Year 4, Autumn Term 1

Wk Strands

- 1 **MAS** Mental addition and subtraction; **PRA** Problem solving, reasoning and algebra
- 2 NPV Number and place value; MAS Mental addition and subtraction

3 **MMD** Mental multiplication and division; **PRA** Problem solving, reasoning and algebra; **WMD** Written multiplication and division; **FRP** Fractions, ratio and proportion

4 **MEA** Measurement; **DPE** Decimals, percentages and their equivalence to fractions

Weekly Summary

Finding pairs with a total of 100; adding to the next multiple of 100 and subtracting to the previous multiple of 100; subtract by counting up to find a difference; adding several numbers

Read, write 4-digit numbers and know what each digit represents; compare 4-digit numbers using < and > and place on a number line; add 2-digit numbers mentally; subtract 2-digit and 3-digit numbers

Mastery Checkpoint

There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

- Recognise the place value of each digit in a 4-digit number (1s, 10s, 100s, 100os); order and compare numbers with up to 4 digits
- Place 4-digit numbers on number lines, recognise the place value of each digit and round these to the nearest 10, 100 or 1000

Please see Mastery Checkpoint 4.2.1 (Teacher Guide 4.2.1)

Learn x and \div facts for the 6 and 9 times-table and identify patterns; multiply multiples of 10 by single-digit numbers; multiply 2-digit numbers by single-digit numbers (the grid method); find fractions of amounts

Mastery Checkpoints There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

- Use table facts and commutativity to perform multiplications involving multiples of 10
- Recall multiplication and division facts for multiplication tables, for 2, 5, 10, 3, 4, 8, 6 and 9 times tables

Please see Mastery Checkpoint 4.3.2 (Teacher Guide 4.3.2)

Find unit fractions of amounts

Please see <u>Mastery Checkpoint 4.3.3</u> (Teacher Guide 4.3.3)

Tell and write the time to the minute on analogue and digital clocks; calculate time intervals; measure in metres, centimetres and millimetres; convert lengths between units; record using decimal notation

Mastery Checkpoint There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

- Read, write and convert times between analogue and 12 hour digital clocks
- Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days

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5 **WAS** Written addition and subtraction

Please see Mastery Checkpoint 4.4.4 (Teacher Guide 4.4.4)

Add two 3-digit numbers using column addition; subtract a 3-digit number from a 3-digit number using an expanded column method (decomposing only in one column)

Year 4, Autumn Term 2

Wk Strands

6 **MMD** Mental multiplication and division; **PRA** Problem solving, reasoning and algebra; **FRP** Fractions, ratio and proportion

.

7 **DPE** Decimals, percentages and their equivalence to fractions; **NPV** Number and place value; **WAS** Written addition and subtraction; **MAS** Mental addition and subtraction

8 DPE Decimals, percentages and their equivalence to fractions; MEA Measurement; STA Statistics; PRA Problem solving, reasoning and algebra

Weekly Summary

Double 3-digit numbers and halve even 3-digit numbers; revise unit fractions; identify equivalent fractions; reduce a fraction to its simplest form; count in fractions (each fraction in its simplest form)

Mastery Checkpoint

There is one Mastery Checkpoint in this week. It tests the following outcome from the Progression Map:

 Double and halve 3-digit numbers using partitioning and be able to describe, explain and predict patterns

Please see Mastery Checkpoint 4.6.5 (Teacher Guide 4.6.5)

Look at place value in decimals and the relationship between tenths and decimals; add two 4digit numbers; practise written and mental addition methods; use vertical addition to investigate patterns

Mastery Checkpoints

There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

Use column addition to add 3-digit numbers; begin to add 4-digit numbers

Please see Mastery Checkpoint 4.7.6 (Teacher Guide 4.7.6)

- Recognise and write decimal and fraction equivalents of tenths and a half
- Find the effect of dividing a 1-digit or 2-digit number by 10 and recognise that the first place after a decimal point is a tenth

Please see Mastery Checkpoint 4.7.7 (Teacher Guide 4.7.7)

Convert multiples of 100 g into kilograms; convert multiples of 100 ml into litres; read scales to the nearest 100 ml; estimate capacities; draw bar charts, record and interpret information

Mastery Checkpoint

There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

 Solve simple measures problems and convert between different units of measure – mm, cm, m; ml, l; g, kg

Please see Mastery Checkpoint 4.8.8 (Teacher Guide 4.8.8)

