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| **Skill** | **F2** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Questioning and enquiring Planning** | With prompting, ask a few simple questions about the world around us. | Ask simple questions about the world around us.  Begin to recognise that they can be answered in different ways (different types of enquiry including - observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources) | Ask questions about the world around us. Recognise that they can be answered in different ways ( different types of enquiry including - observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources). | Ask some relevant questions and use different types of scientific enquiries to answer them.  Begin to explore everyday phenomena and the relationships between living things and familiar environments.  Begin to develop their ideas about functions, relationships and interactions.  Begin to raise their own questions about the world around them.  Begin to make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out using secondary sources. | Ask relevant questions and use different types of scientific enquiries to answer them. Explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions.  Raise their own questions about the world around them. Make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out using secondary sources. | Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.  Begin to recognise some more abstract ideas and begin to recognise how these ideas help them to understand how the world operates.  Begin to recognise scientific ideas change and develop over time. Begin to select the most appropriate ways to answer science questions using different types of scientific enquiry (including observing changes over different periods of time, noticing patterns, grouping and classifying, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information.) | Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.  Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.  Begin to recognise more abstract ideas and begin to recognise how these ideas help them to understand how the world operates.  Begin to recognise scientific ideas change and develop over time. Select the most appropriate ways to answer science questions using different types of scientific enquiry (including observing changes over different periods of time, noticing patterns, grouping and classifying, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information.) |
| **serving, measuring ad pattern seeking** | With support, begin to observe closely, using simple equipment. | Begin to observe closely, using simple equipment.  Use simple observations and ideas to suggest answers to questions.  To observe simple changes over time and, with guidance, begin to notice patterns and relationships.  To say what I am looking for and what I am measuring.  To know how to use simple equipment safely.  Use simple measurements and equipment with support (eg hand lenses and egg timers) Begin to progress from non-standard units, reading cm, m, cl, l, °C | Observe closely, using simple equipment.  Use observations and ideas to suggest  answers to questions.  To observe changes over time and, with  guidance, begin to notice patterns and  relationships.  To say what I am looking for and what I  am measuring.  To know how to use simple equipment  safely.  Use simple measurements and  equipment with increasing independence  (eg hand lenses and egg timers)  Begin to progress from non-standard units, reading mm, cm, m, ml, l, °C | Begin to make systematic and  careful observations and, where  appropriate, take accurate measurements using standard units, using a range of equipment,  including thermometers and data loggers.  Begin to look for naturally occurring patterns and relationships and decide what data  to collect to identify them.  Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used.  Learn to use some new equipment appropriately (eg data loggers).  Begin to see a pattern in my results.  Begin to choose from a selection of equipment.  Begin to observe and measure accurately using standard units  including time in minutes and  seconds. | Make systematic and careful  observations and, where appropriate, take accurate  measurements using standard units, using a range of equipment, including thermometers and data loggers.  Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them.  Help to make decisions about what observations to make,  how long to make them for and the type of simple equipment that might be used.  Learn to use new equipment appropriately (eg data  loggers).  Can see a pattern in my results.  Can choose from a selection of equipment.  Can observe and measure accurately using standard  units including time in  minutes and seconds. | Begin to take measurements, using a range of scientific equipment, with  increasing accuracy and precision,  taking repeat readings where appropriate.  Begin to identify patterns that might  be found in the natural environment.  Begin to make their own decisions about  what observations to make, what measurements to use and how long to make them for and whether to repeat them. Choose the most appropriate equipment and explain how to use it accurately.  Begin to interpret data and find patterns.  Select equipment on my own.  Can make a set of observations and say  what the interval and range are.  Begin to take accurate and precise measurements – N, g, kg, mm, cm, mins,  seconds, cm²V, km/h, m per sec, m/ sec  Graphs – pie, line | Take measurements, using a range of scientific equipment, with increasing  accuracy and precision, taking repeat readings where appropriate.  Identify patterns that might be found in the natural environment.  Make their own decisions about what  observations to make, what measurements to use and how long to  make them for and whether to repeat  them. Choose the most appropriate equipment and explain how to use it accurately.  Can interpret data and find patterns.  Select equipment on my own.  Can make a set of observations and say  what the interval and range are.  Accurate and precise measurements –  N, g, kg, mm, cm, mins, seconds, cm²V,  km/h, m per sec, m/ sec  Graphs – pie, line, bar (Year 6) |
