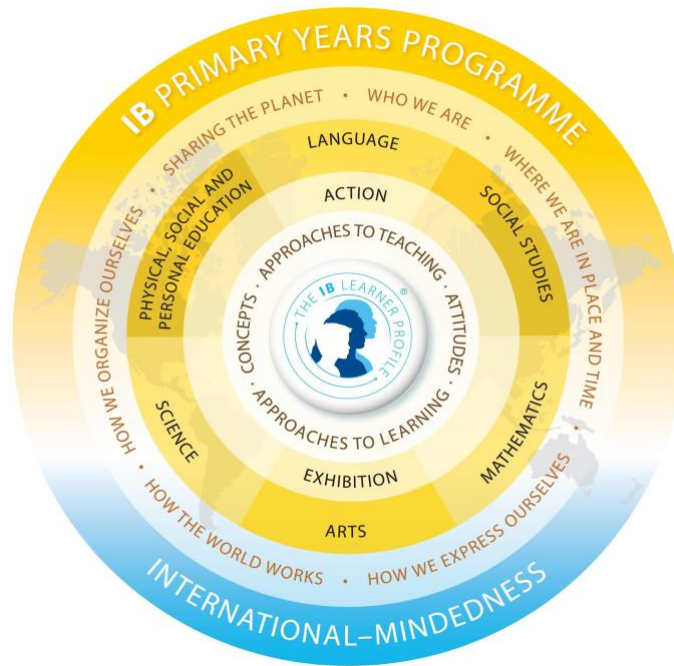


Grade 4

CURRICULUM GUIDE





As an International Baccalaureate (IB) World School, we at Bonn International School are committed to the Primary Years Programme (PYP). This is the IB programme designed for students aged 3–12 years. At BIS, students are in the PYP from Early Learning until Grade 5. The PYP is the best preparation for the IB programmes that follow, the Middle Years Programme (MYP) in Grades 6 - 10 and the Diploma Programme (DP) in Grades 11 and 12.

The PYP is an international curriculum framework, based on best practice and research from around the world. The programme focuses on the development of the whole child, both in the classroom and in the world outside. We challenge students to excel in their learning and in their personal growth, and we aim to inspire in them a quest for learning throughout life.

Learning in the PYP is:

Inquiry-based: We believe children learn best through structured, purposeful inquiry. Students are expected to play an active role in, and take responsibility for, their own learning. Students are encouraged to ask questions, investigate and find ways to answer these questions, and to sustain this enjoyment of learning throughout life.

Collaborative: Learning is a social endeavour, and there is great emphasis on sharing, group work and collaboration at our school. Students learn to communicate well, to encourage each other, and to develop an open mind so they can learn from each other.

Differentiated: The learner is at the heart of our curriculum framework. Children come to school with a range of experiences, backgrounds and prior knowledge. Teachers in the PYP aim to

design learning to suit children at all different levels of competence or experience, providing support for those who need it, and extensions for those who need more challenge.

Concept-driven: Students spend their time at school exploring and learning about important concepts that have relevance in their own lives, and that they can transfer to other contexts. Our aim is to develop students' understanding of big ideas, not just their knowledge or skills.

The Learner Attributes

International mindedness is defined by the IB in the attributes of the Learner Profile. The PYP curriculum design supports students in developing these attributes, which are actively modeled by all members of our learning community. The Learner Profile attributes help develop internationally minded people. We want our learners to become:

Inquirers:

We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.

Knowledgeable:

We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.

Thinkers:

We use critical and creative thinking skills to analyze and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.

Communicators:

We express ourselves confidently and creatively in more than one language and in many forms. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.

Principled:

We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

Open-minded:

We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.

Caring:

We show empathy, compassion and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.

Risk-Takers:

We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.

Balanced:

We understand the importance of balancing different aspects of our lives — intellectual, physical, and emotional — to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.

Reflective:

We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

Concepts

Our aim is for students to develop an understanding of big concepts, to explore these concepts in different ways, and to be able to apply their understanding of these concepts to new and unfamiliar situations. Our Units of Inquiry are organized in such a way that they offer opportunities for students to explore the **PYP key concepts** multiple times and in lots of ways throughout the PYP. These key concepts are:

Form (what is it like?)

Function (how does it work?)

Change (how is it changing?)

Connection (how is it connected to other things?)