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9 NPV Number and place value; WAS Written addition and subtraction; MAS Mental addition and subtraction

division; PRA Problem solving, reasoning and algebra

MMD Mental multiplication and division; WMD Written multiplication and

Round 4-digit numbers to the nearest: 10, 100 and 1000; subtract 3-digit numbers using the expanded written version and the counting up mental strategy and decide which to use

Mastery Checkpoint There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

- Know bonds to the next 100
- Use counting up to subtract numbers with up to 3 digits crossing one multiple of 100

Please see Mastery Checkpoint 4.9.9 (Teacher Guide 4.9.9)

Use the grid method to multiply 3-digit by single-digit numbers and introduce the vertical algorithm; begin to estimate products; divide numbers (up to 2 digits) by single-digit numbers with no remainder, then with a remainder

Mastery Checkpoint

There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

Use the distributive law to multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout (grid)

Please see Mastery Checkpoint 4.10.10 (Teacher Guide 4.10.10)

Year 4, Spring Term 1

Wk Strands

10

11 **NPV** Number and place value; **PRA** Problem solving, reasoning and algebra

Weekly Summary

Place 4-digit numbers on landmarked lines; 0–10 000 and 1000–2000; round 4-digit numbers to the nearest 10, 100 and 1000; mentally add and subtract to/from 4-digit and 3-digit numbers using place-value; count on and back in multiples of 10, 100 and 1000; count on in multiples of 25 and 50; add and subtract multiples of 10 and 100 to/from 4-digit numbers

Mastery Checkpoint

There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

• Place 4-digit numbers on number lines, recognise the place value of each digit and round these to the nearest 10, 100 or 1000

Please see Mastery Checkpoint 4.11.11 (Teacher Guide 4.11.11)

- Count on and back in multiples of 6, 7, 9, 25 and 1000 and work systematically, predicting and explaining
 patterns
- • Add and subtract 1s, 10s or 100s from numbers with up to 4 digits crossing multiples of 10, 100, or 1000 Please see <u>Mastery Checkpoint 4.11.12</u> (Teacher Guide 4.11.12)
- 12 **WAS** Written addition and subtraction; **MMD** Mental multiplication and division; **WMD** Written multiplication and division; **PRA** Problem solving, reasoning and algebra; **MEA** Measurement

Use expanded written subtraction and compact written subtraction to subtract pairs of 3-digit numbers (one 'exchange'); use expanded column subtraction and compact column subtraction to subtract pairs of 3-digit and 2-digit numbers from 3-digit numbers (one 'carry'); learn the 7× table and 'tricky' facts; use the vertical algorithm

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to multiply 3-digit numbers by 1-digit numbers; solve simple money problems with decimals to two decimal places

13 **MMD** Mental multiplication and division; **FRP** Fractions, ratio and proportion; **PRA** Problem solving, reasoning and algebra

14 **GPS** Geometry: properties of shapes; **PRA** Problem solving, reasoning and algebra

15 MMD Mental multiplication and division; WMD Written multiplication and division; MAS Mental addition and subtraction; PRA Problem solving, reasoning and algebra Use mental multiplication and division strategies; find non-unit fractions of 2-digit and 3-digit numbers; find equivalent fractions and use them to simplify fractions (halves, thirds, quarters)

Mastery Checkpoint

There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

 Solve simple problems involving fractions and find non-unit fractions of amounts where the answer is a whole number

Please see Mastery Checkpoint 4.13.13 (Teacher Guide 4.13.13)

 Recognise and show families of common equivalent fractions and begin to compare fractions with non-like denominators

Please see Mastery Checkpoint 4.13.14 (Teacher Guide 4.13.14)

Recognise and compare acute, right and obtuse angles; draw lines of a given length; identify perpendicular and parallel lines; recognise and draw line symmetry in shapes; sort 2D shapes according to their properties; draw shapes with given properties and explain reasoning; draw the other half of symmetrical shapes

Mastery Checkpoint

There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

Identify acute and obtuse angles and compare and order angles up to 2 right angles by size

Please see Mastery Checkpoint 4.14.15 (Teacher Guide 4.14.15)

- Draw shapes with given properties and explain reasoning
- Identify lines of symmetry in 2D shapes presented in different orientations
- Complete a simple symmetric figure with respect to a specific line of symmetry

Please see Mastery Checkpoint 4.14.16 (Teacher Guide 4.14.16)

Understand how to divide 2-digit and 3-digit numbers by 1-digit numbers using place value and mental strategies; divide numbers by 1-digit numbers to give answers between 10 and 25, with remainders; identify factor pairs and use these to solve multiplications and divisions with larger numbers; use Frog to find complements to multiples of 1000; use Frog to find change from £10, £20 and £50

