

ISO COMPUTING POLICY - PRIMARY

1. Introduction

The 2014 National Curriculum introduces a new subject, computing, which replaces ICT. This represents continuity and change, challenge and opportunity. It gives schools the chance to review and enhance current approaches in order to provide an even more exciting and rigorous curriculum that addresses the challenges and opportunities offered by the technologically rich world in which we live.

Computing is concerned with how computers and computer systems work, and how they are designed and programmed. Pupils studying computing will gain an understanding of computational systems of all kinds, whether or not they include computers. Computational thinking provides insights into many areas of the curriculum, and influences work at the cutting edge of a wide range of disciplines.

2. Computing programme of study

The new National Curriculum presents the subject as one lens through which pupils can understand the world. There is a focus on computational thinking and creativity, as well as opportunities for creative work in programming and digital media.

The introduction makes clear the three aspects of the computing curriculum: computer science (CS), information technology (IT) and digital literacy (DL).

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. 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.

General Aims and Objectives

The national curriculum for computing aims to ensure that all pupils:

- 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.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

3. Subject content

Implementation

These strands should be combined so that breadth and balance is achieved. Computing will be taught in half term blocks, in a way which emphasizes it's cross curricular links, although there will still be the need for subject based teaching. Wherever possible various programs should be used in conjunction with the teaching of the National Curriculum

The Computer Lab will be used to help pupils access the Computing curriculum, along with a range of other resources, such as programmable toys. We will also include some unplugged lessons outside the Computer Lab (in classrooms or on the Playground).

4. Planning

4.1 Foundation Stage

During the Foundation Stage, Reception pupils should be given the opportunities to:

- Show an interest in Computing.
- Seek to acquire basic skills in turning on and operating some ICT equipment (computer, BeeBots, TV, SmartBoard).
- Know how to operate simple equipment.
- Complete a simple program on a computer.
- Use a mouse and keyboard to interact with age-appropriate computer software.
- Use the keyboard to write their names starting with capital letter with Caps Lock.
- Program the BeeBot to follow a simple route.
- Find out about and identify uses of everyday technology and uses of information and communication technology and programmable toys to support their learning.

4.2 Key Stage 1 & 2

Computing is planned in accordance with the new National Curriculum. Plans ensure an appropriate balance and distribution of work across each half term. During each half term, specific learning objectives, tasks and activities are recorded on short term weekly planning sheets. Sheets for weekly planning specify organizational details, including teaching modes, differentiation, deployment of staff/volunteer support and resources. The Computing teachers keep these individual plans on Drive, and the KS Coordinators and/or subject leader monitor and review them regularly.

The new National Curriculum states that pupils should be taught to:

	Key Stage 1	Key Stage 2
Computer Science	Understand what algorithms are; how they are implemented as programs on digital devices and that programs execute by	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into
	following precise and unambiguous instructions; Create and debug simple programs; Use logical reasoning to predict the behaviour of simple programs.	smaller parts ; Use sequence, selection, and repetition in programs; work with variables and various forms of input and output; Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs; Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web; Appreciate how [search] results are selected and ranked.

Information Technology	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Use search technologies effectively; Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including; collecting, analysing, evaluating and presenting data and information;
Digital Literacy	Recognise common uses of information technology beyond school; Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies .	Understand the opportunities [networks] offer for communication and collaboration; Be discerning in evaluating digital content; Use technology safely, respectfully and responsibly; Recognize acceptable/unacceptable behaviour; Identify a range of ways to report concerns about content and contact.

4.3 Computing Units per Year

	Term 1.1	Term 1.2	Term 2.1	Term 2.2	Term 3
Year 1	Creating Photo Album all about you;	Programmable toys using Bee-Bot;	Drawing and Labeling;	Grouping and classifying, creating charts; Multimedia Presentation on a topic: Dinosaurs	Multimedia Presentation on a topic: Places to visit on holiday; Coding activities.

