

Subject	Identifying Highly Able Pupils
Science	<p>Pupils who are highly able in science are likely to:</p> <ul style="list-style-type: none"> • be imaginative • read widely, particularly science or science fiction • have scientific hobbies and/or be members of scientific clubs and societies • be extremely interested in finding out more about themselves and things around them • enjoy researching obscure facts and applying scientific theories, ideas and models when explaining a range of phenomena • be able to sustain their interest and go beyond an obvious answer to underlying mechanisms and greater depth • be inquisitive about how things work and why things happen (they may be dissatisfied with simplified explanations and insufficient detail) • ask many questions, suggesting that they are willing to hypothesise and speculate • use different strategies for finding things out (practical and intellectual) -- they may be able to miss out steps when reasoning the answers to problems • think logically, providing plausible explanations for phenomena (they may be methodical in their thinking, but not in their recording) • put forward objective arguments, using combinations of evidence and creative ideas, and question other people's conclusions (including their teacher's!) • decide quickly how to investigate fairly and manipulate variables • consider alternative suggestions and strategies for investigations • analyse data or observations and spot patterns easily • strive for maximum accuracy in measurements of all sorts, and take pleasure, for example, from reading gauges as accurately as possible (sometimes beyond the accuracy of the instrument) • make connections quickly between facts and concepts they have learned, using more extensive vocabulary than their peers • think abstractly at an earlier age than usual and understand models and use modelling to explain ideas and observations. Pupils may be willing to apply abstract ideas in new situations; pupils may be able to use higher-order mathematical skills such as proportionality, ratio and equilibrium with some complex abstract ideas when offering explanations • understand the concepts of reliability and validity when drawing conclusions from evidence • be easily bored by over-repetition of basic ideas • enjoy challenges and problem solving, while often being self-critical • enjoy talking to the teacher about new information or ideas • be self-motivated, willingly putting in extra time -- (but they may approach undemanding work casually and carelessly) • show intense interest in one particular area of science (such as astrophysics), to the exclusion of other topics.