

# Grade 1

# Overview

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## What are the 6 themes we will be looking at during PYP?

The framework, called a Programme of Inquiry by the IB PYP, is made of six themes which address the body of knowledge that the International Baccalaureate Organization considers essential for all students to acquire between the ages of 4 and 11.

All IB PYP schools design their own curriculum and units within this larger programme, following these 6 themes. Children approach traditional subject when working on those six themes which allows them to understand the connections between the subjects and the real world.

### 1. Who we are

*General Subjects: anthropology, health, psychology, religion, sociology*

An inquiry into the nature of the self; beliefs and values; personal, physical, mental, social and spiritual health; human relationships including families, friends, communities, and cultures; rights and responsibilities; what it means to be human.

### 2. Where we are in place and time

*Core Subjects: geography, history*

An inquiry into orientation in place and time; personal histories; homes and journeys; the discoveries, explorations and migrations of humankind; the relationships between and the interconnectedness of individuals and civilizations, from local and global perspectives.

### 3. How we express ourselves

*Core Subjects: communication, language arts, music, philosophy, the arts*

An inquiry into the ways in which we discover and express ideas, feelings,

nature, culture, beliefs and values; the ways in which we reflect on, extend and enjoy our creativity; our appreciation of the aesthetic.

#### 4. How the world works

*Core Subjects: computer science, math, science, technology*

An inquiry into the natural world and its laws; the interaction between the natural world (physical and biological) and human societies; how humans use their understanding of scientific principles; the impact of scientific and technological advances on society and on the environment.

#### 5. How we organize ourselves

*Core Subjects: government, civics, economics, sociology*

An inquiry into the interconnectedness of human-made systems and communities; the structure and function of organizations; societal decision-making; economic activities and their impact on humankind and the environment.

#### 6. Sharing the planet

*Core Subjects: biology, botany, ecology, zoology, history*

An inquiry into rights and responsibilities in the struggle to share finite resources with other people and with other living things; communities and the relationships within and between them; access to equal opportunities; peace and conflict resolution.

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### 2013 - 2014 Grade 1's Units of Inquiry

In the PYP, children study a range of topics that are designed as “units of inquiry” and incorporate all subjects rather than looking at traditional subjects separately. Through these units, which involve science and technology, social studies, personal and social education, arts and mathematics and language curricula, children are able to identify connections between subjects and learn how to ask constructive questions, plan investigations, solve problems and find answers to their questions. Students are then able to construct meaning from their learning experiences through this process of inquiry.

In Grade 1, the units of inquiry are:

### **Who we are: “Rights and responsibilities”**

**Subject focus: Social Studies**

**Central idea: We cannot have rights without responsibility**

#### Lines of inquiry:

- What we think our rights are, and should be
- What responsibilities we must take to make these rights a reality
- What happens if people do not keep to their responsibilities
- Why all communities make and revise agreements about rights and responsibilities in order to live together

### **Where we are in place and time: “Home Sweet Home”**

**Subject focus: Social Studies**

**Central Idea: Homes reflect cultural influences and local conditions**

#### Lines of inquiry:

- The concept of home
- How homes reflect local culture
- Factors that determine where people live
- Different types of homes

### **How we express ourselves: “Stories”**

**Subject Focus: Literacy**

**Central Idea: Stories can engage their audience and communicate meaning**

**Related concepts: communication, characterization, expression**

#### Lines of inquiry:

- How to construct an effective story
- What stories can convey
- How stories are created and shared
- Feelings and emotions that stories evoke

## How the world works: “Breathe in- Breathe out”

**Subject Focus: Science**

**Central Idea: Understanding the properties of air allows people to make practical applications**

### Lines of inquiry:

- The evidence of the existence of air
- What air can do and how we use it
- The factors that influence the quality of air

## How we organise ourselves: “Communities”

**Subject focus: Social Studies**

**Central Idea: Communities provide interconnected services designed to meet people’s needs**

### Lines of inquiry:

- Reasons people live in the local community
- Services needed to support a community
- Planning services for a community

## Sharing the Planet: “It’s a Balancing Act”

**Subject Focus: Science**

**Central Idea: When interacting with natural habitats, humans make choices that have an impact on other living things**

### Lines of inquiry:

- Interdependence within a habitat
  - How living things respond to changing environmental conditions
  - Balance between rights and responsibilities when interacting with natural habitat
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## What are our specific learning objectives in mathematics ?

