# Science survey visits

## Generic grade descriptors and supplementary subject-specific guidance for inspectors on making judgements during visits to schools

Inspectors visit 150 schools each year to inform Ofsted's subject surveys in English, mathematics and science. Survey visits for other subjects are less frequent but continue to take place from time to time.

Where applicable, subject feedback letters, which are sent following survey visits, normally contain separate judgements on:

- the overall effectiveness of the subject
- the achievement of pupils in the subject
- the quality of teaching in the subject
- the quality of the subject curriculum
- the quality of leadership in, and management of, the subject.

In reaching these judgements, inspectors draw on the criteria and grade descriptors from the September 2012 school inspection handbook as they can be applied to individual subjects. Key elements of these descriptors are set out in the guidance below. Alongside them are supplementary, subject-specific descriptors to provide additional guidance for schools and inspectors. This includes guidance on the quality of the curriculum in the subject.

This supplementary guidance is not for use on Section 5 whole-school inspections.

Version 1.0 – October 2012

# Grade descriptors – the overall effectiveness of science education provided in the school

*Note: These descriptors should not be used as a checklist. They must be applied adopting a 'best fit' approach which relies on the professional judgement of the inspector.*

**Outstanding (1)**

- Science teaching is outstanding and, together with a rich, interesting and relevant science curriculum, contributes to outstanding learning and achievement. Exceptionally, achievement in science may be good and rapidly improving.
- Pupils, and particular groups of pupils, have excellent educational experiences in science and these ensure that they are very well equipped for the next stage of their education, training or employment.
- Pupils' high levels of literacy, appropriate to their age, contribute to their outstanding learning and achievement.
- Practice in science consistently reflects the highest expectations of staff and the highest aspirations for pupils, including disabled pupils and those with special educational needs.
- Best practice is spread effectively in a drive for continuous improvement.
- The subject makes an outstanding contribution to pupils' spiritual, moral, social and cultural development.

**Good (2)**

- Pupils benefit from science teaching that is at least good and some that is outstanding. This promotes positive attitudes to learning and ensures that pupils' achievement in science is at least good.
- Pupils and particular groups of pupils have effective educational experiences in science that ensure that they are well prepared for the next stage in their education, training or employment.
- Pupils' progress is not held back by an inability to read accurately and fluently.
- The school takes effective action as a result of accurate monitoring and evaluation that enables most pupils, including disabled pupils and those with special educational needs, to reach their potential in science.
- The subject makes a good contribution to pupils' spiritual, moral, social and cultural development.

**Requires improvement (3)**

- Science in the school requires improvement because one or more of the key judgements for achievement; behaviour and safety (in science); the quality of teaching; the curriculum; and the quality of leadership and management of science requires improvement (grade 3).

**Inadequate (4)**

Science in the school is likely to be inadequate if inspectors judge any of the following to be inadequate:

- the achievement of pupils in science
- the behaviour and safety of pupils in science*
- the quality of teaching in science
- the quality of the curriculum in science
- the quality of the leadership in, and management of, science.

*Evidence from classroom observations and discussions with pupils and staff indicate that unsafe behaviour, misuse of practical equipment or poor compliance with the school's behaviour code occurs in one or more lessons.

# Grade descriptors – achievement of pupils in science

*Note: These descriptors should not be used as a checklist. They must be applied adopting a 'best fit' approach which relies on the professional judgement of the inspector.*

