

# Year 4 Curriculum Handbook

## Overview

As of September 2018, The International School of Brno (ISB) has begun implementing the International Baccalaureate Primary Years Programme as a candidate school. The International Baccalaureate (IB) is a highly acclaimed educational program. The Primary Years Programme (PYP) was established in 1997 and provides a curriculum framework for students aged 3 - 12. Please visit our website to see the timeline for PYP authorization.

The IB offers a significant, challenging, engaging and relevant curriculum model that meets the needs of international student populations. It offers a framework that specifies what students learn, how they should learn and how they should be assessed. Schools use this framework to develop a high-quality curriculum that meets the needs of their student population and the local environment.

## The Written Curriculum: What do students learn?

The PYP addresses students academic needs in addition to their social and emotional well-being. The IB identifies five key elements that students should develop: knowledge, understandings (concepts), skills and attributes.

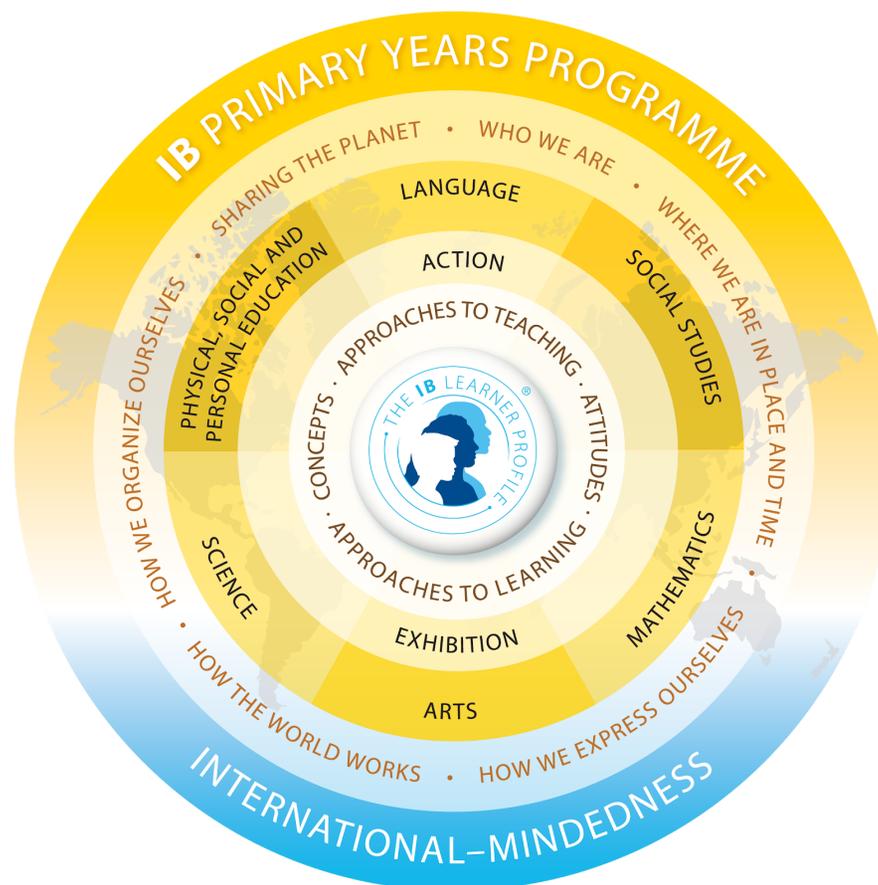
### *Key Knowledge: Transdisciplinary Themes*

The PYP is a transdisciplinary programme, meaning it consists mainly of integrated units of learning where traditional subjects like mathematics and language are learned in the context of the unit of inquiry. There are six subject areas, Language, Mathematics, Social Studies, Science, Arts, and Personal Social Physical Education, which are taught through six themes: Who We Are, Where We Are in Place & Time, How the World Works, How We Express Ourselves, How We Organize Ourselves and Sharing the Planet

*\*\* More details about each subject is described further in this handbook.*

## Year 4 Curriculum Handbook

Early Years classes (K1 - Year 1) have four units, while Primary School classes (Year 2 - Year 6) have six. The programme ends with the PYP Exhibition which is an exhibit by the year 6 students of their learning through their primary years.



