



ISOP PYP

ICT

SCOPE AND SEQUENCE

What the PYP believes about learning ICT	ICT in a transdisciplinary programme
<p>The ever-increasing impact of ICT on teaching and learning is an important consideration in education at all levels. Through ICT, there are greater opportunities for interactive communication and exchange of information through global collaboration, authentic learning, expansion of the learning community and empowerment for all learners.</p> <p>ICT in the PYP encompasses the use of a wide range of digital tools, media and learning environments for teaching, learning and assessing. ICT provides opportunities for the transformation of teaching and learning and enables students to investigate, create, communicate, collaborate, organize and be responsible for their own learning and actions. ICT allows students to make connections and reach a deeper understanding of its relevance and applicability to their everyday lives. Through the use of ICT, learners develop and apply strategies for critical and creative thinking, engage in inquiry, make connections, and apply new understandings and skills in different contexts.</p> <p>In this constantly evolving digital age, ICT is progressively becoming a ubiquitous part of a learner’s life at school and beyond: for learning, working, innovating, creating, responding, problem-solving, problem-posing, socializing and playing. Students inhabit a world saturated with information, images and sound. Inevitably, students’ immersion in this world continually leads them to explore creative and innovative uses of emerging technologies beyond their basic functional applications, discovering new ways of engaging with content meaningfully, and participating fully in today’s world.</p> <p>The IB learner profile is integral to teaching and learning in the PYP because it represents the qualities of effective learners and internationally minded students. The learner profile, together with the five essential elements of the programme – concepts, knowledge, skills, attitude and action – inform the integration of ICT in planning, teaching and assessing in the PYP. (Taken from <i>The Role of ICT in the PYP, Page 1</i>)</p>	<p>In the PYP, it is advocated that purposeful inquiry is the best way to learn. The starting point should always be students’ prior experiences and current understanding. When teachers plan learning experiences that enable students to develop, students are able to make connections, apply their learning, and transfer their conceptual understanding to new situations. This progressive conceptual development, together with an enjoyment of the process, provides the foundation for lifelong learning.</p> <p>In the PYP, there will be opportunities to use ICT in the relevant, authentic context of the units of inquiry, as well as through teaching and learning experiences in other areas of the curriculum. Teachers have a responsibility to help students to make explicit connections between different aspects of their learning. Students need opportunities to identify and reflect on significant ideas within the different skills of ICT, the transdisciplinary themes, and other subject areas. The role of ICT to support inquiry is important as students engage in building understandings that contribute to their success as lifelong learners in a digital age.</p> <p>To ensure a cohesive educational experience for students, a PYP school is responsible for ensuring that there are regular opportunities for collaboration among teachers in the school including homeroom/classroom, single-subject and support teachers (for example, teacher-librarian, ICT teacher, learning and/or special needs teacher). This collaboration includes the development and overall review of the school’s programme of inquiry, as well as planning, teaching and reflecting on individual units of inquiry. However, it should be recognized that the responsibility for learning about and through ICT is shared among all teachers. It is acknowledged that in many schools, a single-subject teacher takes responsibility for ICT. It is vital that these teachers see themselves primarily as PYP teachers who teach and integrate ICT throughout the curriculum, and in so doing contribute to both the broad and specific learning outcomes of a transdisciplinary programme.</p> <p>It is worthwhile to note that there will be opportunities for student-initiated, spontaneous inquiries into the use of ICT that are not directly related to any planned units of inquiry or single-subject areas. For example, a student contributing to a class blog may want to start his or her own blog as a personal reflection journal. These are valuable teaching and learning opportunities in themselves, and provide teachers and students with the opportunity to apply the pedagogy of the PYP to authentic, of-the-moment situations. (Taken from <i>The Role of ICT in the PYP, Pages 1-2</i>)</p>

