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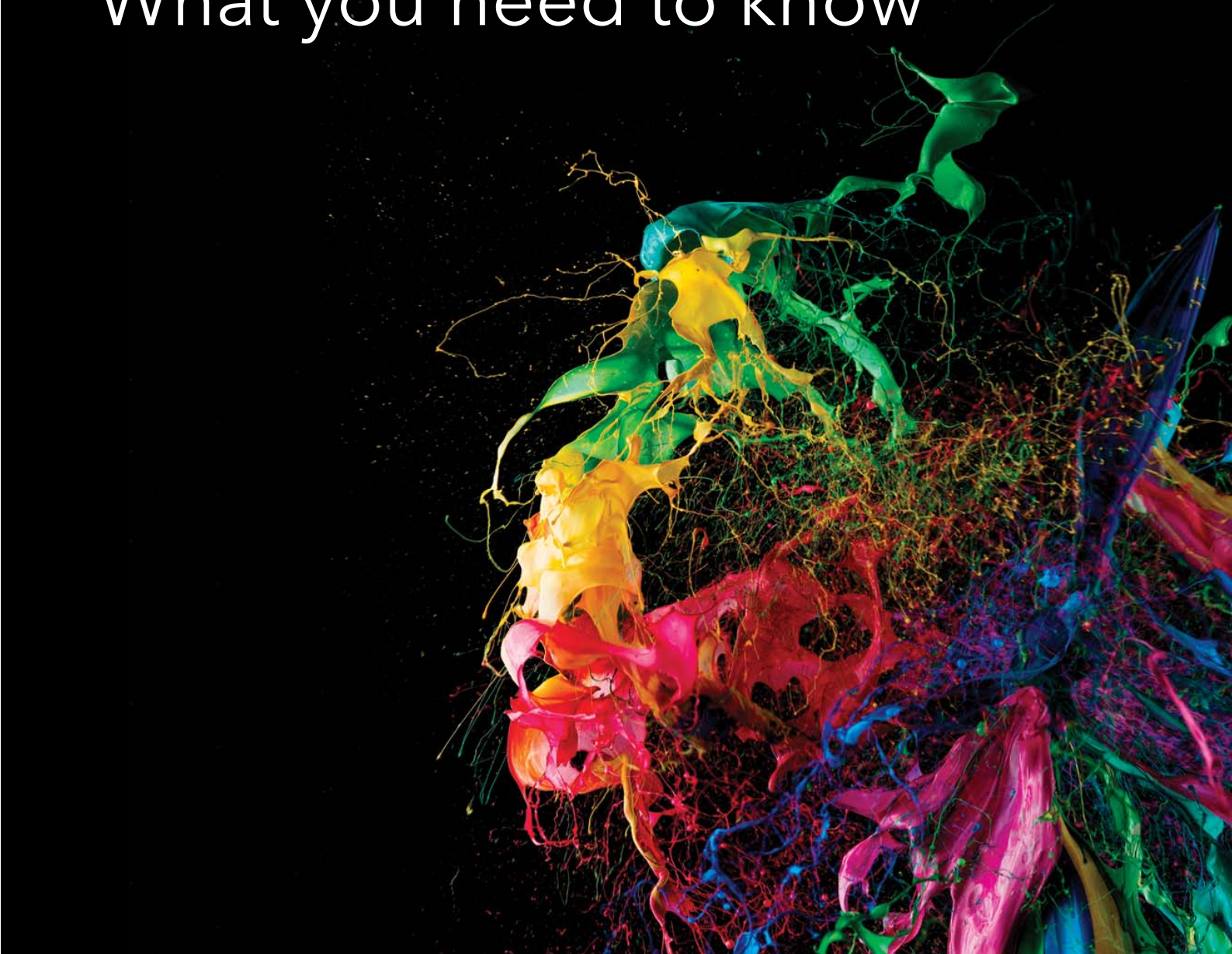
Brighter Thinking

GCSE COMPUTER SCIENCE

2016 Reforms

What you need to know



GCSE Computer Science. What you need to know.

Our table below details the key changes for the new GCSE Computer Science curriculum for first teaching from 2016 and how our resources will support the teaching and learning of this new qualification.

	Key curriculum changes	Implications for Computer Science teachers and students	Our solutions

Exam structure	• There is less focus on controlled assessment.
	  - Written exam will account for 80% of the marks
	  - There will be a 20% Non Examined Assessment focussing on programming skills
		• Teachers may have to re-think how they assess, monitor and track students' progress.
		• A drop from 60% to 20% on Non Examined Assessment means teachers will need to change their schemes of work.
			Student Book
			• Written by experienced teachers and assessment leaders specifically for the new qualification.
			• Features *Remember points* as revision references and check points for students understanding.
			• Programming projects that build knowledge of programming skills and confidence in preparation for the Non Examined Assessment.
			Cambridge Elevate-enhanced Edition
			• Offers a wide variety of practice problems, interactive questions and exam-style questions to help with exam preparation.
			• Supports assessing, tracking and reporting of students' progress through the Cambridge Elevate *Assess to Progress* tool.
			Teacher 's Resource
			• Includes answers and a full scheme of work.

