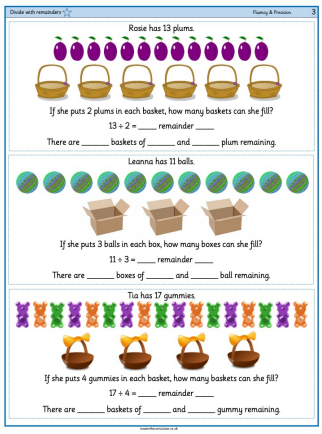
Lesson 1 – Divide with remainders

NC Objective:	Resources needed:	Vocabulary:
write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	Differentiated Sheets Teaching Slides	Divide, division, divisor, remainders, group

Children are to use counters in order to group and record the remainders. Please note that the activity on the teaching slides are designed to be completed practically, this sheet can also be used for evidence of this.

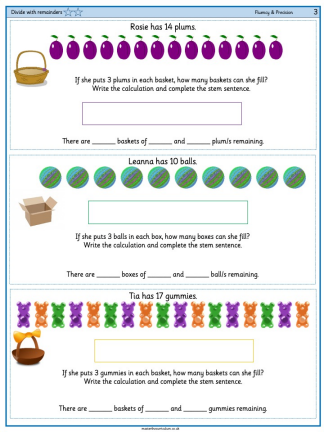
Key Questions:
What is a remainder? Will your remainder be greater than the divisor? Why?

★ Working Towards



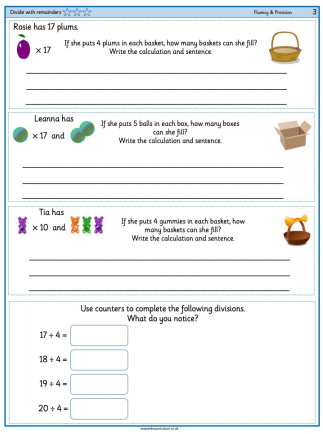
Children will solve word problems involving division with remainders. They will have pictorial representations and use stem sentences for support.

★★ Working Within



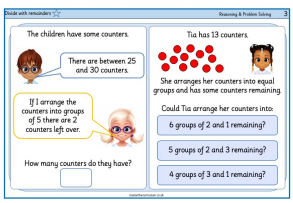
Children on this sheet have part of the pictorial representation given to them. They will write their own calculations.

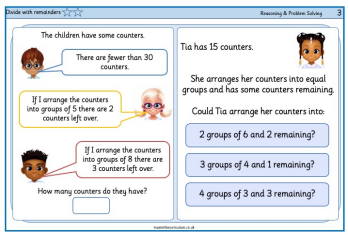
★★★ Greater Depth

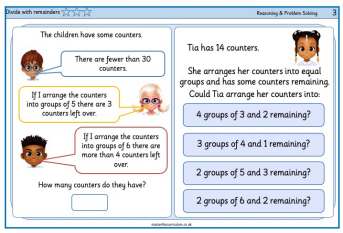


Children will read the word problem and write the calculation and written sentence independently.

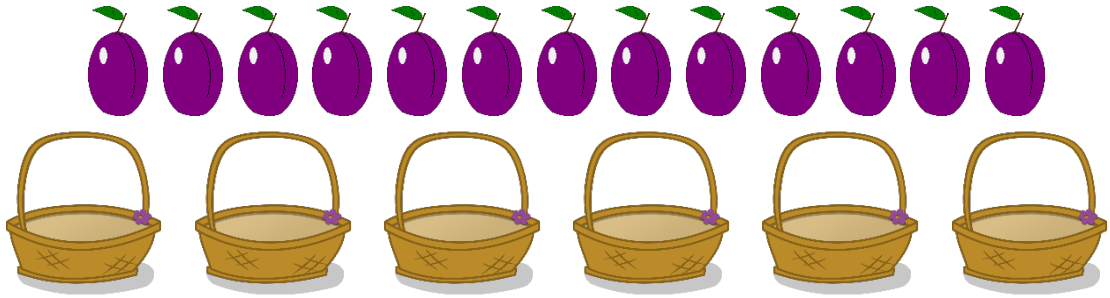
Reasoning & Problem Solving







Rosie has 13 plums.

