

Working Scientifically Skills Ideas, Questions, Planning and Resources

| Year Group | Key Skills |
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| Nursery | <ul style="list-style-type: none"> Understand 'why' questions, like: "Why do you think the caterpillar got so fat?" Talk about what they see, using a wide vocabulary. Use one-handed tools and equipment |
| Reception | <ul style="list-style-type: none"> Ask questions to find out more and to check what has been said to them. Articulate their ideas and thoughts in well-formed sentences. Make comments about what they have heard and ask questions to clarify their understanding Learn new vocabulary. Articulate their ideas and thoughts in well-formed sentences. Describe events in some detail. Use talk to work out problems and organise thinking and activities. Explain how things work and why they might happen. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. |
| Y1 | <ul style="list-style-type: none"> asks simple questions and recognises that they can be answered in different ways recognises scientific and technical developments that help us at in school. performs simple tests with guidance, suggests what they will do with guidance, identifies things to measure or observe that are relevant to the question uses resources provided or chosen from a limited range uses simple measurements and equipment to gather data suggests why a test is unfair with support |
| Y2 | <ul style="list-style-type: none"> can ask questions and recognises that they can be answered in different ways recognises scientific and technical developments that help us in our local area performs simple tests with some guidance, suggests what they will do with some guidance, identifies things to measure or observe that are relevant to the question uses resources provided or chosen from a limited range with developing independence uses familiar measurements and equipment to gather data suggests why a test is unfair |
| Y3 | <ul style="list-style-type: none"> asks relevant questions and uses, with support, different types of scientific enquiries to answer them explains the purposes of a variety of scientific and technological developments sets up simple practical enquiries, comparative and fair tests with support begins to make decisions about what observations to make and how long to make them for begins to choose the type of simple equipment that might be used from a reasonable range with support, uses appropriate equipment and measurements with reasonable accuracy with support, recognises when a simple fair test is needed with help, decides how to set up a fair test and control variables |
| Y4 | <ul style="list-style-type: none"> asks relevant questions and uses different types of scientific enquiries to answer them explains the purposes of a variety of scientific and technological development including those specific to their units of knowledge e.g. electricity sets up simple practical enquiries, comparative and fair tests makes decisions about what observations to make and how long to make them for chooses the type of simple equipment that might be used from a reasonable range uses appropriate equipment and measurements with increasing accuracy recognises when a simple fair test is needed decides how to set up a fair test and control variables, using a planning frame to support. |
| Y5 | <ul style="list-style-type: none"> uses their scientific experiences to explore ideas and raise different types of questions talks about how scientific ideas have developed over time beginning to recognise the applications of specific scientific ideas beginning to select and plan different types of scientific enquiries to answer question makes decisions about what observations to make, what measurements to use, how long to make them for and whether to repeat them beginning to choose the most appropriate equipment to make measurements with support, can explain how to use the equipment accurately beginning to recognise when and how to set up comparative and fair tests beginning to recognise and controls variables where necessary (e.g. with support, can explain which variables need to be controlled and why) |
| Y6 | <ul style="list-style-type: none"> uses their scientific experiences to explore and generate ideas and raise different types of questions talks about how and why scientific ideas have developed over time recognises the applications of specific scientific ideas selects and plans different types of scientific enquiries to answer question makes decisions about what observations to make, what measurements to use, how long to make them for and whether to repeat them and can explain their reasoning chooses the most appropriate equipment to make measurements explains how to use the equipment recognises when and how to set up comparative and fair tests recognises and controls variables where necessary (e.g. explains which variables need to be controlled and why) |