

# Preschool 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 Preschool'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 Preschool, the units of inquiry are:

### How the world works: “Seasons Change”

**Subject focus:** *Science*

**Central idea:** The Earth’s natural cycles influence the activity of living things

**Inquiry into:**

- Natural cycles
- Patterns or behaviour in living things related to Earth’s natural cycles
- The actions people take in response to Earth’s natural cycles

### Who we are: “Me, Myself and I”

**Subject focus:** *Personal & Social education*

**Central idea:** Awareness of our characteristics, abilities and interests informs our learning and development

**Inquiry into:**

- Physical, social, and emotional characteristics
- Similarities and difference between ourselves and others
- Personal abilities and interests

### How we express ourselves: “Play”

**Subject focus:** *Language Arts, Art*

**Central idea:** Through play we express our feelings and ideas and come to new understandings

**Inquiry into:**

- Communicating through play
- Imaginative use of materials
- The role of toys in play

### How we share the planet: “Our Green Friends”

**Subject focus:** *Science,*

**Central idea:** The design of buildings and structures is dependent upon environmental factors, human ingenuity, and available materials.

**Inquiry into:**

- Considerations to take into account when building a structure
  - impact of buildings and structures on the environment
  - Local architecture and its connection with the needs of the community and availability of materials
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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:

- We collect information to make sense of the world around us
- Organizing objects and events helps us to solve problems
- Events in daily life involve chance

#### Overall expectations

Learners will develop an understanding of how the collection and organization of information helps to make sense of the world. They will sort, describe and label objects by attributes and represent information in graphs, including pictographs and tally marks. The learners will discuss chance in daily events.

Preschool students:

- collect and organize data
- construct and read simple pictographs

### 2. Mathematics Strand: Measurement

Conceptual understandings developed this year:

- Measurement involves comparing objects and events
- Objects have attributes that can be measured using non-standard units

- Events can be ordered and sequenced
- Events in daily life involve chance

#### Overall expectations

Learners will develop an understanding of how measurement involves the comparison of objects and the ordering and sequencing of events. They will be able to identify, compare and describe attributes of real objects as well as describe and sequence familiar events in their daily routine.

#### Preschool students:

- recognize and describe basic 2-dimensional geometric shapes; explore the relationships between basic 2-dimensional and 3-dimensional shapes
- recognize and describe the position and location of objects; use spatial reasoning in concrete tasks, such as putting together puzzles and creating collages and block structures

### 3. Mathematics Strand: Shape and Space

#### Conceptual understandings developed this year:

- Shapes can be described and organized according to their properties
- Objects in our immediate environment have a position in space that can be described according to a point of reference

Learners will understand that shapes have characteristics that can be described and compared. They will understand and use common language to describe paths, regions and boundaries of their immediate environment.

#### Preschool students:

- recognize and describe basic 2-dimensional geometric shapes; explore the relationships between basic 2-dimensional and 3-dimensional shapes
- recognize and describe the position and location of objects; use spatial reasoning in concrete tasks, such as putting together puzzles and creating collages and block structures

### 4. Mathematics Strand: Pattern and Function

#### Conceptual understandings developed this year:

- Patterns and sequences occur in everyday situations
- Patterns repeat and grow

### Overall expectations

Learners will understand that patterns and sequences occur in everyday situations. They will be able to identify, describe, extend and create patterns in various ways.

### Preschool students:

- recognize and match attributes of objects, such as size, shape, and color; use rules to sort objects; use rules to create and extend repeating patterns

## 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 understand that numbers are used for many different purposes in the real world. They will develop an understanding of one-to-one correspondence and conservation of number, and be able to count and use number words and numerals to represent quantities.

### Preschool students:

- verbally count in sequence to 10 and beyond; develop flexibility in counting, including counting on and counting backward
  - count objects with one-to-one correspondence and know the last counting word tells “how many”
  - develop an awareness of numbers and their uses; associate number names, quantities, and written numerals; recognize and use different ways to represent numbers (for example, groups of objects or dots)
  - compare and order groups of objects using words such as more, fewer, less and same
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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 words connect us with others
- People listen and speak to share thoughts and feelings
- People ask questions to learn from others

Overall expectations

Learners show an understanding of the value of speaking and listening to communicate. They recognize that sounds are associated with objects or with symbolic representations of them. They are using language to name their environment, to get to know each other, to initiate and explore relationships, to question and inquire.

Preschool students:

- ask questions, sing songs, recite rhymes, develop their listening skills

## 2. Visual language—viewing and presenting

Conceptual understandings developed this year:

- Visual language is all around us
- The pictures, images, and symbols in our environment have meaning
- We can enjoy and learn from visual language

Overall expectations

Learners show an understanding that the world around them is full of visual language that conveys meaning. They are able to interpret and respond to visual texts. Although much of their own visual language is spontaneous, they are extending and using visual language in more purposeful ways.