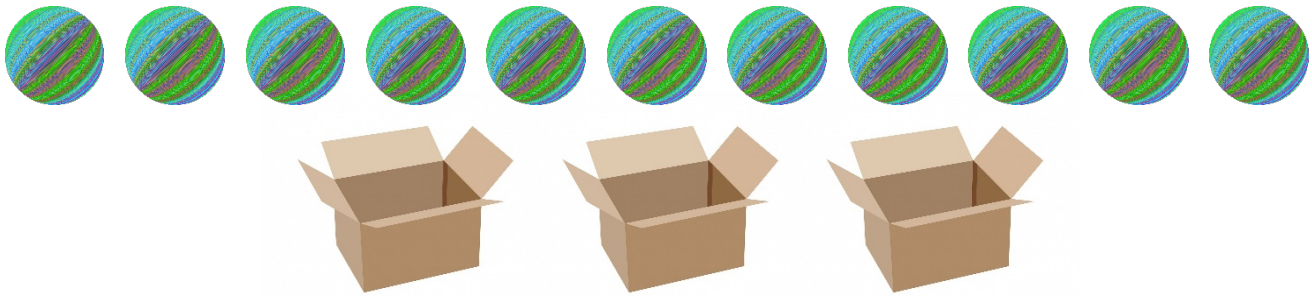


If she puts 2 plums in each basket, how many baskets can she fill?

13 ÷ 2 = _____ remainder _____

There are _____ baskets of _____ and _____ plum remaining.

Leanna has 11 balls.



If she puts 3 balls in each box, how many boxes can she fill?

11 ÷ 3 = _____ remainder _____

There are _____ boxes of _____ and _____ ball remaining.

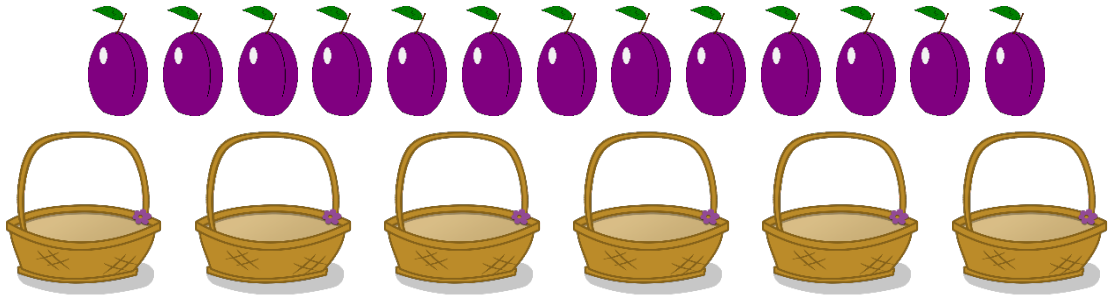
Tia has 17 gummies.

If she puts 4 gummies in each basket, how many baskets can she fill?

17 ÷ 4 = _____ remainder _____

There are _____ baskets of _____ and _____ gummy remaining.

Rosie has 13 plums.

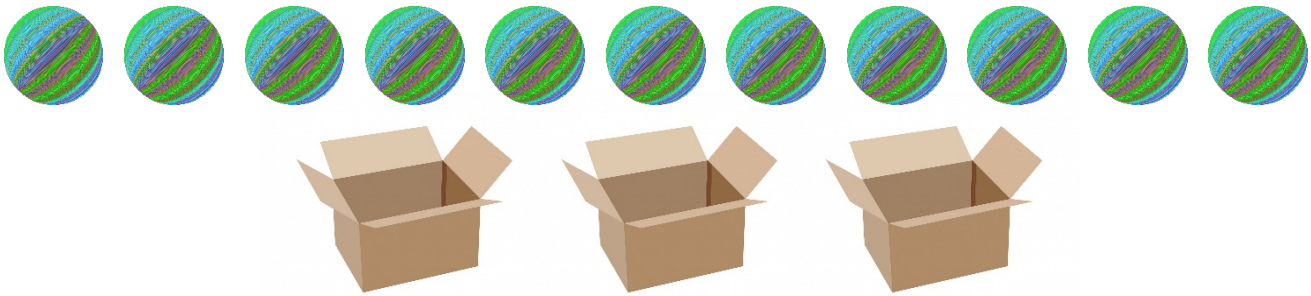


If she puts 2 plums in each basket, how many baskets can she fill?

