Pearson Edexcel

iPrimary

COMPUTING

SPECIFICATION

Pearson Edexcel International Award in Primary Computing (JCP11)
For first teaching September 2019
First examination June 2020
Issue 1

Contents

1 Introduction

Why choose the Pearson Edexcel International Award in Primary Computing?

We have listened to feedback from all parts of the International School subject community, including a large number of teachers. We have made changes that will engage students and give them skills that will support progression to further study in computing and a range of other subjects. Our content and assessment approach to primary computing has been developed alongside primary English, primary mathematics and primary science to ensure a consistent approach across the whole Pearson Edexcel iPrimary programme.

The content and assessment approach for primary computing has been designed to meet students' needs in the following ways:

- content is interesting and engaging, and is designed to ensure good preparation for further study of the Pearson Edexcel International Award in Lower Secondary Computing
- opportunities are provided to 'localise' the content to make it more relevant for students
- achievement tests are clear and straightforward – our achievement tests are clear and accessible for students of all ability ranges and for all learning styles; our mark schemes are straightforward, so that the assessment requirements are clear
- students' skills are broadly developed – the skills developed will be assessed through questions in written examinations – applying understanding of computing concepts and principles to a range of situations improves their analytical and logic skills.

Progression to iLowerSecondary and to International GCSE

The Pearson Edexcel iPrimary programme is the ideal preparation for progression to the Pearson Edexcel iLowerSecondary programme and for laying the foundation for success at International GCSE level.

Through our World Class Qualification development process, we have consulted with International GCSE teachers and examiners to validate the appropriateness of the qualification, including its content, skills development and assessment structure.

More information on all our qualifications can be found on our Pearson Edexcel iPrimary and iLowerSecondary pages at qualifications.pearson.com

Supporting you in planning and implementing this qualification

The Pearson Edexcel iPrimary programme is more than just a curriculum and specification – it is a complete toolkit for teachers comprising the following elements to improve student outcomes.

Planning

- Full, editable Schemes of Work are supplied for all six years of the iPrimary curriculum.

Teaching and learning

- Subject-specific teacher guides at each level support specialist- and non-specialist teachers; the guides cover teaching techniques, pedagogy and short-, medium- and long-term planning.
- Full example units of work are provided for each and every topic.

Training and professional development

- Face-to-face teacher professional development is included as part of your iPrimary subscription.
- Additional, ongoing online and interactive webinar support is also included as part of the programme.

Preparing for assessments

Exam support

We will give you resources to help you prepare your students for their assessments, for example examiner commentaries following each examination series.

ResultsPlus

ResultsPlus provides the most detailed analysis available of your students' exam performance. It can help you to identify the topics and skills where further learning would benefit your students.

Get help and support

Get support from both Pearson and the wider iPrimary community via our dedicated online forum

https://community.pearsoninternationalschools.com/clubs/view/iprimary-pilot-schools

Qualification at a glance

Content and assessment overview

The Pearson Edexcel International Award in Primary Computing consists of one externally-set achievement test.

Achievement test	***(JCP11/01)**
Externally assessed Written examination: 1 hour Availability: June First assessment: June 2020 60 marks	
Content overview The content is split into two sections as follows: **Section A – Computer Science** Topic 1. Problem solving: algorithms, decomposition and abstraction Topic 2. Programming and development Topic 3. Computers: hardware and software Topic 4. Communications and networks **Section B – Digital Technology** Topic 5. Bigger picture Topic 6. Information technology Topic 7. Software skills: word processing Topic 8. Software skills: database management Topic 9. Software skills: spreadsheets Topic 10. Software skills: presentation Topic 11. Software skills: graphics Topic 12. Software skills: file handling	
Assessment overview • The test has two sections: o Section A consists of 40 marks, it covers the content from Computer Science. o Section B consists of 20 marks, it covers the content from Digital Technology. • Students must answer all questions. • The test consists of multiple-choice, closed-response questions and short-open response questions.	

*The subject code is used by centres to enter students for a qualification. Centres will need to use the entry codes only when claiming students' qualifications.

