

# INFORMATION AND COMMUNICATION TECHNOLOGY

## The Attainment Targets

1. finding things out
2. developing ideas and making things happen
3. exchanging and sharing information
4. reviewing, modifying and evaluating work as it progresses
5. breadth of study

The numbers in brackets within the level descriptions identify these attainment targets.

## THE LEVEL DESCRIPTIONS

### Level 1

Pupils explore information from various sources, showing they know that information exists in different forms.(1; 5) They use ICT to work with text, images and sound to help them share their ideas.(3) They recognise that many everyday devices respond to signals and instructions.(2) They make choices when using such devices to produce different outcomes.(2) They talk about their use of ICT.(3; 4)

### Level 2

Pupils use ICT to organise and classify information and to present their findings.(2; 3) They enter, save and retrieve work.(1) They use ICT to help them generate, amend and record their work and share their ideas in different forms, including text, tables, images and sound.(2; 3; 4) They plan and give instructions to make things happen and describe the effects.(2) They use ICT to explore what happens in real and imaginary situations.(2) They talk about their experiences of ICT both inside and outside school.(3; 4; 5)

### Level 3

Pupils use ICT to save information and to find and use appropriate stored information, following straightforward lines of enquiry.(1) They use ICT to generate, develop, organise and present their work.(2; 3; 4) They share and exchange their ideas with others.(3) They use sequences of instructions to control devices and achieve specific outcomes.(2) They make appropriate choices when using ICT-based models or simulations to help them find things out and solve problems.(2) They describe their use of ICT and its use outside school.(3; 4; 5)

### Level 4

Pupils understand the need for care in framing questions when collecting, finding and interrogating information.(1) They interpret their findings, question plausibility and recognise that poor-quality information leads to unreliable results.(4) They add to, amend and combine different forms of information from a variety of sources.(2; 4) They use ICT to present information in different forms and show they are aware of the intended audience and the need for quality in their presentations.(3; 4) They exchange information and ideas with others in a variety of ways, including using e-mail.(3) They use ICT systems to control events in a predetermined manner and to sense physical data.(2) They use ICT-based models and simulations to explore patterns and relationships, and make predictions about the consequences of their decisions.(2) They compare their use of ICT with other methods and with its use outside school.(4; 5)

### Level 5

Pupils select the information they need for different purposes, check its accuracy and organise it in a form suitable for processing.(1; 2) They use ICT to structure, refine and present information in

different forms and styles for specific purposes and audiences.(2; 3; 4) They exchange information and ideas with others in a variety of ways, including using e-mail.(3; 5) They create sequences of instructions to control events, and understand the need to be precise when framing and sequencing instructions.(2) They understand how ICT devices with sensors can be used to monitor and measure external events.(2) They explore the effects of changing the variables in an ICT-based model.(2) They discuss their knowledge and experience of using ICT and their observations of its use outside school.(3; 4; 5) They assess the use of ICT in their work and are able to reflect critically in order to make improvements in subsequent work.(4)

### **Level 6**

Pupils develop and refine their work to enhance its quality, using information from a range of sources.(1; 2; 4; 5) Where necessary, they use complex lines of enquiry to test hypotheses.(2) They present their ideas in a variety of ways and show a clear sense of audience.(3) They develop, try out and refine sequences of instructions to monitor, measure and control events, and show efficiency in framing these instructions.(2) They use ICT-based models to make predictions and vary the rules within the models.(2) They assess the validity of these models by comparing their behaviour with information from other sources.(2) They discuss the impact of ICT on society.(4)

### **Level 7**

Pupils combine information from a variety of ICT-based and other sources for presentation to different audiences.(3) They identify the advantages and limitations of different information-handling applications.(4; 5) They select and use information systems suited to their work in a variety of contexts, translating enquiries expressed in ordinary language into the form required by the system.(1) They use ICT to measure, record and analyse physical variables and control events.(2) They design ICT-based models and procedures with variables to meet particular needs.(2) They consider the benefits and limitations of ICT tools and information sources and of the results they produce, and they use these results to inform future judgements about the quality of their work.(4; 5) They take part in informed discussions about the use of ICT and its impact on society.(4)