# Year 4 Curriculum Handbook

## *Key Understandings (Concepts)*

The key concepts are essential to our programme and the way in which we plan to transfer learning between subject areas. You will see particular concepts identified within the units of inquiry.

### **Form**

**Key question:** What is it like?

**Definition:** The understanding that everything has a form with recognizable features that can be observed, identified, described and categorized.

### **Function**

**Key question:** How does it work?

**Definition:** The understanding that everything has a purpose, a role or a way of behaving that can be investigated.

### **Causation**

**Key question:** Why is it like it is?

**Definition:** The understanding that things do not just happen, that there are causal relationships, and that actions have consequences.

### **Change**

**Key question:** How is it changing?

**Definition:** The understanding that change is the process of movement from one state to another.

### **Connection**

**Key question:** How is it connected to other things?

**Definition** The understanding that we live in a world of interacting systems in which the actions of any individual element affect others.

## Year 4 Curriculum Handbook

### Perspective

**Key question:** What are the points of view?

**Definition** The understanding that knowledge is led by perspectives; different perspectives lead to different interpretations, understandings and findings; perspectives may be individual, group, cultural or disciplinary

### Responsibility

**Key question:** What is our responsibility?

**Definition:** The understanding that people make choices based on their understandings, and the actions they take as a result do make a difference

### *Key Skills (Approaches to Learning)*

The Approaches to learning are valuable, not only to the units of inquiry but for any teaching and learning experience, and are therefore integrated into everything that we do at ISB. They are planned for in every subject area, giving teachers and students a common language with which to support the making of connections between different areas of learning.

### Self Management skills

**Organization:** Managing time and tasks effectively

**States of mind:** Using strategies that manage state of mind

### Social Skills

**Interpersonal relationships, social and emotional intelligence:** Developing positive interpersonal relationships and collaboration

### Communication Skills

**Exchanging information:** Listening, interpreting and speaking

**Symbolic exploration and expression**

## Year 4 Curriculum Handbook

### Research Skills

**Information literacy:** Formulating and planning, data gathering and recording, synthesizing and interpreting, evaluating and communicating

**Media literacy:** Interacting with media to use and create ideas and information

### Thinking Skills

**Critical Thinking:** Analysing, Evaluating and Forming Decisions

**Creative Thinking:** Generating novel ideas and considering new perspectives

### *Key Attributes (Learner Profile)*

The aim of all IB programmes is to develop internationally minded people. Therefore, IB learners strive to be:

**Inquirers:** Asking good questions and seeking good answers.

**Knowledgeable:** Understanding the world in different ways and in different contexts.

**Thinkers:** Making ethical decisions through critical thinking.

**Communicators:** Expressing thoughts, emotions, ideas and opinions with confidence and clarity in multiple languages.

**Principled:** Acting with honesty, fairness, integrity, accountability and always respecting others.

**Open-minded:** Seeking to learn about new cultures and their history while also learning about and appreciating our own.

**Caring:** Being compassionate and making a genuine effort to make the world a better place.

## Year 4 Curriculum Handbook

**Risk-takers:** Welcoming challenges and change.

**Balanced:** Working to ensure that we take care of our emotional, physical, intellectual and spiritual well-being and helping others to do the same.

**Reflective:** Looking objectively about our own strengths and weaknesses and always setting goals.

### The Taught Curriculum: How do students learn?

The main approach in the PYP is an inquiry-based approach. Inquiry is the process that moves students from their current level of understanding to a new and deeper level of understanding. Inquiry can look like: exploring, questioning, experimenting, playing, solving problems in a variety of ways, making predictions, defending a position, making and testing theories, collecting data and reporting findings.