The power of mathematics for describing and analysing the world around us is such that it has become a highly effective tool for solving problems. Students can appreciate the intrinsic fascination of mathematics and explore the world through its unique perceptions. The programme provides students with the opportunity to see themselves as “mathematicians”, where they enjoy and are enthusiastic when exploring and learning about mathematics.

In the IB Primary Years Programme (PYP), mathematics is also viewed as a vehicle to support inquiry, providing a global language through which we make sense of the world around us. It is intended that students become competent users of the language of mathematics, and can begin to use it as a way of thinking, as opposed to seeing it as a series of facts and equations to be memorized.

It is important that learners acquire mathematical understanding by constructing their own meaning through ever-increasing levels of abstraction, starting with exploring their own personal experiences, understandings and knowledge. Additionally, it is fundamental to the philosophy of the PYP that, since it is to be used in real-life situations, mathematics needs to be taught in relevant, realistic contexts, rather than by attempting to impart a fixed body of knowledge directly to students. Mathematics in PYP looks at 5 strands:

### Number

Our number system is a language for describing quantities and the relationships between quantities. Numbers are used to interpret information, make decisions and solve problems. For example, the operations of addition, subtraction, multiplication and division are related to one another and are used to process information in order to solve problems.

### Shape and space

The regions, paths and boundaries of natural space can be described by shape. An understanding of the interrelationships of shape allows us to interpret, understand and appreciate our two-dimensional (2D) and three-dimensional (3D) world.

## Measurement

To measure is to attach a number to a quantity using a chosen unit. Since the attributes being measured are continuous, ways must be found to deal with quantities that fall between numbers. It is important to know how accurate a measurement needs to be or can ever be.

## Data handling

Data handling allows us to make a summary of what we know about the world and to make inferences about what we do not know. Data can be collected, organized, represented and summarized in a variety of ways. Probability can be expressed qualitatively by using terms such as “unlikely”, “certain” or “impossible”. It can be expressed quantitatively on a numerical scale.

## Pattern and function

To identify pattern is to begin to understand how mathematics applies to the world in which we live. The repetitive features of patterns can be identified and described as generalized rules called “functions”. This builds a foundation for the later study of algebra.

In 2013-2014 the ISE Math Curriculum is being revised to address the changes in the IBO standards. These changes and revisions will be communicated to parents throughout the school year.

## 1. Mathematics Strand: Data Handling

Conceptual understandings developed this year:

- Information can be expressed as organized and structured data.
- Objects and events can be organized in different ways.
- Some events in daily life are more likely to happen than others

### Overall expectations

Learners will understand how information can be expressed as organized and structured data and that this can occur in a range of ways. They will collect and represent data in different types of graphs, interpreting the resulting information for the purpose of answering questions. The learners will develop an understanding that some events in daily life are more likely to happen than others, and they will identify and describe likelihood using appropriate vocabulary.

Grade 1 students:

- collect and organize data to create tally charts, tables, bar graphs
- use graphs to answer simple questions and draw conclusions; find the maximum and minimum of a data set
- describe events using certain, likely, unlikely, impossible and other basic probability terms

## 2. Mathematics Strand: Measurement

Conceptual understandings developed this year:

- Standard units allow us to have a common language to identify, compare, order and sequence objects and events.
- We use tools to measure the attributes of objects and events.
- Estimation allows us to measure with different levels of accuracy.

Overall expectations

Learners will understand that standard units allow us to have a common language to measure and describe objects and events, and that while estimation is a strategy that can be applied for approximate measurements, particular tools allow us to measure and describe attributes of objects and events with more accuracy. Learners will develop these understandings in relation to measurement involving length, mass, capacity, money, temperature and time.

Grade 1 students :

- use nonstandard tools and techniques to estimate and compare weight and length; measure length with standard measuring tools
- know and compare the value of cents and euro bills; make exchanges between coins
- identify a thermometer as a tool for measuring temperature; read temperatures on Celsius thermometers to the nearest  $10^{\circ}$
- use a calendar to identify days, weeks, months, and dates; tell and show time to the nearest half and quarter hour on an analog clock

### 3. Mathematics Strand: Shape and Space

Conceptual understandings developed this year:

- Shapes are classified and named according to their properties.
- Some shapes are made up of parts that repeat in some way.
- Specific vocabulary can be used to describe an object's position in space

Overall expectations

Learners will continue to work with 2D and 3D shapes, developing the understanding that shapes are classified and named according to their properties. They will understand that examples of symmetry and transformations can be found in their immediate environment. Learners will interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries of their immediate environment.

