KEY STAGE 3 INTENT

Curriculum 2028 ready. This scheme covers the 2028 UK key stage 3 national curriculum for Computing.

Made by humans. This scheme has been made by very experienced teachers. Each lesson has been carefully hand-crafted by people who have lived experience of teaching 11–14-year-olds. AI has been used to fact check knowledge, reword text to make it suitable for the age group, create supporting videos, audio, images and help assess the impact of activities.

Teacher led. The expectation is that teachers will lead the learning process with their students. This scheme is not intended to be entirely independent learning or delivered in a flipped classroom way. Teacher slides contain the minimum number of bullet points to ensure teacher-talk is minimised, direct and focused.

Clear journey. Students know what they are learning and why.

Each unit has 1 key question, 4 knowledge statement and 1 measurable outcome.

Each lesson has 3 phases, 1 for retrieval and 2 objectives for new learning.

Knowledge rich, skills based. Lessons, activities and assessments focus on knowledge (to know something) and skills (the practical application of knowledge). The focus is on creating digitally literate young people, not learning obscure features within applications.

Gender neutral. The themes and activities within the units are based on real-world scenarios. Assumptions that certain themes naturally appeal more to boys are not supported by evidence; rather, early socialisation can limit girls' exposure and confidence. This scheme is intentionally designed not to reinforce this and ensure that all students can engage fully and equitably without good intentioned bias.

Diversity. This scheme uses themes, examples, images and videos that reflect diversity and inclusion, representing people from a range of ethnic and cultural backgrounds while avoiding stereotypes.

Active not didactic learning. Lessons have very brief introductions, just enough to set the context and get going with an activity. The intention is that students learn by experiencing. E.g. exploring how numbers are represented in binary before being explicitly taught. This encourages curiosity. A reflection after each activity elicits and reinforces learning from the activity.

Interdependent learning. It is possible for students to work independently by following the pages in their student or extension workbooks. Any slides in the teacher PowerPoint that demonstrate knowledge or skills required for the activities are duplicated in the student workbooks. The student workbooks contain help pages and additional support as required.

Using AI. The scheme addresses both how AI works, (about A) and how AI can be used, (working with AI). This includes the capabilities, limitations and ethics. Instead of dedicated AI units, these considerations are built into each relevant unit. The use of AI by students as tool or assistant just like a calculator, dictionary and spell checker is expected. The intention is for students to use AI tools to increase their productivity or quality of their work, as would be expected in a modern workplace.

Ethics infused. Every application of technology raises ethical issues. Instead of dedicated ethics units, these considerations are built into each unit as class discussions or extensions enabling students to reflect on how the use of technology impacts the world.

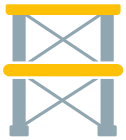
Literacy. Each unit clearly highlights important subject specific terminology with succinct, student friendly definitions in each student workbook. Where key terms are referred to, they are shown in bold, purple text. These are revisited in the first phase of lessons 2-6 and assessed in lesson 6. Reading exercises are also provided with questions that go beyond basic comprehension.

Oracy. Either integral to each unit or through extension activities there are opportunities for students to communicate through spoken language in class discussions, pair and group activities. This sometimes includes students doing some research ahead of a debate.

Plugged and unplugged. A variety of electronic, unplugged, individual, pair and class activities are included across the scheme.

Do, don't write. Students spend time experiencing what they are learning instead of recording evidence of it. If writing or pasting something into their student workbook would help them with future tasks this is acceptable, but students don't capture unnecessary evidence for marking that will never be done.

Differentiation by support. Students all aim to achieve the same outcomes. There is no differentiation by task. This is to prevent the negative effects of labelling, the self-fulfilling prophecy, glass ceilings and widening the attainment gap. Instead “adaptive teaching”, as promoted by the High-Performance Learning strategy is adopted. All students should be supported to meet all objectives and outcomes through differentiation by support, not by task.



Scaffolding. Student workbooks contain all the additional support that students require to complete an activity. This not only provides a guide but also allows the teacher to display the intended outcomes for the activity on the board while students are working.