2 Subject content and assessment information

Qualification aims and objectives

The International Award in Primary Computing aims to ensure that all students:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

Content

Overview

The Pearson Edexcel International Award in Primary Computing requires students to demonstrate knowledge, understanding and application of the following learning objectives drawn from the Pearson Edexcel iPrimary Curriculum in Computing.

Content detail

Section A – Computer Science

Topic 1 – Problem solving: algorithms, decomposition and abstraction

Students should:		**Curriculum reference**
1.1	Be able to interpret algorithms	1.1.2
1.2	Be able to create an algorithm to solve a particular problem	1.1.2 1.1.3
1.3	Be able to identify and correct (debug) errors in algorithms	1.1.5
1.4	Be able to decompose a problem into smaller sub-problems	1.2.2

Topic 2 – Programming and development

Students should:		**Curriculum reference**
2.1	Be able to locate and fix errors in a program	2.1.5
2.2	Understand the structural components of a program (variable and type declarations, command sequences, selection, iteration)	2.2.1
2.3	Understand the importance of sequencing, selection and iteration constructs in programs	2.2.2
2.4	Understand different data types including: integer, real, Boolean, char, string	2.3.1
2.5	Understand what variables are and how to use them in programs	2.3.4
2.6	Be able to write code that accepts and responds appropriately to user input	2.4.1

Topic 3 – Computers: hardware and software

Students should:		Curriculum reference
3.1	Understand the key features of different devices, including: tablet, smartphones, laptops and desktop devices	1.3.4, 4.1.1
3.2	Know how a SIM is used to connect digital devices to a network	1.1.3, 4.1.2
3.3	Be able to select appropriate digital devices for a given project	4.1.3
3.4	Know different types of input and output peripheral	1.4.1, 1.4.2, 4.1.4
3.5	Understand the key features of software applications (apps) including: word processor, database management system (DBMS), spreadsheet, graphics and presentation software	1.3.4, 4.1.5
3.6	Be able to select appropriate software that meets the specified needs of a project	4.1.6

Topic 4 – Communications and networks

Students should:		Curriculum reference
4.1	Understand the online services offered by: (a) shopping sites – basket, checkout, secure payment, product catalogue (b) entertainment providers – streaming, downloading (c) gaming sites	5.1.2
4.2	Know that digital devices can communicate with each other by transferring data	5.1.1
4.3	Understand different forms of cyberattack (based on behaviour), including social engineering (shoulder surfing, phishing, pharming)	3.1.1, 5.2.3
4.4	Understand why computers are connected in a network	5.1.1
4.5	Know what is meant by the world wide web (WWW)	5.3.2
4.6	Know that digital devices communicate using wired (cable) and wireless connectivity	2.1.1
4.7	Understand the use of usernames and passwords to secure data.	5.4.1

Topic 4 (*continued*)

Students should:		Curriculum reference
4.8	Know different about methods that are available to secure data and personal information online: passwords, PIN, biometrics, anti-malware, anti-virus, anti-adware, anti-spyware, secure websites, not opening email attachments or following web links from unknown sources	5.4.2
4.9	Understand the impact of networks on working practices including collaborative and flexible working	5.5.1
4.10	Understand the impact of networks on information services, learning, entertainment and leisure	3.2.3
4.11	Understand the social impacts of the use of networks including social interaction, cyberbullying, physical activity	5.5.2
4.12	Know safe, responsible and respectful practice when using digital technologies	5.6.1
4.13	Be able to recognise acceptable/unacceptable behaviour and identify a range of ways to report concerns about content, contact and conduct to an appropriate individual or organisation including: Child Exploitation and Online Protection (CEOP), National Society for the Prevention of Cruelty to Children (NSPCC)	5.6.2
4.14	Understand how to stay safe online including cyber bullying, anonymity of others (misrepresentation), disclosure of personal information/location	5.6.3
4.15	Understand key features of online communities: social networking, online gaming, online work spaces, virtual learning environments (VLE), user-generated reference sites: wikis, websites, forums, user-generated content: video sharing sites, blogs, websites, social bookmarking	5.7.1
4.16	Understand how copyright legislation affects the use of digital information and media	3.8.2
4.17	Understand the health and safety issues that arise from individuals' use of ICT and know how they can be minimised	3.8.6
4.18	Know how to select and use appropriate online sources of information	3.9.2
4.19	Know how to use search engines effectively	3.9.3