13 ÷ 2 = 6 remainder 1

There are 6 baskets of 2 and 1 plum remaining.

Leanna has 11 balls.



If she puts 3 balls in each box, how many boxes can she fill?

11 ÷ 3 = 3 remainder 2

There are 3 boxes of 3 and 2 ball remaining.

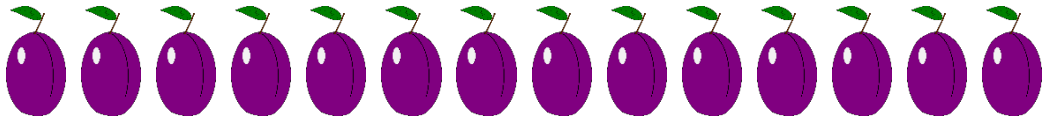
Tia has 17 gummies.

If she puts 4 gummies in each basket, how many baskets can she fill?

17 ÷ 4 = 4 remainder 1

There are 4 baskets of 4 and 1 gummy remaining.

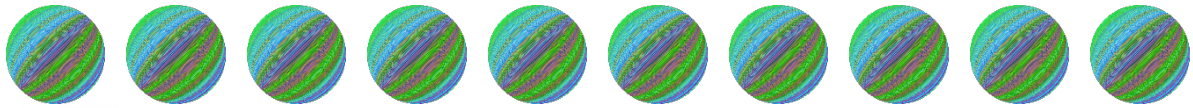
Rosie has 14 plums.



If she puts 3 plums in each basket, how many baskets can she fill?
Write the calculation and complete the stem sentence.

There are _____ baskets of _____ and _____ plum/s remaining.

Leanna has 10 balls.



If she puts 3 balls in each box, how many boxes can she fill?
Write the calculation and complete the stem sentence.

There are _____ boxes of _____ and _____ ball/s remaining.

Tia has 17 gummies.

If she puts 3 gummies in each basket, how many baskets can she fill?
Write the calculation and complete the stem sentence.

There are _____ baskets of _____ and _____ gummies remaining.

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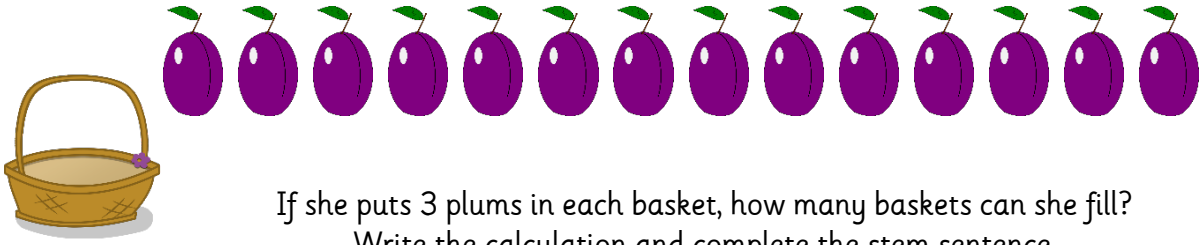
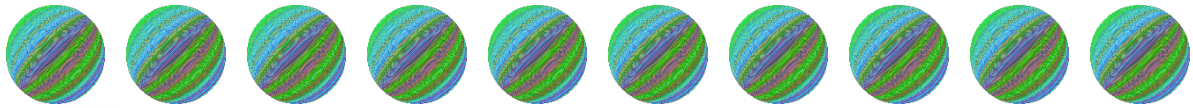


If she puts 3 plums in each basket, how many baskets can she fill?
Write the calculation and complete the stem sentence.

14 ÷ 3 = 4 r 2

There are 4 baskets of 3 and 2 plum/s remaining.

Leanna has 10 balls.



10 ÷ 3 = 3 r 1

If she puts 3 balls in each box, how many boxes can she fill?
Write the calculation and complete the stem sentence.

There are 3 boxes of 3 and 1 ball/s remaining.

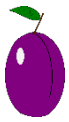
Tia has 17 gummies.

17 ÷ 3 = 5 r 2

If she puts 3 gummies in each basket, how many baskets can she fill?
Write the calculation and complete the stem sentence.

There are 5 baskets of 3 and 2 gummies remaining.

Rosie has 17 plums.