Research informed. The approach has been inspired by:

Howell, H & McGill, R (2022) The Revision Revolution. How to build a culture of effective study in your school.

Identified core knowledge & vocabulary. Presenting the gold standard for our subject by having a focus on contemporary computing.

Sherrington, T (2019) Rosenshine’s Principles in Action.

Model, guide, scaffold, succeed.

Hattie, J (2023) Visible Learning – The Sequel.

Using learning approaches that have a positive effect size.

Allison, S & Tharby, A (2015) Making Every Lesson Count.

Six principles to support great teaching and learning.

Eyre, D. (2026) High Performance Learning.

How the most successful people think and learn to focus teaching and learning for everyone on the skills that make the difference.

Application of the principles of great teaching

The scheme is inspired by Shaun Allison and Andy Tharby's six core principles of effective classroom practice.

Challenge. *So that students have high expectations of what students can achieve*.
A consistent framework for lessons provides structure and pace. Instead of outdated differentiation techniques of all, most, some, this scheme is pitched so that all students can achieve in all tasks with appropriate support. Additional challenge is provided in extension activities that can be included within lessons too.

Explanation. *So that students acquire new knowledge and skills*.
Each lesson phase has a short introduction to set the scene, and a reflection that summarises the learning that takes place through an activity. The focus is on clear, concise, and well-structured explanations that make complex ideas accessible.

Modelling. *So that students know how to apply the knowledge and skills*.
Student workbooks contain a copy of the instructions from the teacher's presentation, including where appropriate help pages and a model answer to guide them. Lesson plans indicate the skills to demonstrate to students.

Regular review. *So that students can embed knowledge into their long-term memory*.
Each lesson starts with a recap phase, revising the key terminology from the previous lesson. Every fifth lesson in a unit contains an assessment with the sixth lesson facilitating DIRT: dedicated improvement and reflection time.

Questioning. *So that students are made to think hard with breadth, depth and accuracy*.
Each phase of a lesson includes a reflection point where questioning can take place, sometimes including class discussions.

Feedback. *So that students think about and further develop their knowledge and skills*.
Each unit has a consistent and clear assessment framework that focus on key skills, knowledge and vocabulary. Teachers mark one artefact with DIRT in lesson 6 of each unit.

Subject mastery. *So that students retain depth and breadth of knowledge of the subject*.
Units build upon each other piecing together the components of the subject, revisiting familiar themes while introducing new ones.

Relevance. *So that students see the importance of what they are learning.*
A career and contemporary themes underpin the units which focus on student's lived experience. They also include identification of diverse, modern pioneers in the subject.

KEY STAGE 3 IMPLEMENTATION

Units

6-week. Each unit is 6 lessons which fits into a standard school half term. In total, each unit is 6 guided learning hours. It is anticipated with 7- and 8-week terms the extra time will be spent working on unit extensions. This is another opportunity to consolidate and revisit what has been learned.

Modular. There are more units available than curriculum time would allow. This enables a school to build a scheme from selected units that is right for their context. Units may build on or support others, but each is self-contained and not reliant on prior knowledge unless signposted. Key stage 3 is seen as a single course spanning 3 years meaning any unit can be delivered to any year group.

Pillars. Each unit covers one or more aspects of the Key Stage 3 national curriculum:

Computer Science	How computers work, including designing, creating and debugging programs to solve problems.
Digital literacy	How to use digital tools to create and share information while thinking critically, managing risks and behaving responsibly in digital spaces.
Data and AI	How data and AI systems work, their capabilities, limitations and impacts on society.

Plug and play. Although each unit is complimentary, they are designed in a way that allows them to plug individually into any other scheme of learning the school is currently offering. This allows different schemes to be mixed and allow adoption over time.

Pathways. A scheme of learning across key stage 3 is built by combining units. 18 for a 3-year KS3 and 12 for a 2-year KS3. We suggest combinations of units that work well together across year groups, known as a pathway.

Spiral curriculum. A spiral model is enabled by selecting units that progress similar themes in each of the six terms across the key stage. E.g. term 6 year 7: safety & wellbeing, term 6 year 8: digital citizenship, term 6 year 9: cybersecurity.