Topic 4 (*continued*)

Students should:		Curriculum reference
4.20	Be able to evaluate the fitness for purpose of available information in terms of accuracy, age, relevance, reliability, bias	3.9.4
4.21	Understand what online services are offered by: booking systems for travel, leisure and entertainment; banks; education and training providers – VLE, online support, online training courses, remote access; news and other information providers; auction sites	4.1.1

Section B – Digital Technology

Topic 5 – Bigger picture

Students should:		Curriculum reference
5.1	Understand the environmental impact of technology (energy use, resources) on society	6.1.1

Topic 6 – Information technology

Students should:		Curriculum reference
6.1	Be able to select and combine appropriate software applications (word processing, database management, spreadsheet, presentation (multimedia), graphics to design and create a range of content that accomplish given goals	5.1.2
6.2	Be able to use appropriate software to analyse and data and information, to lead to an evaluation of the results	5.1.2
6.3	Understand the use of themes/templates to organise content and achieve consistency	5.1.2

Topic 7 – Software skills: word processing

Students should:		Curriculum reference
7.1	Be able to use: bullets, numbering, sub-numbering, alignment, tabs, line spacing, colour, font size and style, text wrap, text boxes for the purposes of editing and formatting text	6.1.2
7.2	Be able to use columns and/or tables: horizontal and vertical text alignment, merge and split cells, gridlines, borders, shading	6.1.3
7.3	Understand the purpose of different document types including: letter, information sheet	6.1.6

Topic 8 – Software skills: database management

Students should:		Curriculum reference
8.1	Understand the different data types, including: alphanumeric/text, numeric/number, date, currency	6.2.1
8.2	Understand the structure of a given database, including: record, field, table	6.2.2
8.3	Be able to sort in ascending/descending order, using a single field or multiple fields	6.2.4
8.4	Be able to use search/query using single criterion	6.2.6

Topic 9 – Software skills: spreadsheets

Students should:		Curriculum reference
9.1	Understand the structure of a spreadsheet including: row, column and cell	6.2.2
9.2	Understand the purpose of formulae for arithmetic operators including: plus, minus, multiply, divide	6.3.3, 10.1.1
9.3	Understand the purpose of functions: SUM, AVERAGE	6.3.4, 10.1.1

Topic 10 – Software skills: presentation

Students should:		Curriculum reference
10.1	Be able to create slides, which include: text, images, buttons, hyperlinks to internal and external content; animation effects, transition effects	6.5.2

Topic 11 – Software skills: graphics

Students should:		Curriculum reference
11.1	Be able to create images: combining basic shapes and text, rectangles (including square), circles (including ovals), lines, triangles, arrows, text boxes	6.6.2
11.2	Understand the use of these image editing tools: cropping, adding captions/text	6.6.3

Topic 12 – Software skills: file handling

Students should:		Curriculum reference
12.1	Understand the importance of saving work regularly and keeping information secure	6.7.1
12.2	Understand the need for file formats and sensible filenames	6.7.2
12.3	Understand the need for managing files and folder structures	6.7.3

Assessment information

The Pearson Edexcel International Award in Primary Computing consists of an externally-examined achievement test.

- The test is 1 hour and is out of 60 marks.
- The test has two sections:
  - Section A consists of 40 marks, it covers the content from Computer Science.
  - Section B consists of 20 marks, it covers the content from Digital Technology.
- Students must answer all questions.
- The test consists of multiple-choice, closed-response questions and short open-response questions.

Please see the *Qualification at a glance* section for more information.

Sample assessment materials

A sample achievement test and mark scheme can be found in the *Pearson Edexcel International Award in Primary Computing Sample Assessment Materials (SAMs)* document.

A full list of command words that will be used in the assessment can be found in *Appendix 1: Command word taxonomy*.

Assessment Objectives

Students must:		% in qualification
AO1	Demonstrate knowledge of computing ideas, computing techniques and procedures	28–32
AO2	Demonstrate understanding of computing ideas, computing techniques and procedures	30–33
AO3	Apply knowledge and understanding of computing ideas, computing, techniques and procedures	20–23
AO4	Analyse and interpret information including computing data	3–6
AO5	Evaluate, make judgements and draw conclusions	3–6
AO6	Use computing information to construct an artefact for a real-world situation	5
	Total	**100%**

3 Administration and general information

Entries

Details of how to enter students for the examinations for this qualification can be found in our *International Information Manual*. A copy is made available to all examinations officers and is also available on our website: qualifications.pearson.com.

Access arrangements, reasonable adjustments, special consideration and malpractice

Equality and fairness are central to our work. Our equality policy requires all students to have equal opportunity to access our qualifications and assessments, and our qualifications to be awarded in a way that is fair to every student.

We are committed to making sure that:

- students with a protected characteristic (as defined by the UK Equality Act 2010) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to students who do not share that characteristic
- all students achieve the recognition they deserve for undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

Language of assessment

Assessment of this qualification will be available in English only. All student work must be in English.

Access arrangements

Access arrangements are agreed before an assessment. They allow students with special educational needs, disabilities or temporary injuries to:

- access the assessment
- show what they know and can do without changing the demands of the assessment.

The intention behind an access arrangement is to meet the particular needs of an individual student with a disability without affecting the integrity of the assessment. Access arrangements are the principal way in which awarding bodies comply with the duty under the Equality Act 2010 to make 'reasonable adjustments'.

Access arrangements should always be processed at the start of the course. Students will then know what is available and have the access arrangement(s) in place for assessment.

Reasonable adjustments

The Equality Act 2010 requires an awarding organisation to make reasonable adjustments where a student with a disability would be at a substantial disadvantage in undertaking an assessment. The awarding organisation is required to take reasonable steps to overcome that disadvantage.

A reasonable adjustment for a particular student may be unique to that individual and therefore might not be in the list of available access arrangements.

Whether an adjustment will be considered reasonable will depend on a number of factors, including:

- the needs of the student with the disability
- the effectiveness of the adjustment
- the cost of the adjustment; and
- the likely impact of the adjustment on the student with the disability and other students.

An adjustment will not be approved if it involves unreasonable costs to the awarding organisation, timeframes or affects the security or integrity of the assessment. This is because the adjustment is not 'reasonable'.

Special consideration

Special consideration is a post-examination adjustment to a student's mark or grade to reflect temporary injury, illness or other indisposition at the time of the examination/ assessment, which has had, or is reasonably likely to have had, a material effect on a candidate's ability to take an assessment or demonstrate their level of attainment in an assessment.

Further information

Please see our website for further information about how to apply for access arrangements and special consideration.

For further information about access arrangements, reasonable adjustments and special consideration please refer to the JCQ website: www.jcq.org.uk.

Candidate malpractice

Candidate malpractice refers to any act by a candidate that compromises or seeks to compromise the process of assessment or which undermines the integrity of the qualifications or the validity of results/certificates.

Candidate malpractice in examinations **must** be reported to Pearson using a *JCQ Form M1* (available at www.jcq.org.uk/exams-office/malpractice). The form should be emailed to candidatemalpractice@pearson.com. Please provide as much information and supporting documentation as possible. Note that the final decision regarding appropriate sanctions lies with Pearson.

Failure to report malpractice constitutes staff or centre malpractice.

Staff/centre malpractice

Staff and centre malpractice includes both deliberate malpractice and maladministration of our qualifications. As with candidate malpractice, staff and centre malpractice is any act that compromises or seeks to compromise the process of assessment or which undermines the integrity of the qualifications or the validity of results/certificates.

All cases of suspected staff malpractice and maladministration **must** be reported immediately, before any investigation is undertaken by the centre, to Pearson on a *JCQ Form M2(a)* (available at www.jcq.org.uk/exams-office/malpractice).

The form, supporting documentation and as much information as possible should be emailed to pqsmalpractice@pearson.com. Note that the final decision regarding appropriate sanctions lies with Pearson.

Failure to report malpractice itself constitutes malpractice.

More-detailed guidance on malpractice can be found in the latest version of the document *JCQ General and vocational qualifications Suspected Malpractice in Examinations and Assessments,* available at www.jcq.org.uk/exams-office/malpractice.

Awarding and reporting

The Pearson Edexcel International Award in Primary Computing will be graded on a three-level scale from P1 to P3.

A pass in the Pearson Edexcel International Award in Primary Computing is indicated by one of the three levels P1, P2 and P3, of which level P3 is the highest and level P1 the lowest. Students whose level of achievement is below the minimum judged by Pearson to be of sufficient standard to be recorded on a certificate will receive an unclassified U result.

The first certification opportunity for the Pearson Edexcel International Award in Primary Computing will be in August 2020.

Student recruitment and progression

Pearson follows the JCQ policy concerning recruitment to our qualifications in that:

- they must be available to anyone who is capable of reaching the required standard
- they must be free from barriers that restrict access and progression
- equal opportunities exist for all students.

Prior learning and other requirements

There are no prior learning or other requirements for this qualification.

Progression

Students can progress from this qualification to the Pearson Edexcel International Award in Lower Secondary Computing.

Appendices

Appendix 1: Command word taxonomy

The following table lists the command words that will be used in the externally-examined achievement test.

Command word	Definition
Add/label	Requires the addition of something, or labelling of, a stimulus material given in the question, for example labelling a diagram.
Circle	Used for indicating a point on a diagram where the answer is shown by a circle.
Compare	Looking for similarities and/or differences of two or more things. Should not require the drawing of a conclusion.
Complete	Requires the completion of a table, diagram, algorithm, flow chart or picture.
Create	Requires the creation of an artefact, e.g. an algorithm, flow chart, diagram.
Draw	Produce/complete a diagram using a ruler or freehand.
Describe	To give an account of something. Statements in the response need to be developed as they are often linked but do not need to include a justification or reason.
Explain	An explanation requires an identification of a point linked with justification/reasoning.
Give/State/Name	These command words are really synonyms. They generally require recall of one or more pieces of information. They are used only when there is more than one possible answer and where the words 'What' or 'Which' cannot be used.
Identify	Usually requires some key information to be selected from a given stimulus/resource.
Tick	Used for completion of a table where the answer is given by a tick in the table.
Write	Construct a program command that meets a specified problem or required function. This could be to meet a need or solve an error in a program.

Sb050219Z:\LT\PD\IPRIMARY\9781446959954_IPRIMARYAWD_COMPUTING.DOCX.1–26/1

Edexcel, BTEC and LCCI qualifications

Edexcel, BTEC and LCCI qualifications are awarded by Pearson, the UK's largest awarding body offering academic and vocational qualifications that are globally recognised and benchmarked. For further information, please visit our qualifications website at qualifications.pearson.com. Alternatively, you can get in touch with us using the details on our contact us page at qualifications.pearson.com/contactus

About Pearson

Pearson is the world's leading learning company, with 35,000 employees in more than 70 countries working to help people of all ages to make measurable progress in their lives through learning. We put the learner at the centre of everything we do, because wherever learning flourishes, so do people. Find out more about how we can help you and your learners at qualifications.pearson.com

Acknowledgements

This specification has been produced by Pearson on the basis of consultation with teachers, examiners, consultants and other interested parties. Pearson would like to thank all those who contributed their time and expertise to the specification's development.

ISBN 978 1 446 95995 4

FOR INFORMATION ABOUT EDEXCEL, BTEC OR LCCI QUALIFICATIONS
VISIT QUALIFICATIONS.PEARSON.COM

EDEXCEL IS A REGISTERED TRADEMARK OF PEARSON EDUCATION LIMITED

PEARSON EDUCATION LIMITED. REGISTERED IN ENGLAND AND WALES NO. 872828
REGISTERED OFFICE: 80 STRAND, LONDON WC2R 0RL
VAT REG NO GB 278 537121

GETTY IMAGES: ALEX BELMONLINSKY

ISBN 978-1-4469-5995-4