Mastery Checkpoint

There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

- Recall multiplication and division facts for multiplication tables, for 2, 3, 4, 5, 6, 7, 8, 9 and 10 times tables
- Recognise and use factor pairs and commutativity in mental calculations, to solve multiplications and divisions involving 2-digit and 3-digit multiples of 10
- Use doubling and halving to multiply and divide by 4
- Use place value and known and derived facts to divide numbers above table facts

Please see <u>Mastery Checkpoint 4.15.17</u> (Teacher Guide 4.15.17)

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- Recognise and use factor pairs and commutativity in mental calculations, to solve multiplications and divisions involving 2-digit and 3-digit multiples of 10
- Recall multiplication and division facts for multiplication tables, for 2, 3, 4, 5, 6, 7, 8, 9 and 10 times tables Please see <u>Mastery Checkpoint 4.15.18</u> (Teacher Guide 4.15.18)

Year 4, Spring Term 2

Wk Strands

- 16 **DPE** Decimals, percentages and their equivalence to fractions; **NPV** Number and place value; **PRA** Problem solving, reasoning and algebra; **WAS** Written addition and subtraction
- 17 **MAS** Mental addition and subtraction; **WAS** Written addition and subtraction; **MEA** Measurement; **PRA** Problem solving, reasoning and algebra

Weekly Summary

Recognise, use, compare and order decimal numbers; understand place value in decimal numbers; recognise that decimals are tenths; round decimals numbers to the nearest whole number; divide 2-digit numbers by 10 to get decimal numbers; multiply decimal numbers by 10 to get 2-digit numbers; divide 3-digit multiples of ten by 100 to get decimal numbers; multiply decimal numbers by 100 to get 3-digit multiples of ten; add four digit numbers using written method with answers greater than 10 000

Add amounts of money using written methods and mentally using place value and number facts; choose to add using the appropriate strategy: mental or written; subtract, choosing appropriate mental strategies: counting up or taking away (using counting back, place value or number facts); solve subtractions using a suitable written method (column subtraction)

Mastery Checkpoint

There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

- Add 2 numbers with up to 4 digits using the formal written method of columnar addition, including answers that are greater than 10 000
- Use column addition to add several 2-digit numbers

Please see Mastery Checkpoint 4.17.19 (Teacher Guide 4.17.19)

- Use counting up subtraction to subtract 3-digit numbers and 4-digit numbers from multiples of 1000 and describe and explain patterns in digit sums
- Use compact column subtraction to subtract 3-digit numbers

Please see Mastery Checkpoint 4.17.20 (Teacher Guide 4.17.20)

18 MEA Measurement; PRA Problem solving, reasoning and algebra
Tell the time on a 24 hour clock, using am and pm correctly; convert pm times to 24 hour clock and vice versa; use 24 hour clock in calculating intervals of time; measure and calculate perimeters of rectilinear shapes where each side is labelled in cm and m; find missing lengths in rectilinear composite shapes; find the perimeters of rectilinear shapes with some lengths not marked; convert from one unit of length to another; solve word problems involving lengths including those involving perimeters

Mastery Checkpoint

There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

Read, write and convert time between analogue and digital 12- and 24-hour clocks

Please see <u>Mastery Checkpoint 4.18.21</u> (Teacher Guide 4.18.21)

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- 19 **NPV** Number and place value; **WAS** Written addition and subtraction; **MAS** Mental addition and subtraction
- 20 WMD Written multiplication and division; PRA Problem solving, reasoning and algebra; MAS Mental addition and subtraction; WAS Written addition and subtraction

Understand place value in 4-digit numbers; partition 4-digit numbers; solve subtraction of 4-digit numbers using column subtraction (decomposition); choose an appropriate method to solve subtractions, either mental or written, and either column or counting up (Frog)

Use the vertical algorithm to multiply 3-digit numbers by 1-digit numbers; explore patterns; use mental strategies and tables facts to divide 2-digit and 3-digit numbers by 1-digit numbers to give answers between 10 and 35, without remainders; solve word problems

Mastery Checkpoint

There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

- Identify the calculation(s) needed to solve a word problem
- Solve addition and subtraction 2-step problems in context
- Add amounts of money mentally using place value and number facts
- Estimate, compare and calculate different measures, including solving simple money problems involving decimals to 2 decimal places

Please see Mastery Checkpoint 4.20.22 (Teacher Guide 4.20.22)

Year 4, Summer Term 1

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Wk Strands
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21 **NPV** Number and place value; **PRA** Problem solving, reasoning and algebra

Weekly Summary

Read, write and compare 4-digit numbers and place on a line; find 1000 more or less than any given number; read, write and compare 5-digit numbers; recognise what each digit represents in a 5-digit number; read, use and compare negative numbers in the context of temperature

Mastery Checkpoint

There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

 Count backwards through zero to include negative numbers; use knowledge of factors and reasoning to solve problems.