Grade 1 students :

- identify and describe plane and solid figures including circles, triangles, squares, rectangles, spheres, cylinders, rectangular prisms, pyramids, cones, and cubes
- identify shapes having lines symmetry; complete line-symmetric shapes or designs

### 4. Mathematics Strand: Pattern and Function

Conceptual understandings developed this year:

- Whole numbers exhibit patterns and relationships that can be observed and described.
- Patterns can be represented using numbers and other symbol

Overall expectations

Learners will understand that whole numbers exhibit patterns and relationships that can be observed and described, and that the patterns can be represented using numbers and other symbols.

As a result, learners will understand the inverse relationship between addition and subtraction, as well as the associative and commutative properties of addition. They will be able to use their understanding of pattern to represent and make sense of real-life situations and, where appropriate, to solve problems involving addition and subtraction.

Grade 1 students :

- extend, describe and create numeric, visual, and concrete patterns;
- read, write and explain expressions and number sentences using the symbols +, - , and = and the symbols > and < with cues;
- solve equations involving addition and subtraction

## 5. Mathematics Strand: Numbers

Conceptual understandings developed this year:

- Numbers are a naming system.
- Numbers can be used in many ways for different purposes in the real world.
- Numbers are connected to each other through a variety of relationships.
- Making connections between our experiences with numbers can help us to develop number sense.

Overall expectations

Learners will develop their understanding of the base 10 place value system and will model, read, write, estimate, compare and order numbers to hundred. They will have automatic recall of addition and subtraction facts and be able to model addition and subtraction of whole numbers using the appropriate mathematical language to describe their mental and written strategies. Learners will have an understanding of fractions as representations of whole-part relationships and will be able to model fractions and use fraction names in real-life situations.

Grade 1 students :

- count on by 1s, 2s, 5s, and 10s to 100 and back by 1s from any number less than 100 with and without number grids, number lines, and calculators
- count collections of objects accurately and reliably; estimate the number of objects in a collection
- read, write, and model with manipulatives whole numbers up to 100; identify places in such numbers and the values of the digits in those places
- use manipulatives and drawings to model halves, thirds, and fourths as equal parts of a region or a collection; describe the model
- use manipulatives to identify and model odd and even numbers

- use manipulatives, drawings, tally marks, and numerical expressions involving addition and subtraction of 1- or 2-digit numbers to give equivalent names for whole numbers up to 10
  - compare and order whole numbers up to 100
  - demonstrate proficiency with doubles, and sum-equals-ten addition and subtraction facts such as  $6 + 4 = 10$  and  $10 - 7 = 3$
  - use manipulatives, number grids, tally marks, mental arithmetic, and calculators to solve problems involving the addition and subtraction of 1-digit whole numbers with 1- or 2-digit whole numbers;
  - estimate reasonableness of answers to basic fact problems (e.g., Will  $7 + 8$  be more or less than 10?)
  - identify change to more, change-to-less, comparison, and parts-and-total situations
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## What are our specific learning objectives in language?

Language in PYP is developed through 4 strands: oral language (listening and speaking), visual language (viewing and presenting), written language (reading) and written language (writing). Oral language encompasses all aspects of listening and speaking—skills that are essential for ongoing language development, for learning and for relating to others. Viewing and presenting allow students to understand the ways in which images and language interact to convey ideas, values and beliefs. Reading is a developmental process that involves constructing meaning from text. Reading helps students to clarify their ideas, feelings, thoughts and opinions. And writing is a way of expressing themselves. It is a personal act that grows and develops with the individual.

### 1. Oral language—listening and speaking

Conceptual understandings developed this year:

- Spoken language varies according to the purpose and audience.
- People interpret messages according to their unique experiences and ways of understanding.
- Spoken communication is different from written communication—it has its own set of rules.

### Overall expectations

Learners show an understanding of the wide range of purposes of spoken language: that it instructs, informs, entertains, reassures; that each listener's perception of what he hears is unique. They are compiling rules about the use of different aspects of language.