Content changes	• New focus on developing students' computational thinking, mathematical concepts and programming skills. • Increased emphasis on building students' problem-solving skills.	• Teachers new to Computer Science may be unfamiliar with these concepts. • Many teachers are qualified in ICT and not Computer Science which may raise new challenges and the need for upskilling.	**Student Book** • Introduces fundamental principles and concepts, and uses them to analyse problems in computational terms. • Develops students' computational thinking and equips them with strategies and concepts such as logic and algorithms. • Provides plenty of practice focussed activities and illustrates how students can tackle problems through worked examples. • Demonstrates and explains practical programming skills, with practice activities which students can complete in any programming language. • Flags mathematical skills relevant to Computer Science throughout. **Cambridge Elevate-enhanced Edition** • Provides examples in Python and offers support through interactive exercises and answers which check and explain the coding language used. • Inspires students and builds confidence in programming by using videos, real-life case studies and scenarios. • Tutorials introduce concepts such as sorting and selection in a clear and visual way. • Links to the Cambridge GCSE Computing Online, a Massive Open Online Course (MOOC), and Practise and Prepare GCSE Computing website for further learning. **(www.cambridgegcsecomputing.org) (www.cambridge.org/gcse-computing)** **Teacher 's Resource** • Gives support to those new to Computer Science and includes ideas for homework. • Provides teachers with easy-to-follow, practical teaching aids to use or adapt, including support for those new to the subject.
Refocussing	• A requirement to encourage students to be inspired and challenged, and help them gain an insight into related sectors. • A focus on preparing students to make informed choices for further learning and careers.	• Teachers need to find appropriate examples of how Computer Science relates to the real world. • Teachers are worried about ways to make Computer Science content interesting in the classroom. • The new focus on Computing is making Computer Science an ever more popular subject.	**Student Book** • Provides a *final challenge* to give students of all abilities a chance to demonstrate their skills in an exciting, engaging and relevant fashion by producing something 'real'. For example, producing an algorithm for a computer game, and to encode and decode secret messages. • Draws on the excitement of Computer Science through the use of real-life examples and case studies. • Designed to provide a seamless transition to our A/AS level resources. **Cambridge Elevate-enhanced Edition** • Video introductions motivate students and help put Computer Science into a real world context. **Teacher's Resource** • Supports teachers in delivering the curriculum confidently, whether the teachers are new to programming or specialists in need of time-saving resources and new ideas.

We listen. We think. We act.

At Cambridge University Press, we are driven by a simple goal: to create the resources that teachers and students need to ignite a curiosity and love for learning.

As England enters a new educational chapter, we are publishing a comprehensive suite of print and digital resources specifically matched to the new GCSE Computer Science curriculum, available from early 2016.

Written by experienced teachers and assessment leaders, our new GCSE Computer Science resources will support teachers with the delivery of the new specification, and the navigation from ICT to Computer Science. Through inspiring content, our resources will help students to master the underlying computing principles and to develop their computational thinking, programming and problem-solving skills. Interactive exercises will consolidate students' learning, while videos and case studies will help relate Computer Science to everyday life.

Fully supporting students in their journey throughout GCSE, our resources include contextual activities to support the less confident and open-ended challenges to stretch the more able. Exam-style format will help teachers and students to prepare for the new assessment, and our Cambridge Elevate *Assess to Progress* will enable assessing, tracking and reporting of students' progress.

Content will be available in print and through Cambridge Elevate - our digital subscription service.

Student Book

The Student Book will introduce learning and demonstrate computational thinking skills through examples, practice exercises, concepts represented through flowcharts and pseudocode, and synoptic problem-solving challenges.

Cambridge Elevate-enhanced Edition

A digital learning resource to include the Student Book and enhancements such as video clips, animated tutorials, interactive exercises, code-based challenges and a range of customisable digital tools.

Cambridge Elevate Assess to Progress

A digital assessment tool on the Cambridge Elevate platform to support with assessing, tracking and reporting of students' progress.

Student Book with Cambridge Elevate-enhanced Edition

This offering will combine our print Student Book and digital access to the Cambridge Elevate-enhanced Edition to provide the best value.

Teacher's Resource

A free digital Teacher's Resource consisting of supplementary teacher materials, a scheme of work, and a variety of teaching ideas.

FOR FREE

For more information, or to speak to your local sales consultant, please contact us:

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