Preschool students:

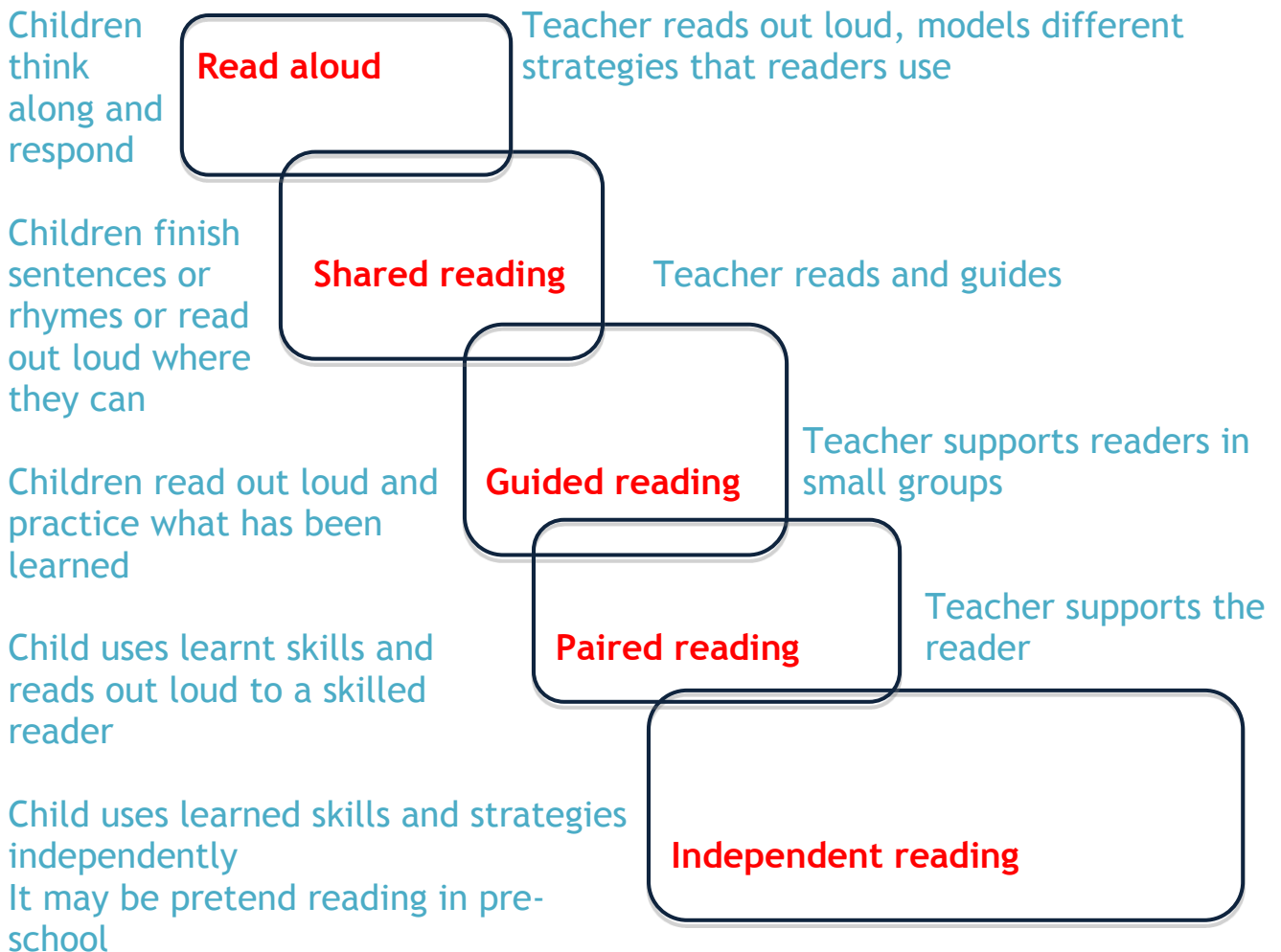
- morning message, recognize names (own and classmates), recognize letters and letter sounds
- participate in shared reading

### 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:

- Listens attentively and responds to stories read aloud
- Selects and rereads favorite texts for enjoyment
- Responds to self-selected text by pointing, examining pictures closely, and commenting
- Join in with chants, poems, songs, word games and clapping games, gaining familiarity with the sounds and patterns of the language of instruction

### Reading skills:

- Start to match spoken words to written words
- Begin to discriminate between visual representations such as symbols, numbers, ICT iconography, letter and words.

### Reading strategies:

- Express opinion about the story
- Show empathy for the characters in the story

### Text types and story elements:

- Distinguishes between picture and text
- Indicate printed text where the teacher should start reading
- Handle books, showing an understanding of how book works, for example cover, beginning, directional movement, end

## 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:

- Experiment with writing using different implements and media
- Show curiosity and start to ask questions about written language
- Differentiate between illustrations and written text
- Have a good pencil grasp

### Writing process:

- Use their own experience as a stimulus when drawing and “writing”
- Participate in shared writing, observing the teacher’s writing and making suggestions

### Writer’s craft:

- Add detail to illustrations to clearly communicate meaning.
- Begin to add their own written text to their own illustrations

### Writing Conventions:

- Start to demonstrate an awareness of directionality
- Attempt to use familiar letters or sounds to experiment with writing
- Beginning to use upper and lower case letters
- Write some letters of the alphabet
- Write own name independently