Please see Mastery Checkpoint 4.21.23 (Teacher Guide 4.21.23)

22 **MAS** Mental addition and subtraction; **DPE** Decimals, Multiply percentages and their equivalence to fractions (to 1 ar

23 MMD Mental multiplication and division; PRA Problem solving, reasoning and algebra; NPV Number and place value; WMD Written multiplication and division; MEA Measurement Multiply and divide numbers by 10 and 100 including decimals (tenths and hundredths); read and write decimals (to 1 and 2 places), understanding that these represent parts (tenths and hundredths) of numbers; mark 1- and 2- place decimals on a line; count in tenths (0.1s) and hundredths (0.01s); multiply numbers with up to 2 decimal places by 10 and 100, and divide numbers by 10 and 100; say the number one tenth and one hundredth more or less than a given number; round decimal numbers to the nearest whole number

Learn 11 and 12x tables; develop and use effective mental multiplication strategies; use a vertical written method to multiply 3-digit numbers by 1-digit numbers; use rounding to estimate answers; use a written method to multiply 3-digit numbers, including amounts of money by 1-digit numbers; multiply 2-digit and 3-digit numbers by 1-digit numbers; understand how division 'undoes' multiplication and vice versa; divide above the tables facts using multiples of 10

Mastery Checkpoint

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There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

- Use place value and known and derived facts to multiply 2-digit and 3-digit numbers by a 1-digit number (including multiplying by 0 and 1) and to multiply three 1-digit numbers
- Use place value and known and derived facts to divide larger numbers (answers up to 50) including • dividing by 1
- Recall multiplication and division facts for multiplication tables up to 12 x 12 and describe patterns in the tables
- Use doubling and halving to multiply and divide mentally
- Estimate and use inverse operations to check answer to a multiplication or division calculation

Please see Mastery Checkpoint 4.23.24 (Teacher Guide 4.23.24)

- Multiply 2- and 3-digit numbers by a 1-digit number using formal written layout where appropriate
- Use a written method to multiply amounts of money by 1-digit numbers •

Please see Mastery Checkpoint 4.23.25 (Teacher Guide 4.23.25)

Recognise and read Roman numerals to 100; begin to know the history of our number system including 0; **GPS** Geometry: properties of shapes calculate area and perimeter of rectilinear shapes using multiplication and addition, or counting; recognise, name and classify 2D shapes identifying regular and irregular polygons; sort 2D shapes according to properties including types of quadrilaterals and triangles; revise 3D shapes, consider 2D-shaped sides on 3D shapes, and sort shapes

Mastery Checkpoint

There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
- Find the area of rectilinear shapes

Please see Mastery Checkpoint 4.24.26 (Teacher Guide 4.24.26)

Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes

Please see Mastery Checkpoint 4.24.27 (Teacher Guide 4.24.27)

Understand, read and write 2-place decimals; compare 2-place decimals in the context of lengths; add and subtract 0.1 and 0.01 and say a number one-tenth (0.1) or one-hundredth (0.01) more or less than a given number; revise equivalent fractions; write fractions with different denominators with a total of 1; recognise decimal and fraction equivalents

Mastery Checkpoint

There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

- Count up and down in tenths and hundredths
- Add and subtract 0.1 and 0.01 •
- Solve simple measure and money problems using fractions and decimals to 2 decimal places
- Convert between different metric units of measure, e.g. km to m; solve problems involving different . measures

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NPV Number and place value; MEA Measurement; 24

DPE Decimals, percentages and their equivalence to 25 fractions; PRA Problem solving, reasoning and algebra; FRP Fractions, ratio and proportion

• Use equivalent fractions to simplify and compare fractions with non-like denominators

Please see Mastery Checkpoint 4.25.29 (Teacher Guide 4.25.29)

Year 4, Summer Term 2

Wk Strands

26 **MAS** Mental addition and subtraction; **MMD** Mental multiplication and division; **WMD** Written multiplication and division; **PRA** Problem solving, reasoning and algebra