 × 17

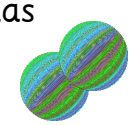
If she puts 4 plums in each basket, how many baskets can she fill?
Write the calculation and sentence.

_____

_____

_____

Leanna has

 × 17 and 

If she puts 5 balls in each box, how many boxes can she fill?
Write the calculation and sentence.

_____

_____

_____

Tia has

 × 10 and 

If she puts 4 gummies in each basket, how many baskets can she fill?
Write the calculation and sentence.

_____

_____

_____

Use counters to complete the following divisions.
What do you notice?

17 ÷ 4 =

18 ÷ 4 =

19 ÷ 4 =

20 ÷ 4 =

Rosie has 17 plums.

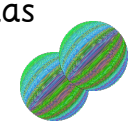
 × 17

If she puts 4 plums in each basket, how many baskets can she fill?
Write the calculation and sentence.

17 ÷ 4 = 4 remainder 1

There are 4 baskets of 4 and 1 plum remaining.

Leanna has

 × 17 and 

If she puts 5 balls in each box, how many boxes can she fill?
Write the calculation and sentence.

19 ÷ 5 = 3 remainder 4

There are 5 boxes of 3 and 4 balls remaining.

Tia has

 × 10 and 

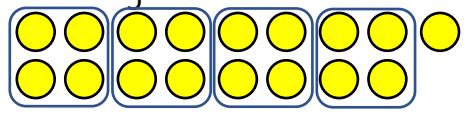
If she puts 4 gummies in each basket, how many baskets can she fill?
Write the calculation and sentence.

13 ÷ 4 = 3 remainder 1

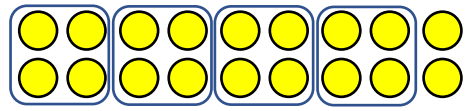
There are 3 baskets of 4 and 1 gummy remaining.

Use counters to complete the following divisions.
What do you notice?

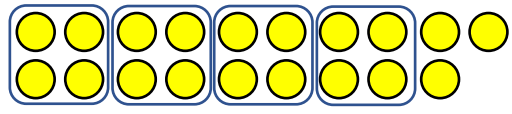
17 ÷ 4 = 4 r 1



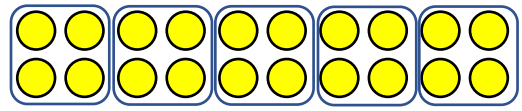
18 ÷ 4 = 4 r 2



19 ÷ 4 = 4 r 3



20 ÷ 4 = 5



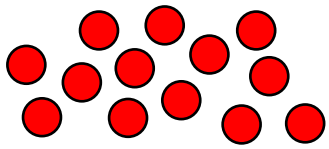
The children have some counters.

There are between 25 and 30 counters.

If I arrange the counters into groups of 5 there are 2 counters left over.

How many counters do they have?

Tia has 13 counters.



She arranges her counters into equal groups and has some counters remaining.

Could Tia arrange her counters into:

6 groups of 2 and 1 remaining?

5 groups of 2 and 3 remaining?

4 groups of 3 and 1 remaining?

Divide with remainders ☆ Reasoning & Problem Solving 3

The children have some counters.

There are between 25 and 30 counters.

If I arrange the counters into groups of 5 there are 2 counters left over.

How many counters do they have?

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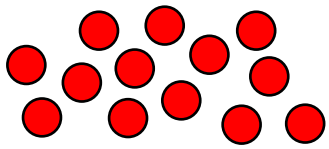

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27

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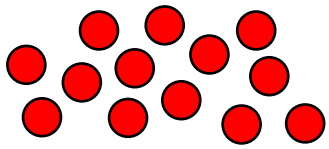

She arranges her counters into equal groups and has some counters remaining.

Could Tia arrange her counters into:

6 groups of 2 and 1 remaining?
Yes, 13 ÷ 2 = 6 r 1

5 groups of 2 and 3 remaining?
No, 13 ÷ 2 = 6 r 1

4 groups of 3 and 1 remaining?
Yes, 13 ÷ 3 = 4 r 1

Divide with remainders ☆ Answers Reasoning & Problem Solving 3

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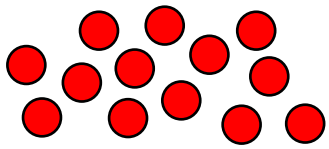

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Yes, 13 ÷ 2 = 6 r 1

5 groups of 2 and 3 remaining?
No, 13 ÷ 2 = 6 r 1

4 groups of 3 and 1 remaining?
Yes, 13 ÷ 3 = 4 r 1

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The children have some counters.