Students are given voice, choice, and ownership over their own learning. With teacher facilitation, they are expected to be active participants, develop independence and take responsibility for their learning. At ISB we recognize that students learn differently, therefore learning in all subjects is differentiated for the specific needs of each child.

### The Assessed Curriculum: How do we know what students have learned?

Regular assessments are carried out to provide feedback on the learning process:

- **Pre-assessment:** before the students start a unit to find out what they already know.
- **Ongoing assessment:** throughout the unit to find out how they are progressing
- **Summative assessment:** at the end of the unit, to find out what students have learned.

## Year 4 Curriculum Handbook

Teachers use assessment to identify what students know, understand, can do and feel. The purpose, means and outcomes of assessments should be clearly explained to all members of the learning community through SeeSaw, conferences and shares (see page 17 for more information about each of these or review our assessment policy available on the school website).

### Year 4 Units of Inquiry

*\*September 2 - 6: Unit 0 Orientation to learning at ISB*

September 9 - October 23	October 31 - December 13	January 6 - February 13	March 3 - April 1	April 14 - May 29	June 1 - June 19
<a href="#"><u>How we Organize Ourselves</u></a>	<a href="#"><u>Sharing the Planet</u></a>	<a href="#"><u>Where We Are in Time &amp; Place</u></a>	<a href="#"><u>How the World Works</u></a>	<a href="#"><u>How We Express Ourselves</u></a>	<a href="#"><u>Who We Are</u></a>
<p><b>Central idea:</b> Effective planning and communication helps individuals and groups stay organized.</p> <p><b>Lines of Inquiry:</b> -Different strategies for planning and staying organized. -Responsibilities within a group -Active participation-listening and speaking</p> <p><b>Key Concepts:</b> Perspective, Responsibility</p>	<p><b>Central idea:</b> Living things need to adapt in order to survive.</p> <p><b>Lines of Inquiry:</b> - The meaning of adaptation - Circumstances that lead to adaptations - How plants and animals adapt or respond to current environmental conditions</p> <p><b>Key Concepts:</b> Change, Causation, Responsibility</p>	<p><b>Central idea:</b> Past civilizations shape present day systems and values.</p> <p><b>Lines of Inquiry:</b> -Aspects of past civilizations that have survived -Reasons these systems and values were developed -Why societies continue to use certain systems. -Implications for the future</p> <p><b>Key Concepts:</b> Connection, Change, Perspective</p>	<p><b>Central idea:</b> Materials exist in different states of matter and can be changed.</p> <p><b>Lines of Inquiry:</b> -The arrangement of particles -Reversible and irreversible changes -How experiments are organized through the scientific method</p> <p><b>Key Concepts:</b> Function, Change, Form</p>	<p><b>Central idea:</b> People can use the arts to entertain, persuade and educate audiences.</p> <p><b>Lines of Inquiry:</b> - Different ways people express themselves through the arts - Discovering the creator's purpose - How the arts can influence an audience</p> <p><b>Key Concepts:</b> Perspective, Causation</p>	<p><b>Central idea:</b> Mindset plays an important role in relationships and well-being.</p> <p><b>Lines of Inquiry:</b> -How the brain functions when managing emotions -How mindset is connected to relationships -Strategies that can improve our well-being</p> <p><b>Key Concepts:</b> Function, Connection, Responsibility</p>

# Year 4 Curriculum Handbook

## Science

Throughout the early and primary years at ISB, students learn about the following strands of science: living things, earth and space, materials and matter, forces and energy. They develop skills which allow them to act as scientists and carry out their own inquiries.

Science learning is linked to the unit of inquiry and students engage in inquiries which allow them to use scientific knowledge and develop research and thinking skills. In year 4, students explore the following scientific topics: animal adaptations (unit 2), states of matter (unit 4) and the human brain (unit 6).

