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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 suggestanswers to questions.To observe changes over time and, withguidance, begin to notice patterns andrelationships.To say what I am looking for and what Iam measuring.To know how to use simple equipmentsafely.Use simple measurements andequipment 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 andcareful observations and, whereappropriate, 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 datato 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 unitsincluding time in minutes andseconds. | Make systematic and carefulobservations and, where appropriate, take accuratemeasurements 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 dataloggers).Can see a pattern in my results.Can choose from a selection of equipment.Can observe and measure accurately using standardunits including time inminutes and seconds. | Begin to take measurements, using a range of scientific equipment, withincreasing accuracy and precision,taking repeat readings where appropriate.Begin to identify patterns that mightbe found in the natural environment.Begin to make their own decisions aboutwhat 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 saywhat 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/ secGraphs – pie, line | Take measurements, using a range of scientific equipment, with increasingaccuracy and precision, taking repeat readings where appropriate.Identify patterns that might be found in the natural environment.Make their own decisions about whatobservations to make, what measurements to use and how long tomake them for and whether to repeatthem. 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 saywhat the interval and range are.Accurate and precise measurements –N, g, kg, mm, cm, mins, seconds, cm²V,km/h, m per sec, m/ secGraphs – pie, line, bar (Year 6) |
| **Investigating** | To begin to discuss my ideas about howto find things out. | Perform simple tests with support.To begin to discuss my ideas about howto find things out.To begin to say what happened in myinvestigation. | Perform simple tests.To discuss my ideas about how to findthings out.To say what happened in myinvestigation. | Set up some simple practical enquiries,comparative and fair tests.Begin to recognise when a simple fairtest is necessary and help to decidehow to set it up.Begin to think of more than onevariable factor. | Set up simple practical enquiries,comparative and fair tests.Recognise when a simple fair test isnecessary and help to decide how to setit up.Can think of more than one variablefactor. | Begin to use test results to makepredictions to set up furthercomparative and fair tests.Begin to recognise when and how to setup comparative and fair tests andexplain which variables need to becontrolled and why.Begin to suggest improvements to mymethod and give reasons.Begin to decide when it is appropriateto do a fair test. | Use test results to make predictions toset up further comparative and fairtests.Recognise when and how to set up comparative and fair tests and explainwhich variables need to be controlledand why.Suggest improvements to my method and give reasons.Decide when it is appropriate to do afair test. |
| **Recording and Reporting Findings** | Gather and record data with adultsupport, to help in answering questions. | Gather and record data with some adultsupport, to help in answering questions.Begin to record simple data.Begin to record and communicate theirfindings in a range of ways.Can show my results in a simple tablethat my teacher has provided. | Gather and record data to help inanswering questions.Record simple data.Record and communicate their findingsin a range of ways.Can show my results in a table that myteacher has provided. | Gather, record, and begin to classifyand present data in a variety of ways tohelp in answering questions.Begin to record findings using simplescientific language, drawings, labelleddiagrams, keys, bar charts and tables.Begin to report on findings fromenquiries, including oral and writtenexplanations, displays or presentationsof results and conclusions.Begin to use notes, simple tables andstandard units and help to decide howto record and analyse their data.Begin to record results in tables andbar charts. | Gather, record, classify and presentdata in a variety of ways to help inanswering questions.Record findings using simple scientificlanguage, drawings, labelled diagrams,keys, bar charts and tables.Report on findings from enquiries,including oral and written explanations,displays or presentations of results andconclusions.Use notes, simple tables and standardunits and help to decide how to recordand analyse their data.Can record results in tables and barcharts. | Begin to record data and results ofincreasing complexity usingscientific diagrams and labels,classification keys, tables and barand line graphs.Begin to report and present findingsfrom enquiries.Begin to decide how to record datafrom a choice of familiarapproaches.Begin to choose how best to presentdata | Record data and results of increasingcomplexity using scientific diagramsand 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 somesupport.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 tosort 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 andgroup them. | Begin to identify differences, similarities or changes related tosimple 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 ontesting. | 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 ontesting. | Begin to use and develop keys and otherinformation records to identify,classify and describe living things andmaterials. | Use and develop keys and otherinformation records to identify,classify and describe living things andmaterials. |