Weekly Summary

Add two 2-digit numbers or a 2-digit number to a 3- or 4-digit number mentally; subtract 2-, 3- and 4-digit numbers using counting up; derive factors of 2-digit numbers and use factors and doubling to solve multiplication mentally; solve integer scaling problems using mental strategies and spot a relationship between products; solve correspondence problems, using a systematic approach and calculate using mental multiplication strategies

Mastery Checkpoint

There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

- Confidently add numbers with up to 4 digits using place value and number facts, including fluency in adding any pairs of 2-digit numbers
- · Add numbers with up to 4 digits using the formal written method of columnar addition
- Use inverse operations to check answers to a calculation

Please see <u>Mastery Checkpoint 4.26.30</u> (Teacher Guide 4.26.30)

Solve problems involving multiplying and adding, including integer scaling and correspondence

Please see Mastery Checkpoint 4.26.31 (Teacher Guide 4.26.31)

27 **WAS** Written addition and subtraction; **PRA** Problem solving, reasoning and algebra; **MAS** Mental addition and subtraction

Solve written addition of two 4-digit numbers; add amounts of money (pounds and pence) using column addition; solve 4-digit minus 4-digit and 4-digit minute 3-digit subtractions using written column method (decomposition) and check subtraction with addition; solve word problems choosing an appropriate method

Mastery Checkpoint

There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

- When appropriate, use counting up to subtract numbers with up to 4 digits
- Use counting up and subtraction to find change or solve money problems
- Subtract numbers with up to 4 digits using the formal written method of expanded or compact columnar subtraction
- Use inverse operations to check answers to a calculation

Please see Mastery Checkpoint 4.27.32 (Teacher Guide 4.27.32)

28 **GPD** Geometry: position and direction; **STA** Statistics

Use coordinates to draw polygons; find the coordinates of shapes after translation; draw and interpret bar charts and pictograms; draw line graphs and understand that intermediate points have meaning

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Mastery Checkpoint

There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

- Describe positions on a 2D grid as coordinates in the first quadrant
- · Describe movements between positions as translations of a unit left/right and up/down
- Plot specified points and draw sides to complete a given polygon

Please see Mastery Checkpoint 4.28.33 (Teacher Guide 4.28.33)

- Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
- Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

Please see Mastery Checkpoint 4.28.34 (Teacher Guide 4.28.34 Additional Resource 4.28.34)

Use the vertical algorithm (ladder) to multiply 3-digit numbers by 1-digit numbers; find non-unit fraction of amounts, using 'chunking'; add fractions with like denominators, including totals greater than 1; divide by 10 and 100 (to give answers with 1 and 2 decimal places)

Mastery Checkpoint

There are two Mastery Checkpoints in this week. They test the following outcomes from the Progression Map:

- Write additions of fractions with different denominators with a total of 1
- Add and subtract fractions with the same denominator, including totals greater than 1

Please see Mastery Checkpoint 4.29.35 (Teacher Guide 4.29.35)

- Recognise that tenths and hundredths arise when dividing by 10 and 100; multiply decimal numbers by 10 and 100, understanding that this involves a shift of the digits on a place-value grid
- Compare numbers with up to 2 decimal places, identify the value of the digits as ones, tenths and hundredths, and round decimal numbers to the nearest whole
- Recognise and write decimal and fraction equivalents of tenths, hundredths, 1/4, 1/2 and 3/4

Please see <u>Mastery Checkpoint 4.29.36</u> (Teacher Guide 4.29.36)

Multiply 2-digit numbers by 11 and 12; look for patterns and write rules; multiply 2-digit numbers by numbers between 10 and 20 using the grid method; begin to use the grid method to multiply pairs of 2-digit numbers; use mental strategies and tables facts to divide 2-digit and 3-digit numbers by 1-digit numbers to give answers between 20 and 50, with and without remainders; find non-unit fractions of amounts

Mastery Checkpoint

There is one Mastery Checkpoint in this week. It tests the following outcomes from the Progression Map:

 Find non-unit fractions of amounts and solve problems involving harder fractions to calculate quantities

Please see Mastery Checkpoint 4.30.37 (Teacher Guide 4.30.37)

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29 WMD Written multiplication and division; PRA Problem solving, reasoning and algebra; MMD Mental multiplication and division; FRP Fractions, ratio and proportion; DPE Decimals, percentages and their equivalence to fractions

30 **MMD** Mental multiplication and division; **PRA** Problem solving, reasoning and algebra; **WMD** Written multiplication and division; **FRP** Fractions, ratio and proportion