Investigating	Creating	Communicating	Collaborating	Organizing	Becoming responsible digital citizens
<ul style="list-style-type: none"> - Learn how to turn the computer on / off - Learn how to use basic tools in MS Paint and similar graphic design apps - Learn how to operate the mouse, how to hold it correctly, click and double click - Learn how to open up and close a program - Identify the toolbar and use the basic tools in a software - Learn the use of keyboard in MS Paint and online activities (including spacebar, enter and arrow keys) and identify letters on the keyboard - Identify the basic components of the computer: monitor, keyboard, mouse 	<ul style="list-style-type: none"> - Draw basic pictures and drawings using MS Paint and other graphic design apps - Use online applications and games to achieve the desired result 	<ul style="list-style-type: none"> - Communicate the ideas through visualized means (e.g. drawings, online activities) - Communicate by choosing one of several options available to them 	<ul style="list-style-type: none"> - Understand that technology can be used as a collaboration tool - Work together with a classmate in an online game or activity to achieve desired results 	<ul style="list-style-type: none"> - Understand the steps and their order to achieve desired results in games and online activities - Use the given space in digital drawing software in an organized and thoughtful manner 	<ul style="list-style-type: none"> - Know the correct posture when working with a computer - Understand the importance of careful and mindful use of the computer and its tools - Understand and follow the rules of conduct in the IT room

Grade 1

Investigating	Creating	Communicating	Collaborating	Organizing	Becoming responsible digital citizens
<ul style="list-style-type: none"> - Identify the basic component of the computer: monitor, keyboard, mouse, PC, headphones, printer - Use desktop icons, windows and menus to access applications and their tools - Use special keys on the keyboard (Enter, space bar, backspace, arrow keys, caps lock, shift) - Turn the computer on and off correctly - Access and exit software correctly - Understand the basic computer-based terms, such as the Internet, browser, program etc.) - Use undo and redo in MS Paint and back and forward in browser - Copy and paste pictures 	<ul style="list-style-type: none"> - Draw basic pictures and drawings using MS Paint and other graphic design apps with the use of various tools - Delete and retrieve objects in MS Paint - Use different tools in online games and activities to achieve desired results - Open a new file in different types of software - Use keyboard to enter short texts into MS Paint and online searches - Insert, move and manipulate shapes in MS Paint and other graphic design software - Insert pictures from online searches into projects 	<ul style="list-style-type: none"> - Express thoughts and ideas through the visual means - Communicate by choosing one of several options available to them - Using short texts to communicate ideas and explain visual elements of the projects - Understand that technology can be used as a means of communication 	<ul style="list-style-type: none"> - Understand that technology can be used as a collaboration tool - Work together with a classmate in an online game or activity to achieve desired results - Collaborate with other students, exchange ideas and thoughts with the use of technology 	<ul style="list-style-type: none"> - Save files in a given place with teacher's guidance - Understand the steps and their order to achieve desired results in games and online activities - Use the given space in digital drawing software in an organized and thoughtful manner 	<ul style="list-style-type: none"> - Know the correct posture when working with a computer - Understand the importance of careful and mindful use of the computer and its tools - Understand and follow the rules of conduct in the IT room - Understand that the use of Internet can be risky and know the basic safety procedures

Grade 2

Investigating	Creating	Communicating	Collaborating	Organizing	Becoming responsible digital citizens
<ul style="list-style-type: none"> - Name documents with appropriate file names and understand where the files are being saved - Highlight, copy and paste text within a document or from an outside source - Copy, paste and resize images within a document and from the outside sources - Use keyboarding programs and games to assist in the development of skills - Conduct a basic research with the use of search engine on a given topic and understand the value of the Internet as a research tool - Being able to locate and use toolbars and dropdown menus in various kinds of software - Understand the basic computer-based terms, such as the Internet, browser, program, file, save, edit, address bar, search bar etc. 	<ul style="list-style-type: none"> - Use a word processing application (MS Word or other online applications) to write, edit and save assignments - Draw more complex pictures and drawings using MS Paint and other graphic design apps with the use of various tools - Manipulate, resize and edit shapes in MS Paint and other graphic design programs - Use tools to format the text in different software (e.g. choosing font, font size, font style, color, positioning it on the page) 	<ul style="list-style-type: none"> - Express thoughts and ideas through text and the visual means - Communicate by choosing one of several options available to them - Using short texts to communicate ideas and explain visual elements of the projects - Understand that technology can be used as a means of communication 	<ul style="list-style-type: none"> - Understand that technology can be used as a collaboration tool - Work together with a classmate in an online game or activity to achieve desired results - Collaborate with other students, exchange ideas and thoughts with the use of technology - Work together with classmates on projects and assignments and be able to share the responsibility 	<ul style="list-style-type: none"> - Save files in a given place independently and be able to retrieve the file from a given location - Understand the steps and their order to achieve desired results in games and online activities - Use the given space in digital drawing software in an organized and thoughtful manner and being able to plan their work ahead 	<ul style="list-style-type: none"> - Recognize how the overuse of technology can impact one's mental, physical and emotional health - Use proper posture and ergonomics when using a computer - Understand the importance of careful and mindful use of the computer and its tools - Understand and follow the rules of conduct in the IT room - Understand that the use of Internet can be risky and know the basic safety procedures