| **Investigating** | To begin to discuss my ideas about how  to find things out. | Perform simple tests with support.  To begin to discuss my ideas about how  to find things out.  To begin to say what happened in my  investigation. | Perform simple tests.  To discuss my ideas about how to find  things out.  To say what happened in my  investigation. | Set up some simple practical enquiries,  comparative and fair tests.  Begin to recognise when a simple fair  test is necessary and help to decide  how to set it up.  Begin to think of more than one  variable factor. | Set up simple practical enquiries,  comparative and fair tests.  Recognise when a simple fair test is  necessary and help to decide how to set  it up.  Can think of more than one variable  factor. | Begin to use test results to make  predictions to set up further  comparative and fair tests.  Begin to recognise when and how to set  up comparative and fair tests and  explain which variables need to be  controlled and why.  Begin to suggest improvements to my  method and give reasons.  Begin to decide when it is appropriate  to do a fair test. | Use test results to make predictions to  set up further comparative and fair  tests.  Recognise when and how to set up comparative and fair tests and explain  which variables need to be controlled  and why.  Suggest improvements to my method and give reasons.  Decide when it is appropriate to do a  fair test. |
| **Recording and Reporting Findings** | Gather and record data with adult  support, to help in answering questions. | Gather and record data with some adult  support, to help in answering questions.  Begin to record simple data.  Begin to record and communicate their  findings in a range of ways.  Can show my results in a simple table  that my teacher has provided. | Gather and record data to help in  answering questions.  Record simple data.  Record and communicate their findings  in a range of ways.  Can show my results in a table that my  teacher has provided. | Gather, record, and begin to classify  and present data in a variety of ways to  help in answering questions.  Begin to record findings using simple  scientific language, drawings, labelled  diagrams, keys, bar charts and tables.  Begin to report on findings from  enquiries, including oral and written  explanations, displays or presentations  of results and conclusions.  Begin to use notes, simple tables and  standard units and help to decide how  to record and analyse their data.  Begin to record results in tables and  bar charts. | Gather, record, classify and present  data in a variety of ways to help in  answering questions.  Record findings using simple scientific  language, drawings, labelled diagrams,  keys, bar charts and tables.  Report on findings from enquiries,  including oral and written explanations,  displays or presentations of results and  conclusions.  Use notes, simple tables and standard  units and help to decide how to record  and analyse their data.  Can record results in tables and bar  charts. | Begin to record data and results of  increasing complexity using  scientific diagrams and labels,  classification keys, tables and bar  and line graphs.  Begin to report and present findings  from enquiries.  Begin to decide how to record data  from a choice of familiar  approaches.  Begin to choose how best to present  data | Record data and results of increasing  complexity using scientific diagrams  and labels, classification keys, tables and bar and line graphs.  Report and present findings from enquiries.  Decide how to record data from a choice of familiar approaches.  Can choose how best to present data. |
| **Identifying, Grouping and Classifying** | Identify and classify with support. | Identify and classify with some  support.  To begin to observe and identify, compare and describe.  To begin to use simple features to compare objects, materials and living things and, with help, decide how to  sort and group them. | Identify and classify.  Observe and identify, compare and describe.  Use simple features to compare objects, materials and living things and, with help, decide how to sort and  group them. | Begin to identify differences, similarities or changes related to  simple scientific ideas and processes with support.  Begin to talk about criteria for grouping, sorting and classifying and use simple keys.  Begin to compare and group according to behaviour or properties, based on  testing. | Independently identify differences, similarities or changes related to simple scientific ideas and processes.  Talk about criteria for grouping, sorting and classifying and use simple keys.  Compare and group according to behaviour or properties, based on  testing. | Begin to use and develop keys and other  information records to identify,  classify and describe living things and  materials. | Use and develop keys and other  information records to identify,  classify and describe living things and  materials. |
| **Research** | To begin to find information  from books and computers with  help. | To begin to use simple secondary  sources to find answers.  To begin to find information to help  me from books and computers with  help. | Use simple secondary sources to find  answers.  Can find information to help me from  books and computers with help. | Begin to recognise when and  how secondary sources might  help to answer questions that  cannot be answered through  practical investigations. | Begin to recognise when and how  secondary sources might help to answer  questions that cannot be answered through practical investigations. | Begin to recognise which secondary  sources will be most useful to research  their ideas. | Recognise which secondary sources will  be most useful to research their ideas. |