There are fewer than 30 counters.

If I arrange the counters into groups of 5 there are 2 counters left over.

If I arrange the counters into groups of 8 there are 3 counters left over.

How many counters do they have?

Tia has 15 counters.

She arranges her counters into equal groups and has some counters remaining.

Could Tia arrange her counters into:

2 groups of 6 and 2 remaining?

3 groups of 4 and 1 remaining?

4 groups of 3 and 3 remaining?

Divide with remainders ☆☆ Reasoning & Problem Solving 3

The children have some counters.

There are fewer than 30 counters.

If I arrange the counters into groups of 5 there are 2 counters left over.

If I arrange the counters into groups of 8 there are 3 counters left over.

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She arranges her counters into equal groups and has some counters remaining.

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If I arrange the counters into groups of 8 there are 3 counters left over.

How many counters do they have?

27

Tia has 15 counters.

She arranges her counters into equal groups and has some counters remaining.

Could Tia arrange her counters into:

2 groups of 6 and 2 remaining?
No, 15 ÷ 6 = 2 r 3

3 groups of 4 and 1 remaining?
No, 15 ÷ 4 = 3 r 3

4 groups of 3 and 3 remaining?
Yes, 15 ÷ 3 = 4 r 3

Divide with remainders ☆☆ Answers Reasoning & Problem Solving 3

The children have some counters.

There are fewer than 30 counters.

If I arrange the counters into groups of 5 there are 2 counters left over.

If I arrange the counters into groups of 8 there are 3 counters left over.

How many counters do they have?

27

Tia has 15 counters.

She arranges her counters into equal groups and has some counters remaining.

Could Tia arrange her counters into:

2 groups of 6 and 2 remaining?
No, 15 ÷ 6 = 2 r 3

3 groups of 4 and 1 remaining?
No, 15 ÷ 4 = 3 r 3

4 groups of 3 and 3 remaining?
Yes, 15 ÷ 3 = 4 r 3

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The children have some counters.

There are fewer than 30 counters.

If I arrange the counters into groups of 5 there are 3 counters left over.

If I arrange the counters into groups of 6 there are more than 4 counters left over.

How many counters do they have?

Tia has 14 counters.

She arranges her counters into equal groups and has some counters remaining.
Could Tia arrange her counters into:

- 4 groups of 3 and 2 remaining?
- 3 groups of 4 and 1 remaining?
- 2 groups of 5 and 3 remaining?
- 2 groups of 6 and 2 remaining?

Divide with remainders ☆☆☆ Reasoning & Problem Solving 3

The children have some counters.

There are fewer than 30 counters.

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How many counters do they have?

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- 2 groups of 6 and 2 remaining?

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If I arrange the counters into groups of 5 there are 3 counters left over.

If I arrange the counters into groups of 6 there are more than 4 counters left over.

How many counters do they have?

23

Tia has 14 counters.

She arranges her counters into equal groups and has some counters remaining.

Could Tia arrange her counters into:

4 groups of 3 and 2 remaining?
Yes, 14 ÷ 3 = 4 r 2

3 groups of 4 and 1 remaining?
No, 14 ÷ 4 = 3 r 2

2 groups of 5 and 3 remaining?
No, 14 ÷ 5 = 2 r 4

2 groups of 6 and 2 remaining?
Yes, 14 ÷ 6 = 2 r 2

Divide with remainders ☆☆☆ Answers Reasoning & Problem Solving 3

The children have some counters.

There are fewer than 30 counters.

If I arrange the counters into groups of 5 there are 3 counters left over.

If I arrange the counters into groups of 6 there are more than 4 counters left over.

How many counters do they have?

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Yes, 14 ÷ 3 = 4 r 2

3 groups of 4 and 1 remaining?
No, 14 ÷ 4 = 3 r 2

2 groups of 5 and 3 remaining?
No, 14 ÷ 5 = 2 r 4

2 groups of 6 and 2 remaining?
Yes, 14 ÷ 6 = 2 r 2

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