| **Research** | To begin to find informationfrom books and computers withhelp. | To begin to use simple secondarysources to find answers.To begin to find information to helpme from books and computers withhelp. | Use simple secondary sources to findanswers.Can find information to help me frombooks and computers with help. | Begin to recognise when andhow secondary sources mighthelp to answer questions thatcannot be answered throughpractical investigations. | Begin to recognise when and howsecondary sources might help to answerquestions that cannot be answered through practical investigations. | Begin to recognise which secondarysources will be most useful to researchtheir ideas. | Recognise which secondary sources willbe most useful to research their ideas. |
| **Conclusions** | Begin to talk about what they havefound out and how they found it out. | Begin to talk about what they havefound out and how they found it out.To begin to say what happened in myinvestigation.To begin to say whether I wassurprised at the results or not.To begin to say what I would changeabout my investigation. | Talk about what they have found outand how they found it out.To say what happened in myinvestigation.To say whether I was surprised at theresults or not.To say what I would change about myinvestigation. | I am beginning to use results to drawsimple conclusions, make predictionsfor new values, suggest improvementsand raise further questions.Am beginning to use straightforwardscientific evidence to answer questionsor to support their findings.With help, am beginning to look forchanges, patterns, similarities anddifferences in their data in order todraw simple conclusions and answerquestions. With support, am beginningto identify new questions arising fromthe data, make new predictions andfind ways of improving what they havealready done.Am beginning to see a pattern in myresults.Am beginning to say what I found out,linking cause and effect.Am beginning to say how I could makeit better.Am beginning to answer questions fromwhat 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 tosupport their findings.With help, look for changes, patterns,similarities and differences in theirdata in order to draw simple conclusions and answer questions. With support, identify new questions arisingfrom the data, make new predictionsand find ways of improving what theyhave 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 havefound out. | Beginning to report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust inresults, in oral and written forms suchas displays and other presentations.Begin to identify scientific evidencethat has been used to support or refute ideas or arguments.Begin to draw conclusions based ontheir data and observations, useevidence to justify their ideas, usescientific knowledge and understandingto explain their findings.Begin to use test results to make predictions to set up further comparatives and fair tests.Begin to look for different causalrelationships in their data and identifyevidence that refutes or supports theirideas.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 scientificpoint.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 presentationsIdentify scientific evidence that has been used to support or refute ideas orarguments.Draw conclusions based on their dataand observations, use evidence tojustify their ideas, use scientificknowledge and understanding to explaintheir findings.Use test results to make predictions toset up further comparatives and fairtests.Look for different causal relationshipsin their data and identify evidence thatrefutes or supports their ideas.Use their results to identify whenfurther tests and observations areneeded.Separate opinion from fact.Can draw conclusions and identifyscientific evidence.Can use simple models.Know which evidence proves a scientificpoint.Use test results to make predictions toset up further comparative and fairtests. |
| **Vocabulary** | Begin to use some science words | Use some simple scientific languageBegin to use some science words.Use comparative language with support. | Use simple scientific language and somescience words.Use comparative language –bigger, faster etc | Begin to use some scientific language totalk and, later, write about what theyhave found out.Begin to use relevant scientificlanguage.Begin to use comparative andsuperlative language. | Use some scientific language to talkand, later, write about what they havefound out.Use relevant scientific language.Use comparative and superlativelanguage | Beginning to read, spell and pronounce scientific vocabularycorrectly.Beginning to use relevant scientificlanguage and illustrations to discuss,communicate and justify scientificideas.Beginning to confidently use a rangeof scientific vocabulary.Beginning to use conventions suchas trend, rogue result, support prediction and -er word generalisation.Beginning to use scientific ideas when describing simple processes. Beginning to use the correct scienceVocabulary. | Read, spell and pronounce scientificvocabulary correctly.Use relevant scientific language. Andillustrations to discuss, communicateand justify scientific ideas.Can confidently use a range ofscientific vocabulary.Can use conventions such as trend,rogue result, support prediction and -er word generalisation.Can use scientific ideas whendescribing simple processes. Can usethe correct science vocabulary |
| **Understanding** | With support, can begin to talk abouthow 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 inour daily lives eg. torches and lightshelp 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 positiveand 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 havechanged over time.Can explain the positive and negativeeffects of scientific development.Can see how science is useful ineveryday life.Can say which parts of our lives rely onscience. |