| **Generic**[1] | **Supplementary subject-specific guidance** |
|---|---|
| **Outstanding (1)**<br>■ Taking account of their different starting points, the proportions of pupils making and exceeding expected progress are high compared with national figures.[2]<br>■ Pupils make rapid and sustained progress throughout year groups and learn exceptionally well. They are exceptionally well prepared for the next stage in their education, training or employment.<br>■ Pupils, including those in the sixth form and those in the Early Years Foundation Stage, acquire knowledge quickly and develop their understanding rapidly.<br>■ The learning, quality of work and progress of groups of pupils, particularly disabled pupils, those with special educational needs, and those for whom the Pupil Premium provides support, show that they achieve exceptionally well.<br>■ The standards of attainment of almost all groups of pupils are likely to be at least in line with national averages with many pupils attaining above this. In exceptional circumstances, an outstanding grade can be awarded where standards of attainment of any group of pupils are below those of all pupils nationally, but the gap is closing rapidly, as shown by trends in a range of attainment indicators. | **Outstanding (1)**<br>■ Pupils show exceptional independence; they are able to think for themselves and raise their own questions about science knowledge and understanding and scientific enquiry.<br>■ They are confident and competent in the full range of stage-related practical skills, taking the initiative in, for example, planning and carrying out their own scientific investigations.<br>■ Pupils frequently use their scientific knowledge and understanding very effectively in written and verbal explanations, solving challenging problems and reporting scientific findings formally.<br>■ They work constructively with other pupils, demonstrating common understanding in discrete well-focused roles, with all playing a part in successful investigations.<br>■ They show high levels of originality, imagination or innovation in their understanding and application of skills.<br>■ Practical work incorporates a variety of contexts, including fieldwork, in which pupils make decisions about investigations and ways of researching contemporary issues and understand the impact of science on society.<br>■ They develop a sense of passion and commitment to science, showing strong application and enthusiasm to learn more through scientific endeavour. |
| **Good (2)**<br>■ Taking account of their different starting points, the proportions of pupils making and exceeding expected progress compare favourably with national figures. Where the proportion making expected progress overall is lower than that found nationally, it is improving over a sustained period.<br>■ Progress across year groups is consistently strong and evidence in pupils' work indicates that they achieve well.<br>■ Pupils read widely and often.<br>■ Pupils acquire knowledge and develop | **Good (2)**<br>■ Pupils regularly work independently, often taking the initiative in individual work and when working with others.<br>■ They show confidence and competence in the full range of stage-appropriate practical work, including planning and carrying out science investigations in groups or individually.<br>■ Pupils use their scientific knowledge and understanding well in most situations to give accurate explanations or solve challenging problems requiring appropriate control of several |

[1] The descriptors are set out in full in the *School inspection handbook*.

[2] Expected progress is defined by the government as two National Curriculum levels of progress between Key Stages 1 and 2 and three National Curriculum levels of progress between Key Stages 2 and 4.
Progress from age-related expectations at the beginning of Nursery, to age-related expectations at the beginning of Reception, on to the end of Reception where they can be compared with the Early Years Foundation Stage Profile national figures is likely to represent expected progress during the Early Years Foundation Stage.
Expected progress for pupils attaining below Level 1 of the National Curriculum at the end of Key Stages 1 or 2 is explained in subsidiary guidance.

| Generic[1] | Supplementary subject-specific guidance |
|---|---|
| understanding quickly and securely. They develop and apply a wide range of skills, in reading, writing, communication and mathematics. This ensures that they are well prepared for the next stage in their education, training or employment.<br>■ The learning and progress of groups of pupils, particularly disabled pupils, those with special educational needs, and those for whom the Pupil Premium provides support, are good.<br>■ Where attainment, including attainment in reading in primary schools, is low overall, it is improving at a faster rate than nationally, over a sustained period. | variables, and report their findings clearly using accurate scientific language.<br>■ They research science issues using different sources of information. They demonstrate some originality in their approach, coming up with new ideas on how to tackle a problem or display data. They show imagination in forming hypotheses and in the way they go about their science work.<br>■ Pupils enjoy science and apply themselves well. They are able to explain the subject's value and show an appreciation of the impact of science on society and its contribution to life in a technological age. |
| **Requires improvement (3)**<br>■ Pupils' achievement requires improvement as it is not good. | **Requires improvement (3)**<br>■ Pupils are generally dependent on their teachers, particularly when the teaching methods used do not encourage independent thought.<br>■ They show average attainment in a range of practical work.<br>■ Pupils use scientific knowledge and understanding to give reasonable explanations or solve straightforward problems involving two or three variables. They can report their findings but are not always using accurate scientific terminology.<br>■ They are generally interested in the subject but show limited enthusiasm for acquiring greater knowledge and understanding of science. |
| **Inadequate (4)**<br>■ Achievement is likely to be inadequate if any of the following apply.<br>■ Pupils overall, or particular groups of pupils, are consistently making less than expected progress given their starting points.<br>■ Pupils' learning and progress in any key stage, including the sixth form or the Early Years Foundation Stage, indicate they are underachieving.<br>■ Disabled pupils, those with special educational needs and those for whom the Pupil Premium provides support, are underachieving.<br>■ Pupils' communication skills (including reading and/or writing) or proficiency in mathematics are not sufficiently strong for them to succeed in the next stage of education, training or employment.<br>■ Attainment is consistently below floor standards or is in decline and shows little, fragile or inconsistent improvement.[3]<br>■ There are wide gaps in the attainment and/or the learning and progress of different groups. | **Inadequate (4)**<br>■ Pupils rarely work independently or take the initiative in their work.<br>■ They have weak practical skills, or have a limited range of such skills. They do not plan and carry out scientific investigations for themselves.<br>■ Pupils do not work well with others, and do not know how different roles can contribute to successful outcomes in research or in scientific enquiry.<br>■ They do not use their scientific knowledge and understanding to give explanations or solve problems.<br>■ Pupils lack interest and enthusiasm for the subject and cannot describe the relevance of science to a technological age. |

[3] Floor standards refer to the expected levels of performance set by the government in relation to standards of attainment at Key Stages 2 and 4 and the proportion of pupils exceeding the threshold for the number of National Curriculum levels of progress made in English and mathematics between Key Stages 1 and 2 or between Key Stages 2 and 4.

## Grade descriptors[4] – quality of teaching in science

*Note: These descriptors should not be used as a checklist. They must be applied adopting a 'best fit' approach which relies on the professional judgement of the inspector.*

| Generic | Supplementary subject-specific guidance |
|---|---|
| **Outstanding (1)**<br>■ Much of the teaching in all key stages is outstanding and never less than consistently good. As a result, almost all pupils, including disabled pupils, those with special educational needs and those for whom the Pupil Premium provides support, are making rapid and sustained progress.<br>■ All teachers have consistently high expectations of all pupils. They plan and teach lessons that enable pupils to learn exceptionally well across the curriculum.<br>■ Teachers systematically and effectively check pupils' understanding throughout lessons, anticipating where they may need to intervene and doing so with notable impact on the quality of learning.<br>■ The teaching of reading, writing, communication and mathematics is highly effective and cohesively planned and implemented across the curriculum.<br>■ Teachers and other adults generate high levels of engagement and commitment to learning.<br>■ Consistently high-quality marking and constructive feedback from teachers ensure that pupils make rapid gains.<br>■ Teachers use well-judged and often inspirational teaching strategies, including setting appropriate homework, which together with sharply focused and timely support and intervention, match individual needs accurately. Consequently, pupils learn exceptionally well. | **Outstanding (1)**<br>■ Teachers expect pupils to operate as scientists, engaging fully in practical work using science skills, knowledge and understanding to inform their work.<br>■ Teachers have a high level of competence and expertise in terms of their specialist knowledge which they use effectively to help pupils go beyond the limits of the National Curriculum or examination specification.<br>■ Teachers' responses to pupils' questions are accurate and effective at stimulating further thought. Their confidence extends to all areas of science taught, and in secondary schools, not just in their specialist subject. This stimulates pupils' inquisitiveness.<br>■ Teachers have a very clear understanding of how science is learnt best, using the scientific phenomenon itself as the core focus of lessons. This includes scientific investigation and practical work, including fieldwork; research using a range of resources; evaluation; discussion; and opportunities for pupils to deliver high-quality presentations.<br>■ Teachers use a very wide range of innovative and imaginative resources including local contexts, coupled to well-chosen teaching strategies designed to stimulate pupils' active participation in their learning and secure outstanding progress across all aspects of the subject. |

[4] These grade descriptors describe the quality of teaching in the subject as a whole, taking account of evidence over time. While they include some characteristics of individual lessons, they are not designed to be used to judge individual lessons.

| Generic | Supplementary subject-specific guidance |
|---|---|
| **Good (2)**<br>■ Teaching is usually good, with examples of some outstanding teaching. As a result, most pupils and groups of pupils, including disabled pupils, those with special educational needs, and those for whom the Pupil Premium provides support, make good progress and achieve well over time.<br>■ Teachers have high expectations. They plan and teach lessons that deepen pupils' knowledge and understanding and enable them to develop a range of skills.<br>■ Teachers listen to, carefully observe and skilfully question pupils during lessons in order to reshape tasks and explanations to improve learning.<br>■ Reading, writing, communication and mathematics are taught effectively.<br>■ Teachers and other adults create a positive climate for learning in their lessons and pupils are interested and engaged.<br>■ Teachers assess pupils' learning and progress regularly and accurately. They ensure that pupils know how well they have done and what they need to do to improve.<br>■ Effective teaching strategies, including setting appropriate homework, and appropriately targeted support and intervention are matched well to most pupils' individual needs, including those most and least able, so that pupils learn well in lessons. | **Good (2)**<br>■ Teachers use a range of relevant contexts to exemplify the value of science and its impact on society. These examples engage pupils' interest and hone their understanding of research and the application of scientific skills.<br>■ They ensure that pupils engage well in practical work including fieldwork. Teachers have a confident level of specialist expertise which they use well in planning and teaching their subject, using accurate assessment of individual pupils' prior knowledge and understanding.<br>■ Teachers respond well to pupils' questions, using effective dialogue that stimulates further discussion. Pupils have frequent opportunities for research using books and the internet. They are taught how to summarise and present their research as part of developing their literacy and communication skills.<br>■ Teachers have a clear understanding of progression in science skills, knowledge and understanding and how the 'big ideas' of science can be understood through increasingly demanding details and concepts. As a result, they use an appropriate range of resources and teaching strategies to promote good learning across all aspects of the subject.<br>■ Teachers give pupils many opportunities to show and apply their own knowledge, skills and understanding of science, and give extended explanations. |
| **Requires improvement (3)**<br>■ Teaching requires improvement as it is not good. | **Requires improvement (3)**<br>■ Teachers' planning ensures that pupils are active participants in learning, including through pupils' application in practical work.<br>■ They use targeted questions to promote thinking and contributions from pupils that extend their scientific knowledge, understanding and skills.<br>■ Teachers have sufficient subject expertise and use this to inform planning and teaching. As a result, they use a range of resources and teaching strategies to promote reasonable learning across most aspects of the subject.<br>■ Marking usually provides guidance for pupils on how to improve their work, but this is not regularly followed up.<br>■ Lesson plans rely on differentiation by outcome, rather than by tasks assigned to particular pupils based on their prior knowledge.<br>■ Teachers give limited responses to pupils' questions. Methods of assessing scientific knowledge, skills and understanding are limited to closed questions in written tests. |

| Generic | Supplementary subject-specific guidance |
|---|---|
| **Inadequate (4)**<br>■ Teaching is likely to be inadequate where any of the following apply.<br>■ As a result of weak teaching over time, pupils or particular groups of pupils including disabled pupils and those with special educational needs, and those for whom the Pupil Premium provides support, are making inadequate progress.<br>■ Teachers do not have sufficiently high expectations and teaching over time fails to engage or interest particular groups of pupils, including disabled pupils and those with special educational needs.<br>■ Learning activities are not sufficiently well matched to the needs of pupils. | **Inadequate (4)**<br>■ Teaching fails to engage pupils' interest in science. The content of science lessons is not often in contexts that relate to pupils' lives and the relevance of science is not made apparent.<br>■ Too much lesson time is spent conveying information to pupils, resulting in all pupils recording identical content by copying or dictation. Consequently, marking is limited to presentational comment.<br>■ Assessment information does not inform lesson planning. Schemes of work are not differentiated for different teaching sets.<br>■ Teachers are not applying the schools' cross-curricular literacy, numeracy and ICT policies.<br>■ Teachers have low expectations of pupils' engagement in practical work and therefore limit their opportunities to do it.<br>■ Teaching strategies result in pupils being too passive with little opportunity for pupils to contribute their own understanding and ideas in lessons.<br>■ Teachers' subject expertise is limited and does not cover the required breadth of the science curriculum. As a result, they do not provide the resources or teaching strategies to promote effective subject learning and they give inadequate responses to pupils' questions. |

# Grade descriptors – quality of the curriculum in science

*Note: These descriptors should not be used as a checklist. They must be applied adopting a 'best fit' approach which relies on the professional judgement of the inspector.*

**Outstanding (1)**

- The imaginative and stimulating science curriculum is skilfully designed to match the full range of pupils' needs and to ensure highly effective continuity and progression in their learning. The curriculum equips pupils in all year groups with an excellent balance of subject knowledge and understanding, and the skills of scientific enquiry, across the three main areas of biology, chemistry and physics.
- An excellent range of learning opportunities involves pupils frequently in scientific enquiry, practical work, fieldwork, research, use of ICT, individual and group work, discussions, modelling and evaluation.
- The contexts in which science is taught are relevant to pupils' lives, capture their interest and reflect current science from the worlds of industry, research and other science-based endeavours such as health care.
- The non-statutory entitlement to enable all pupils with Key Stage 3 science to attain Level 6 and above that would benefit study of triple science GCSEs.
- There are productive links with other subjects in the school, including with mathematics, design technology and English.
- Excellent links with other agencies and the wider community provide a wide range of enrichment activities to promote pupils' learning and engagement with the subject. These might include science-based clubs and ought to include visits to sites where science is at the heart of the activities. Enrichment is also provided, for example, by visiting speakers on scientific issues and science professionals who share their relevant experiences with pupils that build on the highly engaging and relevant learning experiences of science lessons.
- Rigorous planning for pupils' spiritual, moral, social and cultural development ensures all pupils experience the full wonder of the universe.

**Good (2)**

- The curriculum is broad, balanced and well informed by current research and development in science education. It meets the learning needs of all groups of pupils and ensures effective continuity and progression, including in scientific enquiry and pupils' understanding of how science works.
- Planned experiences for learning promote progress within and between year groups, and maintain a good balance between all four areas of the science National Curriculum. In primary schools, key ideas are regularly reinforced over time. In secondary schools, sufficient time and resources to teach science through practical investigation and illustration are provided, with the result that pupils are motivated to study the subject further.
- Good links are forged with other subjects and the wider community to provide a range of enrichment activities to promote pupils' learning and engagement with science. These include science-based clubs, visits to science sites in the community and a programme of visiting speakers from science-based industries and services to build on the engaging and relevant learning experiences of science lessons.
- Good advice and guidance on progression in science beyond compulsory education is embedded in the curriculum, and pathways do not limit progression. Opportunities to promote spiritual, moral, social and cultural development are systematically planned and delivered to ensure every pupil benefits.
- The statutory entitlement for all pupils to study science courses leading to at least two GCSEs is met. Specifically, this includes either science GCSE and additional science GCSE, or triple science GCSE.

**Requires improvement (3)**

- The curriculum provides a programme of activities that promotes a continuous development of learning in all four areas of the National Curriculum for science.
- It provides for a range of pupils' needs and ensures they make at least average progress in their learning.
- The range of learning experiences provided promotes progress in scientific knowledge, understanding and practical skills.
- Some science-related links are forged with other agencies and the wider community, although the range of activity provided to enrich pupils' interest and learning may be limited.
- The curriculum ensures the subject contributes to pupils spiritual, moral, social and cultural development.

**Inadequate (4)**

- The curriculum does not deliver the statutory National Curriculum programmes of study.
- It does not secure continuity in pupils' learning. Long gaps of several weeks between science lessons do not allow pupils to embed understanding, or reinforce practical skills before they are forgotten.
- Pupils rarely carry out their own practical investigations, because of poor teaching, lack of practical resources, or lack of teaching time. Where practical work does occur, it is limited to following instructions.
- Learning across the four areas of the National Curriculum for science is unbalanced and learning experiences do not secure progression in scientific knowledge, understanding and/or practical skills.
- There are no suitable progression routes into science for pupils at 16+.
- There are no links between science and other subjects.
- Science lessons do not contribute to developing literacy and numeracy.
- There is little by way of enrichment activity in the subject. There are only weak connections between the science experiences planned and the lives of pupils. This results in low levels of engagement and enjoyment and the science taught has little relevance to pupils.
- Opportunities to promote spiritual, moral, social and cultural development are missed.

# Grade descriptors – quality of leadership in, and management of, science

*Note: These descriptors should not be used as a checklist. They must be applied adopting a 'best fit' approach which relies on the professional judgement of the inspector.*

| Generic | Supplementary subject-specific guidance |
|---|---|
| **Outstanding (1)**<br>■ The pursuit of excellence is demonstrated by an uncompromising and highly successful drive to strongly improve, or maintain, the highest levels of achievement and personal development for all pupils over a sustained period of time.<br>■ All leaders and managers, including those responsible for governance, are highly ambitious for the pupils and lead by example. They base their actions on a deep and accurate understanding of the school's performance, and of staff and pupils' skills and attributes.<br>■ There are excellent policies which ensure that pupils have high levels of literacy, or pupils are making excellent progress in literacy.<br>■ Leaders focus relentlessly on improving teaching and learning and provide focused professional development for all staff, especially those that are newly qualified and at an early stage of their careers. This is underpinned by highly robust performance management which encourages, challenges and supports teachers' improvement. As a result, teaching is outstanding, or at least consistently good and improving.<br>■ The school's curriculum provides highly positive experiences and rich opportunities for high-quality learning. It has a very positive impact on all pupils' behaviour and safety, and contributes very well to pupils' academic achievement and their spiritual, moral, social and cultural development.<br>■ Staff model professional standards in all of their work and demonstrate high levels of respect and courtesy for pupils and others.<br>■ Through highly effective, rigorous planning and controls, governors ensure financial stability, including the effective and efficient management of financial resources such as the Pupil Premium funding. This leads to the excellent deployment of staff and resources to the benefit of all groups of pupils. | **Outstanding (1)**<br>■ Leadership is informed by a high level of science expertise and vision and is improving the performance and practice of members of the department (secondary) or school as a whole (primary).<br>■ Science teaching embraces whole-school policies on literacy and numeracy and the subject systematically contributes strongly to improving these aspects.<br>■ There is a strong track record of innovation and this is recognised and shared in the department to promote raising standards. Subject review, self-evaluation and improvement planning are well-informed by current best practice in science education. This may involve participation in debate and developments with other science providers in a wider area.<br>■ Subject leadership inspires confidence and whole-hearted commitment from pupils and colleagues. There are effective strategies to delegate subject responsibilities where appropriate, share good practice and secure high-quality professional development in the subject.<br>■ Continuing professional development is well-targeted and thoroughly evaluated for its impact. It includes up-to-date training for technical support staff, and a current understanding of health and safety matters relating to science teaching.<br>■ Resources, including teaching time, practical facilities and staff professional development, match the ambition and expectations of staff for high achievement and the future success of pupils in science. |