Careers based. Each unit is based on one career related to computing. This grounds what students are learning in reality, supports the careers curriculum and schools working towards Gatsby benchmarks. As we cannot predict what will be important in the future,

units reflect what is important knowledge for living in the world today while preparing them for life after key stage 3.

Career introduction. A 2–3-minute introduction video for each unit in lesson 1 presents the career to the student to give what they are going to learn a real-world purpose. The video explains what the person does in their career, presents the key question, objectives and outcomes. A diverse range of pioneers in the subject relevant to the unit are also identified.

Key question. Each unit has one over-arching key question that all lessons, objectives and activities enable the student to answer. The key question is shown on every slide of the teacher's presentation displayed to students in every lesson.

4 knowledge statements. Each unit has four clear outcomes stating what we want students to *know* as a result of studying the unit.

Artefact. Each unit has an identifiable product (the artefact) that students create in lesson 5. This is the only marking for the teacher to keep workload to a minimum. Although this can also be self or peer assessed too. Activities in lessons 1-4 prepare students to tackle the brief in lesson 5 and do not need to be marked.

Lessons

60-minute. Each lesson is intended to be delivered in 60 minutes. Schools with alternative timetables can adapt the lessons to suit.

Life cycle. Each unit has 6 lessons:

Learn it (lessons 1-4). Knowledge acquisition: learn new knowledge and practice new skills.

Make it (lesson 5). Assessment: the application of knowledge and skills to create their own product (artefact) in response to success criteria.

Review it (lesson 6). DIRT: an end of topic quiz, self or peer assessment of the artefact and time to make improvements or tackle extensions.

Phases. Each lesson has 3 phases:

Phase 1 (10 minutes): starter / do now activity. This is retrieval based on previous learning and does not require the teacher to initiate. Presented as students enter the room.

Phase 2 (25 minutes): *Use* or *investigate* the application of one knowledge statement.

Phase 3 (25 minutes): *Use* or *investigate* the application of one knowledge statement.

Objectives and outcomes. To ensure clarity and consistency between units:

The over-arching key question in each unit starts with, "*How*".

Each of the 4 knowledge statements for the unit start with, "*Know*".

Learn it lessons 1-4 have 2 objectives starting with, "*Use*", "*Understand*" or "*Investigate*".

Make it lesson 5 has 1 objective starting with, "*Make*".

Review it lesson 6 has 3 objectives starting with, "*Assess*", "*Review*" and "*Reflect*".

Clear focus. Phases 2 & 3 of a Learn it lesson include:

A minimal introduction that outlines core principles required to complete an activity.

An activity that either models (by the teacher) or provides guided practice (for students).

A reflection that outlines new knowledge and may include Q&A or discussions.

Resources

Teacher guide. Each unit has a detailed teacher guide exemplifying how to teach the unit, suitable for non-specialist teachers. Individual lesson plans are provided for each lesson. Where additional subject knowledge may be required additional documents are supplied, the student workbooks provide help pages and model answers are given.

Workbooks. Each unit has one student workbook for each lesson and an extension workbook:

Learn it workbooks intended for knowledge acquisition, discovery, learning and practice:

- Keywords.
- Instructions & activities.

Make it workbook intended for marking:

- Stimulus material and assets.
- Pages to capture outcomes.

Review it workbook intended for assessment and reflection:

- Assessment grid success criteria.
- Multiple choice quiz.
- Self-reflection, “I can” statements.

Extension workbook intended for extra or alternative activities:

- Instructions & activities.

PowerPoint format. Workbooks are presented in PowerPoint files. This ensures that when text and images are pasted it does not affect content on other pages/slides. In this format teachers can easily project slides to the class. The insert audio feature also facilitates oral feedback to further reduce workload.

The teacher presentation includes additional animations for interest. The speech to subtitles feature supports EAL students in their native language when the teacher is talking.

PowerPoint can easily be exported to other formats e.g. Google Slides.

