Knowledge Progression in Measure

Describe, Measure, Compare and Solve (Al Strands)

| Three and <br> Four-Year- <br> Olds | Mathematics | - Make comparisons between objects relating to size, length, weight and capacity. |
| :--- | :--- | :--- |
| Reception | Mathematics | - Compare length, weight and capacity. |
| Telling the Time <br> Three and <br> Four-Year- <br> Olds Mathematics | - Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...' |  |


| Year Group | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Measures | -Compare, describe and solve practical problems for: length/height, weight/mass, capacity/volume \& time through comparison, like long/short, longer/shorter, heavier/ lighter/ quicker, slower, earlier, later <br> - Measure and begin to record length/height, | - In practical contexts, choose and use appropriate standard units to estimate and measure length/height ( $\mathrm{m} / \mathrm{cm}$ ); mass (kg/g); temperature ( ${ }^{\circ} \mathrm{C}$ ); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, | -measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass <br> (kg/g); volume/capacity (l/ml) To be able to use simple scaling in the context of measures and problem solving <br> To know simple conversions between grams and $\mathrm{kg}, \mathrm{ml}$ and I , $m$ and km e.g. $1 / 4$ of a $\mathrm{kg}=250 \mathrm{~g}$ | - Convert between different units of measure eg. cm to mm and cm to m <br> -Estimate, compare and calculate different measures, including money in pounds and pence <br> -To be able to use a ruler to measure accurately to the nearest mm and draw lines accurately to the nearest cm and half centimetre | -Convert between different units of metric measure focusing on decimal notation e.g. $1250 \mathrm{ml}=$ 1.25I <br> - Understand and use approximate equivalences between metric units and common imperial units such as inches, feet, pints, gallons <br> -Estimate volume and capacity | - Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate <br> - Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a |


|  | weight/mass, capacity/volume using non-standard units <br> Introduce centimetres on a ruler and measuring from 0 Introduce metre stick as a unit of measure | thermometers and measuring vessels <br> -To know $100 \mathrm{~cm}=$ <br> $1 \mathrm{~m}, 1000 \mathrm{~g}=1 \mathrm{~kg}$, <br> $1000 \mathrm{ml}=1 \mathrm{~L}$ <br> - Compare and order lengths, mass, volume/capacity and record the results using >, < and = <br> To know basic units of measure e.g. 1 kg $=1000 \mathrm{~g} 50 \mathrm{~cm}=1 / 2$ metre, $500 \mathrm{~g}=1 / 2 \mathrm{~kg}$, $500 \mathrm{ml}=1 / 2$ litre and relate to fractions and division <br> -To be able to use a ruler to measure accurately to the nearest cm and half centimetre | $\begin{aligned} & \frac{1}{2 / 2} \text { of } \mathrm{akg}=500 \mathrm{~g} \\ & \frac{3 / 4 \mathrm{of} \mathrm{a} \mathrm{~kg}=750 \mathrm{~g}}{1000 \mathrm{~g}} \\ & 1 \mathrm{~kg}=100 \mathrm{~g} \end{aligned}$ <br> -To be able to use a ruler to measure accurately to the nearest cm and half centimetre and draw lines accurately to the nearest cm |  | -To be able to use a ruler to measure and draw accurately to the nearest mm | larger unit, and vice versa e.g. metres to mm <br> -Calculate volume of cubes <br> -convert between miles and kilometres <br> $\bullet$-Understand and use equivalences between other metric and imperial units e.g. pints and litres |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time | - Sequence events in chronological order using language recognise and use language relating to dates, including days of the week, weeks, months and years -Tell the time to the hour and half past the hour and draw | -Compare and sequence intervals of time <br> -Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times <br> - Know the number | -Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24 -hour clocks - Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes | -Convert between different units of measure (e.g. Hours to minutes) <br> -Read, write and convert time between analogue and digital 12- <br> and 24-hour clocks <br> - Solve problems involving converting from hours to minutes; | - Solve problems involving converting between units of time eg. hours to weeks | -Convert between standard units, of time from a smaller unit of measure to a much larger unit, and vice versa, |


|  | the <br> hands on a clock face <br> to show these times | of minutes in an <br> hour and the <br> number of hours <br> in a day | and hours; use <br> vocabulary such as <br> o'clock, a.m./p.m., <br> morning, <br> afternoon, noon and <br> midnight <br> -Know the number of <br> seconds in a minute <br> and the number of <br> days <br> in each month, year <br> and leap year <br> compare durations of <br> events | minutes to seconds; <br> years to months; <br> weeks to days |
| :--- | :--- | :--- | :--- | :--- | :--- |


| New vocabulary for each year group is in bold | Progression in vocabulary - Measures |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Time | Measurement | Length | Capacity | Weight |
| EYFS | Time, days of the week, Monday, Tuesday ... day, week birthday, holiday, morning, afternoon, evening, night, bedtime, dinner time, playtime today, yesterday, tomorrow before, after next, last now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time hour, o'clock clock, watch, hands | Measure, size, compare, guess, estimate, enough, not enough, too much, too little too many, too few nearly, close to, about the same as just over, just under | length, height, width, depth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, near, close | full empty, half full, holds container, | weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales |
| Year 1 | Time, days of the week, Monday, Tuesday ... months of the year (January, February ...) seasons: spring, summer, autumn, winter day, week, weekend, month, year birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, | Measure, measurement size, compare, guess, estimate, enough, not enough too much, too little too many, too few nearly, close to, about the | Centimetre, metre, length, height, width, depth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, | Capacity, volume, full, empty, more than, less than, half full, quarter full, holds container | weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales |


|  | tomorrow before, after earlier, later next, first, last midnight date now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago? how long will it be to ...? how long will it take to ...? how often? always, never, often, sometimes, usually once, twice hour, o'clock, half past, quarter past, quarter to clock, clock face, watch, hands hour hand, minute hand hours, minutes | same as roughly just over, just under | highest ... and so on far, near, close, ruler, metre stick |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year 2 | Days of the week, Monday, Tuesday ... months of the year (January, February ...) seasons: spring, summer, autumn, winter day, week, weekend, fortnight, month, year birthday, holiday morning, afternoon, evening, night bedtime, dinnertime, playtime today, yesterday, tomorrow before, after earlier, later next, first, last midnight date now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago? how long will it be to ...? how long will it take to ...? how often? always, never, often, sometimes, <br> $5,10,15 \ldots$ minutes past | Measure, measurement, size, compare, measuring scale, guess, estimate enough, not enough, too much, too little, too many, too few, nearly, close to, about the same as roughly just over, just under | Centimetre, metre, length, height, width, depth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, further, furthest, near, close ruler metre stick, tape measure | Litre, half litre, millilitre ,capacity, volume, full, empty, more than, less than, half full, quarter full holds, contains container temperature, degree | Kilogram, half kilogram, gram, weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales |
| Year 3 | Time days of the week, Monday, Tuesday ... months of the year (January, February <br> ...) seasons: spring, summer, autumn, winter day, week, weekend, fortnight, month, year, century, birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after earlier, later next, first, last, midnight, | Measure, measurement, size, compare, convert measuring, scale, division, guess, estimate, enough, not enough, too much, too little too many, too few nearly, close to, about the same as, | Millimetre, centimetre, metre, kilometre, length, height, width, depth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, further, | Kilogram, half kilogram, gram weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales | Litre, half litre, millilitre capacity, volume ,full, empty, more than, less than, half full, quarter full, holds, contains, container, measuring cylinder, temperature, degree centigrade |


|  | calendar, date, now, soon, early, late, earliest, latest quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest, takes longer, takes less time how long ago? how long will it be to ...? how long will it take to ...? how often? always, never, often, sometimes usually once, twice hour, o'clock, half past, quarter past, quarter to, 5, 10, 15 ... minutes past a.m., p.m, clock, clock face, watch, hands digital/analogue clock/watch, timer hour hand, minute hand hours, minutes, seconds, leap year, Roman numerals, 12-hour clock time, 24-hour clock time | approximately roughly just over, just under | furthest, near, close distance apart ... between ... to ... from ruler metre stick, tape measure, perimeter |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year 4 | Time days of the week, Monday, Tuesday ... months of the year (January, February <br> ...) seasons: spring, summer, autumn, winter day, week, weekend, fortnight, month, year, leap year, century, millennium birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after earlier, later next, first, last, noon, midnight, calendar, date, date of birth now, soon, early, late, earliest, latest quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago? how long will it be to ...? how long will it take to ...? how often? always, never, often, sometimes usually once, twice hour, o'clock, half past, quarter past, quarter to, 5, 10, 15 ... minutes past a.m., p.m. clock, clock face, watch, hands digital/analogue clock/watch, timer hour hand, minute hand hours, minutes, | Measure, measurement size, convert, compare, unit, standard unit, metric unit, measuring scale, division guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as, approximately roughly just over, just under | Millimetre, centimetre, metre, kilometre, length, height, width, depth, breadth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, further, furthest, near, close distance apart ... between ... to ... from, ruler metre stick, tape measure, perimeter, area, square centimetre (cm2 ), | Mass: big, bigger, small, smaller weight: heavy/light, heavier/lighter, heaviest/ lightest, kilogram, half kilogram, gram weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales | Litre, half litre, millilitre capacity, volume, full, empty, more than, less than, half full, quarter full, holds, contains, container, measuring cylinder, temperature degree, centigrade |


|  | seconds, timetable, arrive, depart Roman numerals, 12-hour clock time, 24hour clock time |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year 5 | Time days of the week, Monday, Tuesday ... months of the year (January, February ...) seasons: spring, summer, autumn, winter day, week, weekend, fortnight, month, year, leap year, century, millennium birthday, holiday morning, Afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after earlier, later next, first, last noon, midnight calendar, date, date of birth, now, soon, early, late, earliest, latest quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest takes longer, takes less time how long ago? how long will it be to ...? how long will it take to ...? how often? always, never, often, sometimes usually once, twice hour, o'clock, half past, quarter past, quarter to 5, 10, 15 ... minutes past a.m., p.m. clock, clock face, watch, hands digital/analogue clock/watch, timer hour hand, minute hand hours, minutes, seconds timetable, arrive, depart Roman numerals 12-hour clock time, 24-hour clock time | Measure, measurement, size, compare, convert, unit, standard unit, metric unit, imperial unit, measuring scale, division guess, estimate, enough, Not enough too much, too little | Millimetre, centimetre, metre, kilometre, mile, , foot, feet, inch, inches length, height, width, depth, breadth long, short, tall high, low wide, Narrow, thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, further, furthest, near, close distance apart ... between ... to ... from edge, perimeter area, covers square centimetre (cm2), square metre (m2), square millimetre (mm2) ruler metre stick, tape measure | Mass: big, bigger, small, smaller weight: heavy/light, heavier/lighter, heaviest/ lightest kilogram, half kilogram, gram weigh, Weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales | Litre, half litre, millilitre capacity, volume, full, empty, more than, less than, half full, quarter full, holds, contains, Container, measuring cylinder, pint, gallon, temperature, degree centigrade |


|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |

