

Guidance for Observation and Target Setting in Computing

National Curriculum Purpose of study: A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Six key questions to ask when observing computing lessons:

	Question	Additional Information
1	How is computational thinking developed through the lesson?	<i>Computational thinking involves solving (sometimes complex) problems using a step-by-step process as used in computer programming. This should involve 'decomposition' – breaking the problem into simpler and smaller steps to arrive at a solution. This may be through a lesson away from computers and technology e.g. role play, construction activities.</i>
2	How is the strand of computer science developed in the lesson?	<i>he teacher should use and explain correct terminology to develop understanding of; how networks operate, algorithms and programming, prediction, sequencing, variables and debugging.</i>
3	Is the strand of information technology developed in the lesson?	<i>The technology chosen for the lesson should be appropriate and the teacher competent in its use. The lesson should develop children's understanding and skills in order to use technology to find, organise, analyse and present information. The lesson may enable children to; navigate websites and software programmes, begin to create websites and use spreadsheets. Children should develop skill to be able to create and edit; music, graphics, photographs and text using technology.</i>
4	How is the strand of digital literacy developed in the lesson?	<i>Safeguarding is a key feature of computing and children should be made aware of how to exercise safety and responsibility in their use of technology. Understanding of the internet, communicating with technology, information sharing, trustworthiness of information and the role of CEOP may be part of this lesson.</i>
5	What assessment of computing knowledge and skills is taking place?	<i>Opportunities to gauge pupils understanding and skills should be planned for. Misconceptions should be addressed as they arise and support given to enable pupils' active participation and learning within the</i>

		<i>lesson. Success criteria/learning outcomes should be clear and explicitly link to the computing curriculum.</i>
6	Do the chosen methods of teaching computing meet the needs of all pupils?	<i>The pedagogical approach/es within the lesson should be strongly linked to the intended subject content. The children should appear interested and motivated within the lesson and activities should present an appropriate level of challenge for pupils, including able children, to make progress within the computing curriculum.</i>

Potential Computing-Specific Targets on Lesson Analysis Forms

Lesson design and delivery, including sequencing and choice of teaching methods
Develop your knowledge of pupils' prior learning and expertise in computing.
Model use of software/technology/website effectively to promote pupils' success.
Allow time for children to develop problem solving skills when programming and debugging.

Adapting planning and teaching to ensure that individual needs are met
Use visual programming scaffolds, worked examples and debugging prompts to support pupils in developing algorithms independently and applying computational thinking successfully.
Adapt digital tools and resources using accessibility features and simplified interfaces, enabling pupils with SEND to access computing learning independently.
Use targeted questioning, visual prompts and practical demonstrations to assess understanding of computing concepts and address misconceptions for all learners.

Pupil progress in this lesson and use of assessment (including questioning)
Prepare subject specific questions to promote children's computational thinking.
Make sure that success criteria are clearly linked to the computing curriculum.
Be clear about possible misconceptions, identify and address them promptly within the lesson.

Developing Subject Knowledge and Pedagogy
Ensure that you are familiar with subject specific terminology and able to address children's misconceptions effectively.
Make sure you are aware of and reference the school's e-safety policy within the lesson.
Speak to the Computing subject leader to support planning for future computing lessons

Further Resources:

National Centre for Computing Education (n.d) *Computing pedagogy*. Teach Computing.
<https://teachcomputing.org/pedagogy>

National Centre for Computing Education (n.d) *Primary computing glossary*. Teach Computing.
<https://teachcomputing.org/primary-computing-glossary>

Ofsted (2022) *Research review series: Computing*. GOV.UK.
<https://www.gov.uk/government/publications/research-review-series-computing>