## Social Studies

Throughout early and primary years at ISB, students learn about the following social studies strands: social organization and culture, continuity and change throughout time, human and natural environments, resources and the environment

Social studies learning is linked to the unit of inquiry and students engage in inquiries which allow them to develop an understanding of the world through globally significant themes. Using a variety of sources, students learn to ask compelling questions, are encouraged to share ideas and take action. In year 4, students explore the following social studies topics: civilizations (unit 3), environmental protection (unit 2) and different types of art expression (unit 5).

## Mathematics

Students are given the opportunity to see themselves as mathematicians, as they explore the following mathematical strands: data handling, measurement, shape and space, pattern and function and number.

When learning mathematics students take part in activities that allow them to understand mathematical concepts, transfer this meaning into symbols and apply independently with understanding.

### **When constructing meaning about mathematical concepts students may...**

- explore their own personal experiences, understandings and knowledge

## Year 4 Curriculum Handbook

- reflect upon interactions with objects and ideas
- interact with manipulatives/tangible materials
- engage in conversations with others

### When transferring meaning into symbols students may...

- use symbolic notation: pictures, diagrams, modelling with concrete objects, math symbols (e.g. +, -, x, :, %)
- describe their own method using symbolic notation
- transfer into equations

### When applying with understanding students may...

- engage in authentic activities (hands-on, problem solving, realistic situations)
- select their own method and explain their thinking
- justify answers and the processes by which they arrive at solutions
- make and evaluate their own and each other's idea

Students will be introduced to the learning objectives below during year 3. In year 4, students review and consolidate these skills and understandings with the expectation that most year 4 students are able to apply all of the objectives by the end of the school year.

	Data Handling	Measurement	Shape and Space	Pattern and Function	Number
<i>When constructing meaning learners:</i>	<p>Understand that data can be collected, displayed and interpreted using simple graphs, for example, bar graphs, line graphs</p> <p>Understand that scale can represent different quantities in graphs</p>	<p>Understand the use of standard units of measure perimeter, area and volume</p> <p>Understand that measures can fall between numbers on a measurement scale, for example, 3.5 kg, between 4 and 5 cm</p>	<p>Understand common language used to describe shapes</p> <p>Understand the properties of regular and irregular polyhedra</p> <p>Understand the properties of circles</p>	<p>Understand that patterns can be analyzed and rules identified</p> <p>Understand that multiplication is repeated addition and division is repeated subtraction</p>	<p>Model numbers to thousands or beyond using the base 10 place value system</p> <p>Model equivalent fractions</p> <p>Use the language of fractions, for example, numerator, denominator</p>

## Year 4 Curriculum Handbook

	<p>Understand that the mode can be used to summarize a set of data</p> <p>Understand that one of the purposes of a database is to answer questions and solve problems</p> <p>Understand that probability is based on experimental events</p>	<p>Understand the relationship between units, for example, meters, centimeters and millimeters</p> <p>Understand an angle as a measure of rotation</p>	<p>Understand how scale (ratios) is used to enlarge and reduce shapes</p> <p>Understand systems for describing position and direction</p> <p>Understand that 2D representations of 3D objects can be used to visualize and solve problems</p> <p>Understand that geometric ideas and relationships can be used to solve problems in other areas of mathematics and in real life</p>	<p>Understand the inverse relationship between multiplication and division</p> <p>Understand the associative and commutative properties of multiplication</p>	<p>Model decimal fractions to hundredths or beyond</p> <p>Model multiplication and division of whole numbers</p> <p>Use language of multiplication and division, for example, factor, multiple, product, quotient, prime numbers, composite numbers</p> <p>Model addition and subtraction of fractions with related denominators</p> <p>Model addition and subtraction of decimals.</p>
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## Year 4 Curriculum Handbook