Year 2	Writing stories: communicating information using text	We are celebrating: Creating cards electronically	Exploring the Internet: Stay Safe online	We are botanists: Sorting and identifying plants Multimedia Presentations	We are miniprogrammers: Writing instructions on a computer simulation software
Year 3	Computer System components;	Introduction to databases	Starting with the email	Combining text and graphics	Programming
Year 4	Switching programs: Word, PowerPoint Paint	Introduction to programming with Tynker	Simulations on Circuits; Starting with spreadsheets ;	Starting with databases – Branching Databases	Introduction to programming with Scratch
Year 5	Combining text and graphics	Spreadsheet: The Magical Table	Creating a Database	Controlling and monitoring: Space Station Alert; The Solar System	The bases of Programming
Year 6	Using the internet to search large databases and to interpret	Communicating information: Multimedia presentation; Improving a text	Writing code: instructions	Spreadsheet modelling	Creating a project: Website
	information	document			

5. Assessment and Record Keeping

The Computing teachers uses a variety of methods, such as observation, questioning and analysis of work to carry out formative, and where appropriate, summative assessments while teaching each unit, and a Term Assessment at the end of each term. These assessments results will appear in the reports sent to parents in December and June.

In KS2, the grades according to the scores obtained at the Term Assessment are as follow:

Grade	Score
Poor	< 50
Fair	[50-69]
Good	[70-84]
Very Good	>84

Children's work is saved in their own folder for reference throughout the year. **Feedback to pupils**

Feedback to pupils is through discussion about their work and the marking of work. It is important that learners are involved in the assessment of their work as this helps them to understand their own strengths, needs and future targets for development. We encourage children to make judgments about how they can improve their work.

6. Equal Opportunities

We believe that all children, irrespective of background, race, gender and capability should have equal access to the curriculum as stated in each curriculum policy. Our school practice should provide opportunities that reflect the cultural diversity of our school, community and locality.

7. SEN

At the International School of Oradea we recognise the need to cater for children with Special Educational Needs. Work is differentiated to assist children's learning in terms of:

- learning outcomes
- tasks
- teaching methods
- resources

Tasks can be broken down into small steps, giving children achievable goals. Activities should reinforce children's understanding of the subject. The more able children should be given openended tasks and opportunities for further research and more challenging study.

Wherever possible, pupils should use computer programs that are accessible and suitable for their own abilities and age.

Conversely, learners of gifted ability in Computing and IT need to be appropriately challenged in order to extend their knowledge and understanding and maintain motivation. Differentiated work and enrichment opportunities will be planned for those children.

8. The Learning Environment

The Computer Lab will have displays about work being taught during the Computing lessons and the best children's works. Resources for the unit of work being covered should be appropriately accessible. Other sources of information should be available.

The Computing Star of the Month winners' names will be displayed on the wall, in a special section.

9. Recognising Pupils' Achievements

Pupils' achievements in Computing and IT are recognised and celebrated through:

- House Points and Dojo Points
- Display of learners' work in classrooms and public areas
- Showing work to the class, other classes, and to the whole school in assemblies
- Computing Stars of the month awards
- Golden Mouse when applicable

10. Health and Safety

Health and safety regulations in the class-based lessons apply as for any other subject. When working with tools, equipment and materials, in practical activities and in different environments, including those that are unfamiliar, pupils should be taught:

1. About hazards, risks and risk control.
2. To recognise hazards, understand consequent risks and take steps to control the risks to themselves and others.
3. To manage their environment to ensure the health and safety of themselves and others.
4. To explain the steps they take to control risks.
5. All workstations offer a safe environment for pupils and staff to work: ●
 - all electrical equipment is regularly checked;
 - wires must not be allowed to trail on the floor or worktops (all wires should be plugged on the back side of the base unit for security issues);
 - chairs and tables are at an appropriate height for the children;

- lighting is suitable and monitors are not facing bright direct lighting from a window; •
 - the room is adequately ventilated;
- children do not eat or drink near the computers;
- children are aware of the dangers of using electrical equipment and are taught the rules for safe use of the computers, such as how to switch them on and off correctly;
- children do not work at the computer for long periods of time without a break;
- all staff should respect the Computer Lab rules as long as they are using it;
- children are not allowed in the Computer Lab without a teacher or an authorised adult.

11. Evaluation

This policy will be reviewed annually by Computing Teachers, Key Stage Coordinators and Primary Principal, in consultation with the staff, and when elements of Computing are identified or prioritised within the SMT.