| Generic | Supplementary subject-specific guidance |
|---|---|
| **Good (2)**<br>■ Key leaders and managers, including those responsible for governance, consistently communicate high expectations and ambition.<br>■ Teaching is good and/or improving strongly as a result of accurate monitoring, effective performance management and professional development, which are closely matched to the needs of the school and staff.<br>■ Self-evaluation is robust and the school's actions are carefully planned, concerted and effective.<br>■ The well-thought-out policies ensure that pupils make at least good progress in literacy.<br>■ The quality of teaching and pupils' achievement have improved, or previous good performance in these areas has been consolidated.<br>■ The school's curriculum provides well-organised and effective opportunities for learning for all groups of pupils, including disabled pupils and those with special educational needs. It promotes positive behaviour and a good understanding of safety matters and provides a broad range of experiences that contribute well to pupils' achievement and to their spiritual, moral, social and cultural development.<br>■ Governors ensure the efficient management of financial resources. This leads to the effective deployment of staff and resources. | **Good (2)**<br>■ Leadership is well-informed by current developments in the subject and is aware of developments in science education, including in other schools and by national agencies and associations.<br>■ Subject reviews, self-evaluation and improvement planning are successfully focused on raising attainment and improving the provision for the subject. They are carried out systematically and the outcomes communicated effectively to all science staff so that there is a common understanding of issues and priorities.<br>■ There are shared common purposes and priorities among those involved in teaching science. Teachers have good opportunities to share practice among themselves and have access to subject training within and beyond the boundaries of the school, where appropriate. Science reflects wider whole-school priorities including consistent application of literacy and numeracy policies.<br>■ Subject leaders ensure that health and safety information is up-to-date and understood by colleagues. |
| **Requires improvement (3)**<br>■ Leadership and/or management require improvement because they are not good but are demonstrating the capacity to secure improvement in the school. | **Requires improvement (3)**<br>■ Leaders are aware of current developments in the subject and incorporate these with some success.<br>■ Science leaders may not have a clear plan to contribute to literacy and numeracy learning.<br>■ The understanding by science teachers of current developments in planning of provision may not be consistent.<br>■ Provision for the subject is monitored and reviewed regularly and there is some understanding of the strengths and priorities for improvement.<br>■ Strategies for improvement are not sufficiently focused on securing measurable outcomes and, where necessary, improvements in pupils' achievement.<br>■ Leadership ensures appropriate balance in the teaching of biology, chemistry and physics, with sufficient time allocated.<br>There is some sharing of good practice although this may not address all the needs of the department effectively.<br>■ Provision for subject-specific professional development and opportunities to share best practice across all teaching are limited. |

| Generic | Supplementary subject-specific guidance |
|---|---|
| **Inadequate (4)**<br>Leadership and management are likely to be inadequate if any of the following apply.<br>■ Capacity for securing further improvement is limited because current leaders and managers have been ineffective in securing essential improvements.<br>■ Improvements which have been made are fragile, too slow or are dependent on external support.<br>■ Self-evaluation lacks rigour and is inaccurate in its conclusions so that leadership and management do not have a realistic view of outcomes or provision.<br>■ Leaders and managers are not taking sufficiently effective steps towards securing good teaching for all groups of pupils, including disabled pupils and those with special educational needs.<br>■ Leaders and managers are not taking sufficiently effective steps towards securing good behaviour from all pupils and a consistent approach to the management of challenging behaviour.<br>■ The curriculum fails to meet the needs of pupils or particular groups of pupils, or pupils are entered for public examinations inappropriately early, and pupils' achievement and enjoyment of learning are significantly impaired.<br>■ A lack of attention to literacy is impeding pupils' progress.<br>■ Governors are not sufficiently robust in holding the school to account for pupils' achievement, the quality of teaching and the effective and efficient deployment of resources. | **Inadequate (4)**<br>■ Leadership is not well-informed about current initiatives in the subject. There is little evidence of a broader vision of science education that draws on the work and expertise of other professionals beyond the confines of the school.<br>■ Key statutory requirements for science are not met.<br>■ Self-evaluation is weak and not informed by good practice in the subject, or by outcomes for pupils. Insufficient effort is made to coordinate the work of science staff and to improve the quality of the weakest teachers.<br>■ Opportunities for professional development in the subject are limited, and, as a result, some staff lack the confidence and expertise to deliver science effectively.<br>■ The subject is poorly resourced and does not contribute significantly to whole-school improvements.<br>■ Health and safety training is not effective. |