<p><i>When transferring meaning into symbols learners:</i></p>	<p>Collect, display and interpret data using simple graphs, for example, bar graphs, line graphs</p> <p>Identify, read and interpret range and scale on graphs</p> <p>Identify the mode of a set of data</p> <p>Use tree diagrams to express probability using simple fractions</p>	<p>Estimate and measure objects using standard units of measurement: perimeter, area and volume</p> <p>Describe measures that fall between numbers on a scale</p> <p>Read and write digital and analog time on 12-hour and 24-hour clocks</p>	<p>Sort, describe and model regular and irregular polygons</p> <p>Describe and model congruency and similarity in 2D shapes</p> <p>Analyze angles by comparing and describing rotations: whole turn; half turn; quarter turn; north, south, east and west on a compass</p> <p>Locate features on a grid using coordinates</p> <p>Describe and/or represent mental images of objects, patterns and paths</p>	<p>Describe the rule for a pattern in a variety of ways</p> <p>Represent rules for patterns using words, symbols and tables</p> <p>Identify a sequence of operations relating one set of numbers to another set</p>	<p>Read, write, compare and order whole numbers up to thousands or beyond</p> <p>Develop strategies for memorizing addition, subtraction, multiplication and division facts</p> <p>Read, write, compare and order fractions</p> <p>Read and write equivalent fractions</p> <p>Describe mental and written strategies for adding and subtraction two-digit numbers</p> <p>Describe mental and written strategies for multiplication and division</p>
<p><i>When applying with understanding learners:</i></p>	<p>Design a survey and systematically collect, organize and display data in pictographs and bar graphs</p> <p>Select appropriate graph forms to display data</p> <p>Interpret range and scale on graphs</p>	<p>Use standard units of measurement to solve problems in real-life situations involving perimeter, area and volume</p> <p>Select appropriate tools and units of measurement</p>	<p>Analyze and describe 2D and 3D shapes, including regular and irregular polygons, using geometrical vocabulary</p> <p>Identify, describe and model congruency and similarity in 2D shapes</p> <p>Recognize and explain symmetrical patterns,</p>	<p>Select appropriate methods for representing patterns, for example, using words, symbols and tables</p> <p>Use number patterns to make predictions and solve problems</p> <p>Use the properties and relationships of the four</p>	<p>Use whole numbers up to thousands or beyond in real-life situations</p> <p>Use fast recall of multiplication and division number facts in real life situations</p> <p>Use decimal fractions in real-life situations</p>

## Year 4 Curriculum Handbook

	<p>Use probability to determine mathematically fair and unfair games and to explain possible outcomes</p> <p>Express probability using simple fractions</p>	<p>Use timelines in units of inquiry and other real-life situations</p>	<p>including tessellation, in the environment</p> <p>Apply knowledge of transformations to problem-solving situations</p>	<p>operations to solve problems</p>	<p>Use mental and written strategies for addition and subtraction of two-digit numbers and beyond</p> <p>Use mental and written strategies for multiplication and division in real-life situations</p> <p>Select an efficient method for solving a problem, for example, mental estimation, mental or written strategies, or by using a calculator</p> <p>Use strategies to evaluate the reasonableness of an answer</p> <p>Add and subtract fractions with related denominators in real-life situations</p> <p>Add and subtract decimals in real-life situations, including money</p> <p>Estimate sum, difference, product and quotient in real-life situations, including fractions and decimals</p>
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## Year 4 Curriculum Handbook

### English Language

English language learning includes the following strands: speaking and listening, viewing and presenting, reading and writing. Students participate in a wide range of activities using a variety of resources. English language learning occurs throughout the school day in all subjects, as well as during specific English language lessons.

Students begin learning the objectives below during year 4 with the expectation that most year 4 students are applying each skill by the end of the school year.