Grade 3

Investigating	Creating	Communicating	Collaborating	Organizing	Becoming responsible digital citizens
<ul style="list-style-type: none"> - Learn and use basic keyboard shortcuts to operate the computer (e.g. ctrl - C, ctrl - Z, ctrl - V) - Copy and paste different types of media - Use login information to access Google School Account - Understand the format and use of links to websites - Use search tools to locate files on Google Drive - Use the menu / toolbar functions to format and edit a document and multimedia presentation - Use toolbar in Google Docs and Google Slides to operate the software - Format documents in Google Docs (e.g. select page orientation, insert bullets and numbering, insert pictures and tables) 	<ul style="list-style-type: none"> - Create, edit and format texts and visuals within a multimedia presentation and a document - Create a series of slides and organize them to present research or convey an idea - Create different types of text works, such as invitations, posters and leaflets with the use of Google Apps - Use different software to present the results of conducted research 	<ul style="list-style-type: none"> - Understand that technology can be used as a means of communication - Communicate with their peers and teachers over email - Know the etiquette of online communication - Use Google Apps (Google Docs, Google Slides, Google Drawings) to convey ideas creatively - Understand features of inbox (e.g. subject, date, drafts, reply, reply all etc.) - Read, send, forward and reply to a message 	<ul style="list-style-type: none"> - Attach files and pictures to email and share files / folders on Google Drive - Work collaboratively on projects in Google Apps, share responsibility and divide the work among the group members - Set up, share and use collaborative workspaces, documents, folders - Collaborate with other students, exchange ideas and thoughts with the use of technology 	<ul style="list-style-type: none"> - Create, save, edit, copy, delete and rename files and folders to organize documents and materials on Google Drive - Take digital notes in an organized manner to facilitate further work on an assignment - Organize the slides in a thoughtful manner in order to maximize the use of the space 	<ul style="list-style-type: none"> - Recognize how the overuse of technology can impact one's mental, physical and emotional health - Understand and follow the rules of conduct in the IT room - Protect accounts by logging out of shared computers - Keep passwords confidential and understand the importance of a strong password - Recognise the risks connected to the use of Internet and know the basic safety procedures - Recognise the importance of proper hand placement for the keyboarding practice - Understand the importance of assessing a given website as a source of information