| **Conclusions** | Begin to talk about what they have  found out and how they found it out. | Begin to talk about what they have  found out and how they found it out.  To begin to say what happened in my  investigation.  To begin to say whether I was  surprised at the results or not.  To begin to say what I would change  about my investigation. | Talk about what they have found out  and how they found it out.  To say what happened in my  investigation.  To say whether I was surprised at the  results or not.  To say what I would change about my  investigation. | I am beginning to use results to draw  simple conclusions, make predictions  for new values, suggest improvements  and raise further questions.  Am beginning to use straightforward  scientific evidence to answer questions  or to support their findings. With help, am beginning to look for  changes, patterns, similarities and  differences in their data in order to  draw simple conclusions and answer  questions. With support, am beginning  to identify new questions arising from  the data, make new predictions and  find ways of improving what they have  already done.  Am beginning to see a pattern in my  results.  Am beginning to say what I found out,  linking cause and effect.  Am beginning to say how I could make  it better.  Am beginning to answer questions from  what I have found out. | Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  Use straightforward scientific evidence to answer questions or to  support their findings. With help, look for changes, patterns,  similarities and differences in their  data in order to draw simple conclusions and answer questions. With support, identify new questions arising  from the data, make new predictions  and find ways of improving what they  have already done.  Can see a pattern in my results.  Can say what I found out, linking cause and effect.  Can say how I could make it better.  Can answer questions from what I have  found out. | Beginning to report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in  results, in oral and written forms such  as displays and other presentations.  Begin to identify scientific evidence  that has been used to support or refute ideas or arguments.  Begin to draw conclusions based on  their data and observations, use  evidence to justify their ideas, use  scientific knowledge and understanding  to explain their findings.  Begin to use test results to make predictions to set up further comparatives and fair tests.  Begin to look for different causal  relationships in their data and identify  evidence that refutes or supports their  ideas.  Use their results to identify when further tests and observations are needed.  Begin to separate opinion from fact.  Begin to draw conclusions and identify scientific evidence.  Can use simple models.  Know which evidence proves a scientific  point.  Begin to use test results to make predictions to set up further comparative and fair tests. | Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations  Identify scientific evidence that has been used to support or refute ideas or  arguments.  Draw conclusions based on their data  and observations, use evidence to  justify their ideas, use scientific  knowledge and understanding to explain  their findings.  Use test results to make predictions to  set up further comparatives and fair  tests.  Look for different causal relationships  in their data and identify evidence that  refutes or supports their ideas.  Use their results to identify when  further tests and observations are  needed.  Separate opinion from fact.  Can draw conclusions and identify  scientific evidence.  Can use simple models.  Know which evidence proves a scientific  point.  Use test results to make predictions to  set up further comparative and fair  tests. |
| **Vocabulary** | Begin to use some science words | Use some simple scientific language  Begin to use some science words.  Use comparative language with support. | Use simple scientific language and some  science words.  Use comparative language –  bigger, faster etc | Begin to use some scientific language to  talk and, later, write about what they  have found out.  Begin to use relevant scientific  language.  Begin to use comparative and  superlative language. | Use some scientific language to talk  and, later, write about what they have  found out.  Use relevant scientific language.  Use comparative and superlative  language | Beginning to read, spell and pronounce scientific vocabulary  correctly.  Beginning to use relevant scientific  language and illustrations to discuss,  communicate and justify scientific  ideas.  Beginning to confidently use a range  of scientific vocabulary.  Beginning to use conventions such  as trend, rogue result, support prediction and -er word generalisation.  Beginning to use scientific ideas when describing simple processes.  Beginning to use the correct science  Vocabulary. | Read, spell and pronounce scientific  vocabulary correctly.  Use relevant scientific language. And  illustrations to discuss, communicate  and justify scientific ideas.  Can confidently use a range of  scientific vocabulary.  Can use conventions such as trend,  rogue result, support prediction and -  er word generalisation.  Can use scientific ideas when  describing simple processes. Can use  the correct science vocabulary |
| **Understanding** | With support, can begin to talk about  how science helps us in our daily lives eg. torches and lights help us see hen it is dark. | Can begin to talk about how science helps us in our daily lives eg. Torches and lights help us see hen it is dark.  Beginning to understand science can sometimes be dangerous. | Can talk about how science helps us in  our daily lives eg. torches and lights  help us see hen it is dark. Beginning to understand science can sometimes be dangerous. | Begin to know which things in science have made our lives better.  Can begin to understand risk in science. | Knows which things in science have made our lives better.  Can understand there is some risk in science. | Beginning to talk about how scientific ideas have changed over time.  Beginning to explain the positive  and negative effects of scientific development.  Beginning to see how science is useful in everyday life. Beginning to say which parts of our lives rely on science. | Can talk about how scientific ideas have  changed over time.  Can explain the positive and negative  effects of scientific development.  Can see how science is useful in  everyday life.  Can say which parts of our lives rely on  science. |