each time.

Can you explain to your partner the reason for this pattern?

You are adding 10x4 each time.
For example 18 x 4 = (8 x 4) + (10 x 4)

Answers

Solve Missing Number Problems Involving Multiplication and Division



Answers

Solve Positive Integer Scaling Problems Using Multiplication and Division

Lee has 2 pens. Natalie has double the number of pens that Lee has. Matthew has double the number of pens that Natalie has.
How many pens do they have between them? **14 pens altogether**

Kuba had £40 in his piggy bank. His sister has 3 times this amount.
How much money does she have? **£120**

There are 8 eggs in a box. Orla has 56 eggs.
How many boxes will she need? **7 boxes**

There are 5 books in a pack.
How many packs will I need to buy to have 35 books? **7 packs**

Answers

Solve correspondence problems

Leo would like an ice cream with 4 scoops of his favourite flavours.
His favourite flavours are mint, vanilla, chocolate and strawberry.
Leo can't decide on the best order for his 4 scoops.
Can you help by writing down all the different flavour combinations for his 4-scoop ice cream?

For example:
mint, strawberry, vanilla and chocolate
mint, vanilla, chocolate and strawberry

The best thing to do is to work methodically.

There are 24 combinations of the 4 scoops of ice cream.

Answers

MVCS
MVSC
MCVS
MCSV
MSVC
MSCV

CVMS
CVSM

VMCS
VMSC
VCMS
VCSM
VSCM
VSMC

SMCV
SMVC

Solve correspondence problems

Martha is organising a party but she can't decide on the best order of events. She has already organised the following:

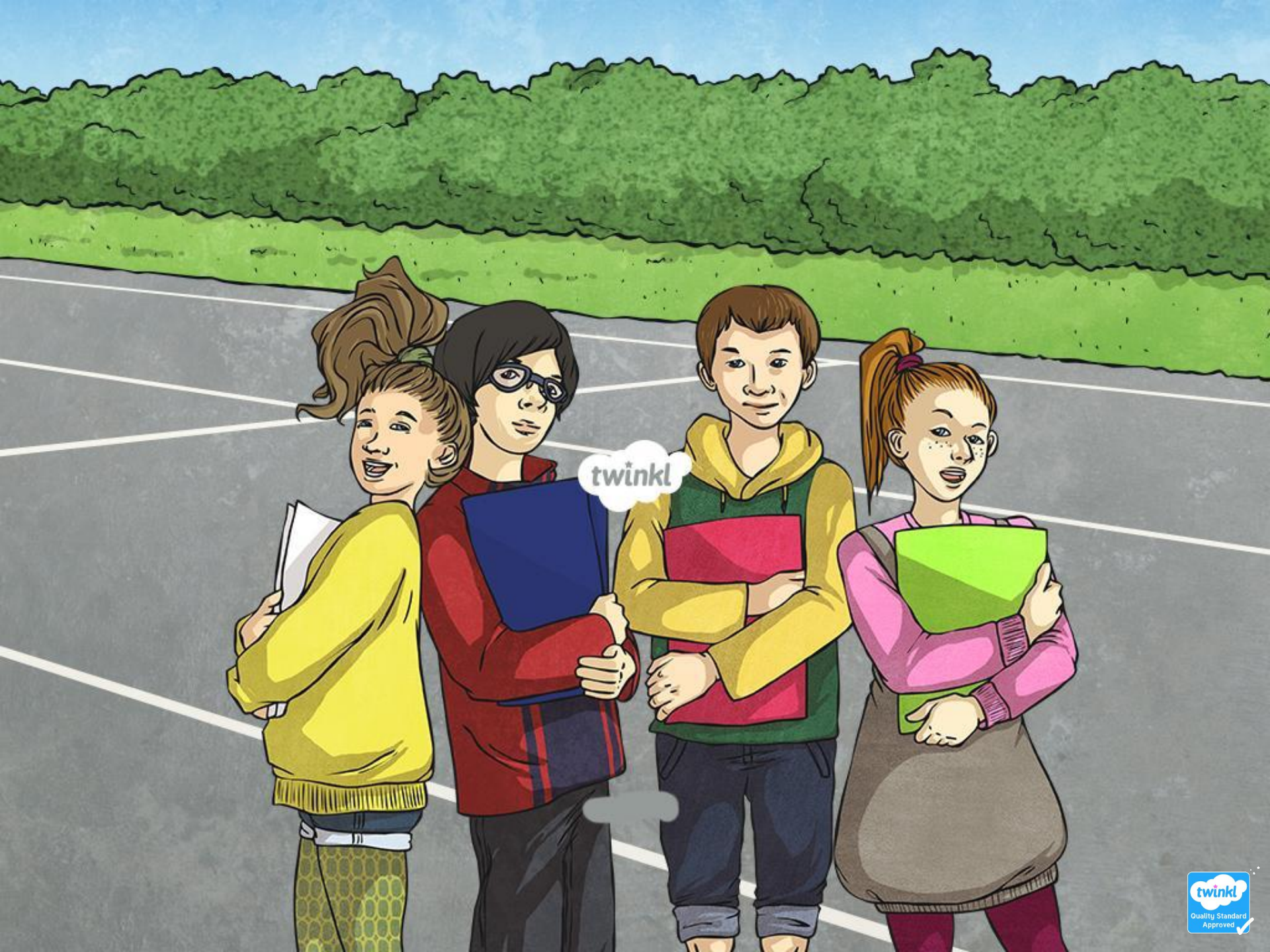
eating party food
playing Pass the Parcel
a magician's performance
singing 'Happy Birthday'
dance competition

Write down all the different combinations of events to help Martha select the best plan for the party.

E.g. 1) magician 2) dance competition 3) eating party food
4) playing Pass the Parcel 5) singing 'Happy Birthday'

Answers

There are 120 different combinations. Did you find them all?
To begin with, you have the choice of 5 events to choose from. Once you have chosen the first event, there are 4 more choices. Next there are 3 remaining, then there will be 2 choices for the fourth event and only 1 choice left for the fifth event.
Therefore 5 × 4 × 3 × 2 x 1 = 120 different combinations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