Investigating	Creating	Communicating	Collaborating	Organizing	Becoming responsible digital citizens
<ul style="list-style-type: none"> - Utilize basic troubleshooting steps to solve technical problems independently - Retrieve file revisions / access revision history of documents located in Google Drive - Define an algorithm as a sequence of instructions and use the basic steps of algorithmic thinking to solve problems and design solutions - Control the object on the screen and design a step by step instructions for it to follow using a visual programming language - Conduct research using websites provided and find relevant information without teacher's support - Identify elements of a good slideshow 	<ul style="list-style-type: none"> - Create different types of text works, such as invitations, posters and leaflets with the use of Google Apps and be able to format the text using various tools - Create short animations in Pivot Animator software with the use of various tools - Create a more complex multimedia presentation with the use of various tools and sources - Use digital design software such as Canva to design posters and other works - Use a block based visual programming interface to build a game, tell a story, or solve a problem 	<ul style="list-style-type: none"> - Understand that technology can be used as a means of communication - Communicate with their peers and teachers over email - Know the etiquette of online communication - Use Google Apps (Google Docs, Google Slides, Google Drawings) to convey ideas creatively - Know different ways to communicate ideas with others online, such as messaging apps, emails, blogs, websites etc. 	<ul style="list-style-type: none"> - Work collaboratively on projects in Google Apps, share responsibility and divide the work among the group members - Set up, share and use collaborative workspaces, documents, folders - Collaborate with other students, exchange ideas and thoughts with the use of technology 	<ul style="list-style-type: none"> - Upload / download files to and from Google Drive - Create, save, edit, copy, delete and rename files and folders to organize documents and materials on Google Drive - Take digital notes in an organized manner to facilitate further work on an assignment - Organize the slides in a thoughtful manner in order to maximize the use of the space - Find pictures in Google Search and save them into hard drive / Google Drive 	<ul style="list-style-type: none"> - Understand the importance of not sharing personal information online - Understand how to be safe online and in the digital world - Understand the negative effects of using social media and know practices necessary for the safe use of them - Evaluate whether sources / websites are safe to conduct research - Recognize how the overuse of technology can impact one's mental, physical and emotional health - Understand the idea of ownership and ownership rights and cite the materials used during assignments - Identify the importance of equal access to technology

Investigating	Creating	Communicating	Collaborating	Organizing	Becoming responsible digital citizens
<ul style="list-style-type: none"> - Proofread and edit writing using different resources (e.g. spell check, thesaurus, dictionary) - Understand that spreadsheets are used to collect, manage and analyze and visualize data - Identify and explain terms and concepts related to spreadsheets (e.g. cell, column, row, values, labels, chart, graph) - Calculate basic numerical equations using spreadsheet formulas and functions - Conduct a thorough research independently using a variety of sources 	<ul style="list-style-type: none"> - Use a block based visual programming interface to build a game, tell a story, or solve a problem - Create Google Forms to collect data - Enter and edit data and text into a spreadsheet and format spreadsheet to accommodate data - Utilize spreadsheet data to create tables, charts and graphs - Create long pieces of writing (e.g. reports) and format the text with or without the use of templates - Create a more complex multimedia presentation with the use of various tools and sources, with or without a template - Use digital design software such as Canva to design posters and other works 	<ul style="list-style-type: none"> - Use email to communicate with peers and teachers using the correct etiquette - Understand that technology can be used as a means of communication - Use Google Apps (Google Docs, Google Slides, Google Drawings) to convey ideas creatively - Know different ways to communicate ideas with others online, such as messaging apps, emails, blogs, websites etc. 	<ul style="list-style-type: none"> - Combine the effects of individual work into collaborative projects - Share responsibility and divide the work in group work on shared files and projects - Set up, share and use collaborative workspaces, documents, folders - Collaborate with other students, exchange ideas and thoughts with the use of technology 	<ul style="list-style-type: none"> - Upload / download files to and from Google Drive - Create, save, edit, copy, delete and rename files and folders to organize documents and materials on Google Drive - Take digital notes in an organized manner to facilitate further work on an assignment - Organize the slides in a thoughtful manner in order to maximize the use of the space - Organize the research using various tools, recording used sources - Working with multiple sources across various software 	<ul style="list-style-type: none"> - Use technology independently and with peers responsibly and make safe choices - Understand that digital content is permanent and cannot be deleted - Build a positive digital footprint / reputation - Understand the concept of cyberbullying, being a bully, an upstander, a bystander and be aware of the possible actions to be taken - Evaluate whether sources / websites are safe to conduct research - Recognize how the overuse of technology can impact one's mental, physical and emotional health - Understand the idea of ownership and ownership rights and cite the materials used during assignments

This document has been created referring to:

- Polish National Curriculum for Computer Classes
- *The role of ICT in the PYP* (Making the PYP happen: A curriculum framework for international primary education)
- *Technology in the PYP* (Getting started with the PYP: From principles into practice)
- ISTE Standards for Students (<https://www.iste.org/standards/for-students>)