Teacher presentation. Each lesson has a presentation that can be displayed to the class facilitating the no planning approach. It clearly identifies:

- The phase of the lesson.
- Key question (purple heading).
- Objectives (dark blue heading).
- Introduction (grey heading).
- Activity (light blue heading).
- Answers to activities (pink heading).
- Class demonstration or discussion (gold heading).
- New knowledge (green heading).
- Homework (red heading).

Easy preparation. The teacher has no additional planning other than making the resources available to students. A small amount of photocopying to facilitate some unplugged activities may be necessary but is minimal and signposted in the teacher guide.

Fully editable. All resources supplied with a unit are fully editable in their native applications to allow schools to easily modify and adapt them as required. Videos are supplied in mp4 format so the school can host them internally if required as well as being uploaded to Tella.

Hardware. Use of specific hardware is kept to a minimum and outlined in the teacher guide.

Software. This scheme is Microsoft Office based but can be ported to other suites. Some browser-based interactive apps created by Craig'n'Dave are used to teach some concepts. Freely available online applications are used whenever possible to increase student's awareness of the broader range of applications available to them outside school and limit the requirement for expensive applications. We recommend students have a Microsoft or Google account for SSO with online applications.

Cover friendly. Each lesson is self-contained and includes all the necessary support material to deliver a lesson. Many of the extension activities are also ideal for setting cover work for absent teachers.

Homework. Three homework activities are provided for each unit. They can be set independently from any lesson to fit all homework timetables. Schools that do not set homework are not disadvantaged.

Students watch up to a 5-minute video about the hinterland (discovering), real-world application (exploring) or consolidation (revisiting) related to the unit. Students complete a simple question sheet, with all the information required to complete it included within the video. The homework is designed to require no parental support and be suitable for AI marking.

Extensions. Each unit contains a variable number of extension activities that teachers can use for additional lessons, challenge, homework or for students that finish early. Each activity consolidates or builds on what has been taught in the unit, often with a little more challenge.

Assessment

Easy marking. Only the artefact produced in lesson 5 is marked.

The activities in lessons 1-4 of the student workbooks allow students to experience new knowledge and skills, but they may have needed help to do this, so it is not an accurate summative judgement of their learning. Instead, the artefact created in lesson 5 should be marked against this framework:

Interns are ***aware*** of the functionality of systems. They ***use*** existing assets to produce or ***test solutions***. There is ***no creativity***. At least ***one knowledge statement is achieved***.

Juniors ***know*** how to make ***simple products*** or how systems work. They ***modify*** existing assets to create a new product, changing its original function. There is ***limited creativity***. At least ***two knowledge statements are achieved***.

Associates ***understand*** how *to make* ***more advanced products*** *or technical details behind how systems work*. They ***make*** new products that include some of their own assets. There is ***some creativity***. At least ***three knowledge statements are achieved***.

Seniors ***consider*** how their ***product meets stakeholder needs*** and any social implications. They ***select*** the best approaches to develop new products. There is ***much creativity***. All ***four knowledge statements are achieved***.

Example:

A student uses a Parson's problem to create a working program. They are currently working at an intern level in this unit. A student may modify an existing piece of code for a new purpose to work at a junior level. The student who can make a new program on their own is working at an associate level, and a student who considers stakeholders, for example by commenting their code is working at a senior level.

Multiple-choice quiz. Understanding of the 4 knowledge statements and the vocabulary of the unit are assessed through a diagnostic, multiple-choice 24 question quiz. Mark boundaries are on a sliding scale making the highest boundary much more difficult to achieve to reward excellence.

KEY STAGE 3 IMPACT

KS4 ready. With only one lesson a week in most schools it is impossible to achieve students repeatedly bumping into core knowledge. However, students should be ready for KS4 by having been exposed to many aspects of Computing.

Enjoyment. Student feedback should validate the approach with them talking enthusiastically about their Computing lessons with many of them choosing to continue to study the subject at KS4.

Success. It is anticipated that most students are likely to be assessed at an Associate level because the scheme enables students to successfully learn and apply their skills to their assessment.