Listening & Speaking	Viewing & presenting	Reading	Writing
<p><i>Learners:</i></p> <p>recognize patterns in languages of instruction and use increasingly accurate grammar</p> <p>listen appreciatively and responsively, presenting their own point of view and respecting the views of others</p> <p>listen for a specific purpose in a variety of situations</p> <p>identify and expand on main ideas in familiar oral texts</p> <p>listen reflectively to stories read aloud in order to identify story structures and ideas</p> <p>understand that ideas and opinions can be generated, developed and presented through talk; they work in</p>	<p><i>Learners:</i></p> <p>view, respond to and describe visual information, communicating understanding in oral, written and visual form</p> <p>begin to describe personal reactions to visual messages; reflect on why others may perceive the images differently</p> <p>understand and explain how visual effects can be used to reflect a particular context</p> <p>explain how relevant personal experiences can add to the meaning of a selected film/movie; write and illustrate a personal response</p> <p>begin to interpret visual cues in order to analyse and make inferences about the intention of the message</p>	<p><i>Learners:</i></p> <p>read a variety of books for pleasure, instruction and information; reflect regularly on reading and set future goals</p> <p>distinguish between fiction and non-fiction and select books appropriate to specific purposes</p> <p>understand and respond to the ideas, feelings and attitudes expressed in various texts, showing empathy for characters</p> <p>recognize the author's purpose, for example, to inform, entertain, persuade and instruct</p> <p>understand that stories have plot; identify the main idea; discuss and</p>	<p><i>Learners:</i></p> <p>engage confidently with the writing process</p> <p>write about a range of topics for a variety of purposes using literary forms and structures modelled by the teacher and/or encountered in reading</p> <p>show awareness of different audiences and adapt writing appropriately</p> <p>begin selecting vocabulary and supporting details to achieve desired effects</p> <p>organize ideas in a logical sequence</p> <p>proofread their own writing and make some corrections and improvements</p>

## Year 4 Curriculum Handbook

<p>pairs and groups to develop oral presentations</p> <p>begin to argue persuasively and defend a point of view</p> <p>explain and discuss their own writing with peers and adults</p> <p>begin to paraphrase and summarize</p> <p>organize thoughts and feelings before speaking</p> <p>use a range of specific vocabulary in different situations, indicating an awareness that language is influenced by purpose, audience and context</p> <p>use oral language appropriately, confidently and with increasing accuracy</p> <p>begin to verbalize their thinking and explain their reasoning</p>	<p>identify aspects of body language in a dramatic presentation and explain how they are used to convey mood and personal traits of characters</p> <p>design posters and charts, using shapes, colours, symbols, layout and fonts, to achieve particular effects; explain how the desired effect is achieved</p> <p>begin to prepare, individually or in collaboration, visual presentations using a range of media, including computer and web-based applications</p> <p>realize that effects have been selected and arranged to achieve a certain impact, for example, the way in which colour, lighting, music and movement work together in a performance</p> <p>observe and discuss visual presentations; make suggestions about why they have been created and what the creator has been aiming to achieve</p> <p>view a range of visual language formats and discuss their effectiveness, for example, film/video, posters, drama</p> <p>use appropriate terminology to discuss visual texts, for example, logos, font, foreground, background, impact</p>	<p>outline the sequence of events leading to the final outcome</p> <p>appreciate when writers plan and structure their stories to achieve particular effects identify features that can be replicated when planning their own stories</p> <p>use reference books, dictionaries, and computer and web-based applications with increasing independence and responsibility</p> <p>know how to skim and scan texts to decide whether they will be useful, before attempting to read in detail</p> <p>As part of the inquiry process, work cooperatively with others to access, read, interpret, and evaluate a range of source materials</p> <p>participate in collaborative learning experiences acknowledging that people see things differently and are entitled to express their point of view</p> <p>wonder about texts and ask questions to try to understand what the author is saying to the reader</p> <p>begin to identify relevant, reliable and useful information and decide on appropriate ways to use it</p>	<p>begin to use appropriate punctuation to support meaning, for example, end marks, commas, speech marks</p> <p>apply knowledge of written code patterns to accurately spell high-frequency words</p> <p>use feedback from teachers and other students to improve their writing</p> <p>use a dictionary, a thesaurus and word banks to extend their use of language</p> <p>keep a log of ideas to write about</p> <p>over time, create examples of different types of writing and store them in their own writing folder</p> <p>with limited teacher guidance, publish written work, in handwritten form or in digital format</p> <p>work cooperatively with a partner to discuss and improve each other's work, taking the roles of authors and editors</p>
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# Year 4 Curriculum Handbook

## Czech Language

Native Czech speakers will follow and study Czech language according to the expectations of the Czech Ministry of Education. The Czech teacher makes attempts to connect learning to the units of inquiry. During year 4, students participate in developing their reading and writing skills, work on their ability to understand adequate written and oral instructions, and use playful methods to build up their grammar knowledge (focusing on nouns and verbs). More details for the year 4 curriculum is available in the [Czech curriculum programme](#) of our partner school.

