DEVELOPING MATHEMATICAL INQUIRY COMMUNITIES

Level 3 (Year 5-6) Copy Masters, Number and Algebra

Task 1 – Group Task

What do you notice? Justify your thinking.

246 + 372 =

2561 + 339 =

6 331 + 1899 =

Task 1 – Independent Tasks

Solve these equations:

246 + 39 =

236 + 3782 =

5 232 + 2 989 =

Task 2 – Group Task

Moana is playing Monopoly with her friends. She had $235 in monopoly money. After she had bought two properties, she had only $119 in monopoly money left. How much did she spend to buy the two properties?

Moana is playing Monopoly with her friends. She had $1327 in monopoly money. After she had bought five properties, she had only $158 in monopoly money left. How much did she spend to buy the five properties?

Task 2 - Independent Tasks

Solve the following equations:

327 – 152 =

442 – 374

8 222 – 5 768 =

Task 3 – Group Task

Mere and Hurae are playing the Game of Life. Hurae wins the golden lottery and now has $7442. Before he won the golden lottery, he had $2789. How much money did he win?

Mere and Hurae are playing the Game of Life. Hurae wins the golden lottery and now has $5432. Before he won the golden lottery, he had $4785. How much money did he win?

Task 3 - Independent Tasks

Solve the following equations:

535 – 266 =

434 – ☐ = 216

☐ – 539 = 182

2 544 – 1689 =

Task 4 – Group Task

Junior's mum needs to order tipani flowers to make 'ei katu for his sister's wedding. There are 19 people in the bridal party and each 'ei katu needs 26 tipani flowers. How many flowers will Junior's mum need to order?

Junior's mum needs to order tipani flowers to make 'ei katu for his sister's wedding. There are 18 people in the bridal party and each 'ei katu needs 22 tipani flowers. How many flowers will Junior's mum need to order?

Task 4 - Independent Tasks

Solve the following equations:

17 x 23 =

29 x 21 =

38 x 37 =

Represent your solution strategy using equations and an area model.

Task 5 – Group Task

Nga and her family are planning a family reunion. It is Nga's job to look at what funding is needed for this and she needs make an accurate estimate for fundraising. Nga says that there are 284 people coming including children and that $36 per person should cover the costs for them all.

How much do they have to fundraise?

What if they had to raise or lower the cost?

Explore whether your solution strategy would work with other possible amounts.

Task 5 - Independent Tasks

Solve the following equations:

145 x 56 =

236 x 471=

3869 x 525 =

6798 x 9825 =

What patterns did you notice and use to help you solve the equations?

Would the patterns work for any numbers when multiplying?

Task 6 – Group Task

At Polyfest, there are 278 dancers in the Sāsā group.
If they sit in rows of 15, how many rows will there be?

Will there be some people left over to make back row which is not the same size as the front rows?

What possible numbers would they have to use to get the exact numbers in every row and with no people left over?

Make sure you can prove this using an example which you can explain and justify.

Task 6 - Independent Tasks

Solve the following equations:

556 ÷ 25 =

866 ÷ 42 =

765 ÷ 33 =

Task 7 – Group Task

Our school is going on a picnic and using buses to take all the children, teachers, and adults. Each bus can take 46 passengers and there are 942 people to transport.

How many buses do we need?

What numbers could you use with your solution strategy that would mean you had the same number of people in every bus?

Be ready to explore and explain at least three possible numbers.

Task 7 - Independent Tasks

Solve the following equations:

$387 \div 49 =$

$822 \div 73 =$

$778 \div 86 =$

$1 \div \frac{1}{2} =$

$2 \div \frac{1}{4} =$

Task 8 – Group Task

The library needs to be packed up to be moved.
There are 2953 books that need to be packed and each box will fit 187 books.
How many boxes are needed?

Task 8 - Independent Tasks

Solve the following equations:

$7085 \div 385 =$

$8643 \div 221 =$

$9999 \div 2133 =$

$\frac{1}{2} \div \frac{1}{4} =$

Task 9 – Group Task

Work in your group to decide which number sentences are true or false?

Make sure you prove and explain your reasoning.

188 = 188

99 + 255 = 255 + 99

45 – 17 = 43 – 15

37 = 10 + 26

38 + 26 = 39 + 25

45 – 7 = 38 – 5

Task 9 - Independent Tasks

Explain and justify which number sentences are true and false:

$19 = 1 + 8 + 10$

$15 + 17 = 16 + 18$

$225 – 178 = 235 – 168$

$25 – 5 = 20 – 2$

$183 – 87 = 181 – 89$

$5 + 18 + 87 = 6 + 17 + 87$

Task 10 – Group Task

Work together to work out which equations are true or false.

Make sure that everyone in your group agrees and can explain.

398 + 467 = 396 + 469

657 + 18 = 657 + 9 + 9

85 – 34 = 87 – 36

8 x 7 = (8 x 5) + 8

9 x 7 = (10 x 7) – 7

16 + 17 + 18 + 19 + 20 = 21 + 22 + 23 + 24

Task 10 - Independent Tasks

Write your own true and false number sentences.

Choose some of the true and false number sentence cards to solve. Make sure you develop an explanation for why they are true and false.

Give the true and false number sentences to your classmates to solve.

Task 11 – Group Task

Can you work together in your group to solve these number sentences?

Make sure that you develop an explanation of how you solved these that everyone can share.

18 + 7 = __ + 6

__ + 16 = 29 + 14

85 – __ = 86 – 28

185 – 29 = __ – 26

674 + 56 – __ = 671

73 + 5 + 3 = 73 + __

Task 11 - Independent Tasks

Solve these equations:

16 + 9 = __ + 8

__ + 18 = 25 + 16

63 – __ = 73 – 28

132 – 47 = __ – 45

453 + 67 – __ = 451

69 + 4 + 2 = 69 + __

Task 12 – Group Task

Maryssa said “when you are multiplying two numbers together it doesn’t matter which order you multiply them in the product will be the same”.

Work in a group and explore whether you agree or disagree with this statement.

Does this work for all numbers?

Does it work for addition, subtraction, and division?

Task 12 - Independent Tasks

Lola's teacher asks her to solve 36 ÷ 12 =

Lola thinks that she can solve the problem by taking away 12.

How do you think Lola would solve this?

Would this always work? Can you test this with different numbers?

What is a conjecture that you can make related to division and subtraction?

Task 13 – Group Task

Tasa is working out if the number sentences are true or false

14 x 6 = (10 x 6) + (4 x 6)

32 x 3 = (30 x 3) + 2

17 x 4 = (8 x 4) + (8 x 4)

24 x 15 = (12 x 15) + (12 x 15)

He notices patterns when working out which are true or false.

What do you think he notices?

Does this always work?

Use the equipment to explore the relationship.

Can you write your own examples using different numbers?

Task 13 - Independent Tasks

Write your own set of number sentences to describe this in as many ways as possible.

Make connections across the number sentences.

What patterns do you notice?

Why do your patterns work?

Will these work with other numbers? Can you write them as a generalisation?

Task 14 – Group Task

Is the number that goes in the __, the same number in both of these equations?

2 x __ + 15 = 31

2 x __ + 15 – 9 = 31 – 9

Explain why or why not?

Would this work with other operations?

Write number sentences that use the same pattern and relationship.

Can you make a conjecture from this problem?