#### Grade 1 students :

- Use role play, participate in presentations, demonstrate, be able to verbally retell a story in correct sequence, question and comment
- Use question forms, interview family members, make oral presentations, present videos, participate in parent/child share
- Present art works, participate in a song and dance performance, implement show and tell
- Explain, collaborate in problem solving
- Interview, implement songs, chants; recite poems

## 2. Visual language—viewing and presenting

### Conceptual understandings developed this year:

- Visual texts can expand our database of sources of information
- Visual texts provide alternative means to develop new levels of understanding
- Selecting the most suitable forms of visual presentation enhances our ability to express ideas and images
- Different visual techniques produce different effects and are used to present different types of information

### Overall expectations

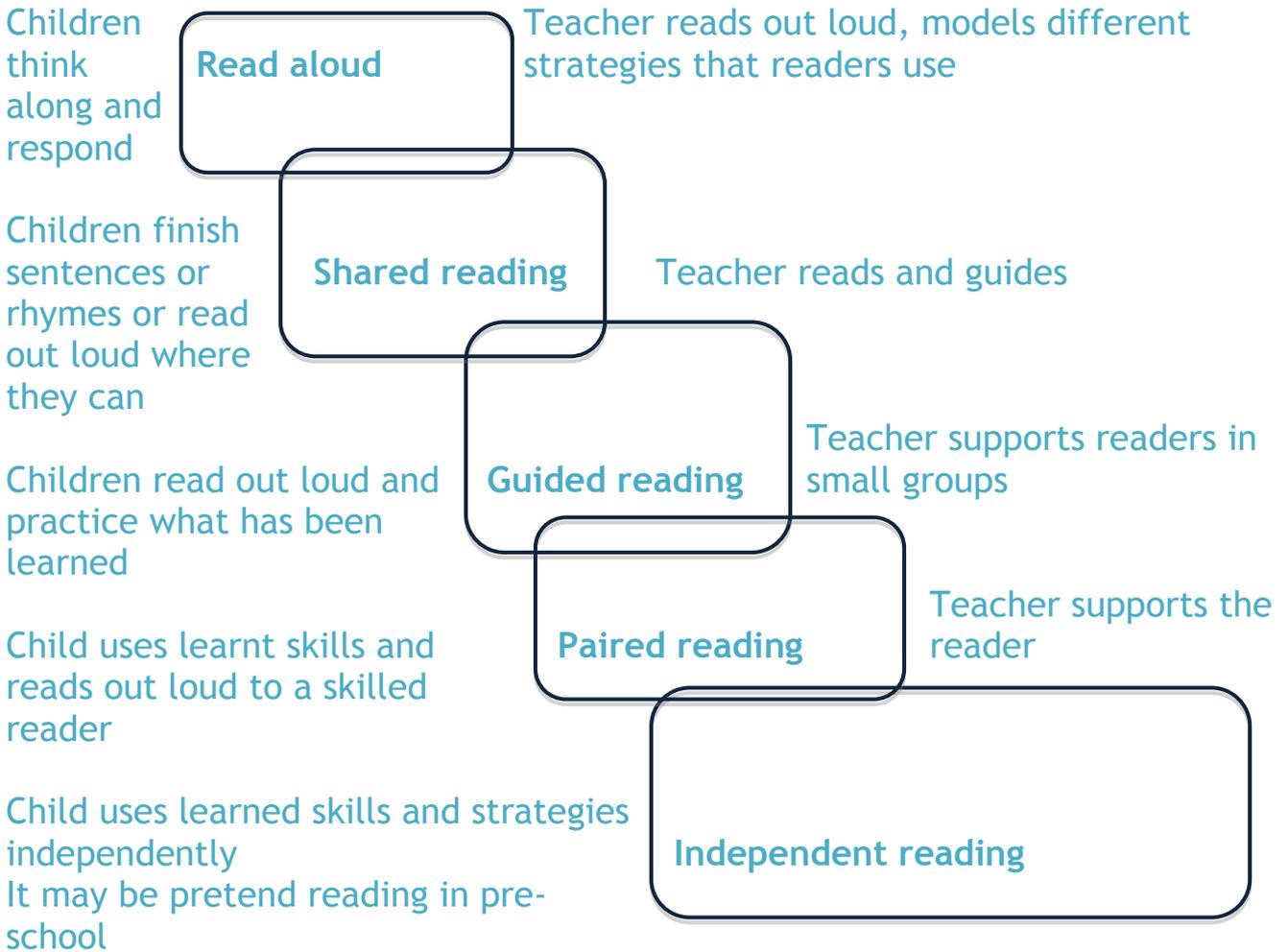
Learners show an understanding that visual text may represent reality or fantasy. They recognize that visual text resources can provide factual information and increase understanding. They use visual text in a reflective way to enrich their storytelling or presentations, and to organize and represent information.