## Czech Studies

Non-native Czech speakers have the opportunity to develop their understanding and appreciation of the people and culture of Czech Republic by studying its language and traditions. Students learn Czech language through activities linked to real life situations.

The Czech Studies teacher makes attempts to connect learning to the units of inquiry. During year 4, students will learn basic vocabulary related to describing themselves, school, nature and Brno. They will explore the arts and cultural community of Brno, learn about animals indigenous to Czech republic and practice basic pronunciation.

## The Arts

Students learn to respond and create different forms of art: visual arts, music, dance and drama. Subject specialists teach visual arts and music once a week. Students engage in activities connected to the unit of inquiry as well as subject specific art lessons which allow students to explore concepts and techniques. Dance and drama is often integrated into visual arts and music lessons.

During year 4, students will respond to music in a variety of ways, practice playing different instruments and learn songs and rhythmical movements related to topics and concepts in the units of inquiry. Students will be exposed to a variety of visual art forms and learn different techniques for creating their own works of art. They will further explore concepts from their units of inquiry by drawing animals in their natural habitat, recreating art from ancient civilizations and exploring ways art can benefit a person's well-being.

## Year 4 Curriculum Handbook

### **Personal Social Physical Education (PSPE)**

At ISB, we value the development of personal, social, and physical well-being. All teachers share responsibility for this. Class teachers dedicate time during the school day, often during circle time, to help students develop and understanding of their own identities and discover ways to foster and sustain positive interactions. The class teacher chooses activities which are developmentally appropriate and specific to strengthening the class and local community.

Physical education (PE) is taught once a week for two class periods. During PE students develop an understanding of the factors that contribute to developing a healthy lifestyle. Throughout year 4, students engage in physical activities including athletics, indoor and outdoor games, dance and gymnastics. Additionally, students visit an outside venue to learn ice skating and swimming as part of our PE program.

### **Information and Communication Technology (ICT)**

ICT learning is led by all teachers throughout the curriculum and responsible digital citizenship is emphasized when using ICT tools. ISB students are taught to use ICT as a tool for communication, creativity and collaboration.

## Year 4 Curriculum Handbook

### How can I stay informed/learn more about the curriculum?

There are several opportunities throughout the school year that will help build an understanding of the curriculum and the way in which we teach at ISB.

**Coffee Hours** are held once a month for parents and teachers to participate in workshops which focus on understanding one part of the curriculum. These workshops are organized and often lead by the PYP coordinator.

**SeeSaw** is an online portfolio where teachers post everything from pictures of daily learning experiences, homework, rubrics and assignments. You can download the SeeSaw App and stay informed about your child's learning at school.

**Summative shares** are an opportunity for students to share the final outcome of their learning after a unit of inquiry with the school community. These will occur at least two times during the school year.

**Conferences** provide an opportunity for teachers, parents and students to communicate about the learning process and identify next steps. Conferences will occur at least three times during the school year.

**Classroom involvement** is always welcome at ISB. We value parents as active members of the learning community and encourage parents to get involved as much as possible. With our open door policy, you are always welcome to visit the classroom. In addition, the classroom teacher will be in touch about volunteer opportunities, for instance, as a helper during trips, a guest speaker, or a surprise reader.

## Year 4 Curriculum Handbook

To learn more about the PYP curriculum you can reference the PYP page of the IB website: [www.ibo.org](http://www.ibo.org) or contact the PYP coordinator: [jennifer.berry@isob.cz](mailto:jennifer.berry@isob.cz)