### **Level 8**

Pupils independently select appropriate information sources and ICT tools for specific tasks, taking into account ease of use and suitability.(1) They design successful ways to collect and prepare information for processing.(1; 2; 4) They design and implement systems for others to use.(2; 5) When developing systems that respond to events, they make appropriate use of feedback.(2) They take part in informed discussions about the social, economic, ethical and moral issues raised by ICT.(3; 4)

### **Exceptional Performance**

Pupils evaluate software packages and ICT-based models, analysing the situations for which they were developed and assessing their efficiency, ease of use and appropriateness.(1; 4) They suggest refinements to existing systems and design, implement and document systems for others to use, predicting some of the consequences that could arise from the use of such systems.(2; 3; 5) When discussing their own and others' use of ICT, they use their knowledge and experience of information systems to inform their views on the social, economic, political, legal, ethical and moral issues raised by ICT.(4)

## **Year 7 National Curriculum Levels (based on the new revised curriculum)**

### **Level 4**

Pupils combine and refine different forms of information from various sources. Pupils understand the need for care in framing questions when collecting, finding and interrogating information. They interpret their findings, question plausibility and recognise that poor-quality information leads to unreliable results. They use ICT to present information in different forms and show they are aware of the intended audience and the need for quality in their presentations. They exchange information and ideas with others in a variety of ways, including using digital communication. They understand the risks associated with communicating digitally, including the security of personal information. They plan and test sequences of instructions. They use ICT-based models and simulations to explore patterns and relationships, and make predictions about the consequences of their decisions. They use ICT to organise, store and retrieve information. They compare their use of ICT with other methods and with its use outside school.

### **Level 5**

Pupils combine ICT tools within the overall structure of an ICT solution. They select the information they need for different purposes, check its accuracy and organise it in a form suitable for processing. They use ICT to structure, refine and present information in different forms and styles for specific purposes and audiences. They exchange information and ideas with others in a variety of ways, including using digital communications. They create sequences of instructions and understand the need to be precise when framing and sequencing instructions. They explore the effects of changing the variables in an ICT-based model. They use ICT to organise, store and retrieve information using logical and appropriate structures. They use ICT safely and responsibly. They discuss their knowledge and experience of using ICT and their observations of its use outside school. They assess the use of ICT in their work and are able to reflect critically in order to make improvements in subsequent work. They use appropriate evaluation criteria to critically evaluate the fitness for purpose of their work as it progresses.

### **Level 6**

Pupils plan and design ICT-based solutions to meet a specific purpose and audience, demonstrating increased integration and efficiency in their use of ICT tools. They develop and refine their work to enhance its quality, using a greater range and complexity of information. Where necessary, they use complex lines of enquiry to test hypotheses. They present their ideas in a variety of ways and show a clear sense of audience. They develop, try out and refine sequences of instructions and show efficiency in framing these instructions, using sub-routines where appropriate. They use ICT-based models to make predictions and vary the rules within the models. They assess the validity of these models by comparing their behaviour with information from other sources. They plan and review their work, creating a logically structured portfolio of digital evidence of their learning. They discuss the impact of ICT on society.

### **Level 7**

Pupils design and implement systems. They are able to scope the information flow required to develop an information system. They combine information from a variety of ICT-based and other sources for presentation to different audiences. They identify the advantages and limitations of different information-handling applications. They select and use information to develop systems suited to work in a variety of contexts, translating enquiries expressed in ordinary language into the form required by the system. They develop, test and refine sequences of instructions as part of an ICT system to solve problems. They design ICT-based models and procedures with variables to meet particular needs. They consider the benefits and limitations of ICT tools and information sources and of the results they produce, and they use these results to inform future judgements about the quality of their work. They make use of audience and user feedback to refine and enhance

their ICT solutions. They take part in informed discussions about the use of ICT and its impact on society.

### **Level 8**

Pupils independently select appropriate information sources and ICT tools for specific tasks, taking into account ease of use and suitability. They design successful ways to collect and prepare information for processing. They design and implement systems for others to use. They take part in informed discussions about the social, economic, ethical and moral issues raised by ICT.

### **Exceptional Performance**

Pupils evaluate software packages and ICT-based models, analysing the situations for which they were developed and assessing their efficiency, ease of use and appropriateness. They suggest refinements to existing systems and design, implement and document systems for others to use, predicting some of the consequences that could arise from the use of such systems. When discussing their own and others' use of ICT, they use their knowledge and experience of information systems to inform their views on the social, economic, ethical and moral issues raised by ICT.