### 3. Written language—reading

The ISE reading philosophy is:

- Children learn to read by reading.
- Reading is a developmental process that involves constructing meaning from text. The process is interactive and involves the reader's purpose for reading, the reader's prior knowledge and experience, and the text itself.
- Reading helps us to clarify our ideas, feelings, thoughts and opinions.
- Literature and discussions about literature offer us a means of understanding ourselves and others, and has the power to influence and structure thinking.
- The ability to read and comprehend non-fiction is essential for the process of inquiry. As inquirers, learners need to be able to identify, synthesize and apply useful and relevant information from text.
- As learners engage with interesting and appealing texts, appropriate to their experiences and developmental phase, they acquire the skills, strategies and conceptual understanding necessary to become competent, motivated, independent readers.

Reading instruction at ISE follows a specific progression, building on children's skills to develop strong, independent readers.



Reading behavior and attitudes:

- Enjoy reading and being read to
- Read for variety of purposes and respond to what is read Participate in paired, group or class reading activities
- Read and retell simple, familiar books independently (with confidence and willing to take risks.)
- Start to develop personal preferences in reading

### Reading skills:

- Start to recognize the most common word families and use the knowledge while reading a text.
- Hear onsets and rimes in CVC words
- Identify, write letter sounds in the initial and final position in words with consonant blends
- Blend and segment words with double consonants, consonant blends
- Blend and segment words with long vowel/ silent e, vowel digraphs, with
- r- controlled vowels, w-controlled vowels.
- Recognize the rhyming words and say the word that rhymes with a given word.( change the wording)
- Blend and segment CVC words in rhyming sets.

### Reading Strategies:

- Use a variety of reading strategies to make meaning of text: (picture cues, left to right and top to bottom, directionality, phonics, self correction, context, prediction, sight vocabulary, memory, punctuation, syntax, rereading and reading on.)
- Predict what may happen next in a story and revise or confirm predictions
- Recall plot and characters of the story
- Make connections between personal experience and storybook characters

### Text types and story elements:

- Recognize and use the different parts of a book(title page, contents page, page numbers index)
- Know the difference between fiction and nonfiction
- Begin to use reference books, dictionaries and computers with some independence and confidence
- Recognize a range of different text forms( poetry, stories, lists, plays, recipes, letters, diary)
- Recognize that a story has a beginning, middle and ending

#### 4. Written language—writing

The ISE writing philosophy is:

- Children learn to write by writing, reading and by example.
- Writing is a way of expressing ourselves. It is a personal act that grows and develops with the individual.
- Writing is a tool for thinking. We use it to clarify and organize thinking and ideas as well as solve problems.
- We write for a variety of purposes and audiences.
- Writing involves developing a variety of structures, strategies and literary techniques and applying them with increasing skill and effectiveness.
- Writing is a process.

General:

- Enjoy writing and value their own efforts
- write informally about their own ideas, experiences and feelings in a personal journal, using simple sentences

Writing Process:

- Participate in shared and guided writing, observing the teacher's model, asking questions and offering suggestions and begin to apply to their own writing.
- Respond orally to the work of others
- Show a beginning knowledge of, and a willingness to use an appropriate writing process (planning, drafting, editing, producing)
- Read their own writing to the teacher and to classmates, Realizing that what they have written remains unchanged

### Writer's Craft:

- Write simple, sequenced stories with a beginning, middle and end (idea development)
- Begin to use descriptive vocabulary
- Begin to use a dictionary, a thesaurus and word banks to extend their use of language

### Writing Conventions:

- Demonstrate an awareness of the conventions of written text, for example, sequence, spacing, directionality
- with guidance use familiar aspects of written language, for example, spelling patterns, high-frequency words, high-interest words
- Begins to use capital letters, full stops and question marks
- write legible upper- and lower-case letters, and in a consistent style