Causation (why is it like it is?)

Responsibility (what is our responsibility?)

Perspective (what are the points of view?)

Approaches to Learning

Students develop a range of transdisciplinary skills throughout the PYP. These skills are divided into the following sets of skills:

Communication skills

Social skills

Self-management skills

Research skills

Thinking skills

Action

We believe that real learning will lead to some action or some change in attitude or thinking. Once something is learned and fully understood, it will lead to action of some kind. Student action in the PYP can be big or small, happen at school or at home, and will develop over time. Examples of student action might be: including more people on the playground, choosing healthy foods, trying a new activity, turning off the lights when leaving a room, and lots more.

The Programme of Inquiry in Grade 4

Each school year, students explore six different 'Units of Inquiry'. Each unit of inquiry lasts for approximately 6 weeks. The units are designed to be relevant, significant, engaging and challenging, as well as developmentally appropriate. Our units provide the context for much of the learning in Language and Mathematics, as well as all content within Science and Social Studies. ^[SEP]Units of Inquiry are transdisciplinary and, where appropriate and authentic, connections are also made between the units and the single subjects Music, Visual Arts, German and PE.

Grade 4 Units of Inquiry

<i>Who we are</i>	<i>Where we are in place and time</i>	<i>How we express ourselves</i>
<p>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.</p>	<p>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.</p>	<p>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.</p>
<p>Central idea Understanding who we are as individuals and as a community empowers us to grow as learners.</p> <p>Lines of Inquiry:</p> <ul style="list-style-type: none"> ● An inquiry into the interdependence of mental and social health leading us to grow as learners. ● An inquiry into the responsibilities of individuals within the wider community. ● An inquiry into how individual values and behaviours impact others. 	<p>Central idea Human migration is a response to risks, challenges and opportunities.</p> <p>Lines of Inquiry:</p> <ul style="list-style-type: none"> ● The reasons people migrate. ● The experiences of migrants. ● The effects of migration on communities and individuals. 	<p>Central idea Performing Arts allow people to express themselves in ways that evoke responses and emotions.</p> <p>Lines of Inquiry:</p> <ul style="list-style-type: none"> ● How artists express and evoke emotions through performing arts. ● Tools and techniques in performing arts. ● Interpreting characters through different lenses.

<p><i>How the world works</i></p> <p>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.</p>	<p><i>How we organize ourselves</i></p> <p>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.</p>	<p><i>Sharing the planet</i></p> <p>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.</p>
<p>Central idea Living things adapt to meet the challenges of their environment.</p> <p>Lines of Inquiry:</p> <ul style="list-style-type: none"> ● Challenges to living things in different habitats. ● Adaptations of living things to the conditions they live in. ● How living things change over time. 	<p>Central idea Government systems influence the lives of citizens.</p> <p>Lines of Inquiry:</p> <ul style="list-style-type: none"> ● How government systems function. ● Decision making processes. ● The impact of the government on citizens. 	<p>Central idea Climate change affects people around the world in different ways.</p> <p>Lines of Inquiry:</p> <ul style="list-style-type: none"> ● The impact of climate change on the water cycle. ● The effects of climate change on people's lives. ● Human responsibility in dealing with climate change.

Languages

Language

English is our shared language of instruction and communication. In a PYP school the focus is not just on learning language in isolation, but also on the application of language skills across the subject areas and throughout the Programme of Inquiry. Some language is taught as 'stand-alone', while other aspects of language are taught in the context of our Units of Inquiry. We believe students learn best when they have opportunities to learn within meaningful contexts, and when the teaching is in response to students' needs, interests and previous experiences. Students at BIS come from a wide range of language and cultural backgrounds, which we view as a major asset to our learning community.

In a PYP language classroom:

- Students and teachers appreciate language diversity

- All students feel supported in taking risks in language learning
- There are close connections with the Media Centre, other classrooms and single subject teachers
- Students connect to the broader world through technology
- Students have many opportunities to engage with high-quality literature

Students develop skills in the following strands of language learning:

- Written Language: Reading and Writing
- Oral Language: Listening and Speaking

Our English programme encompasses a readers’ and writers’ workshop model, as well as offering opportunities to develop speaking and listening skills within an integrated programme.

Students develop skills and understandings across the four areas of language learning.

Reading	<ul style="list-style-type: none"> ● Reading and thinking work together to enable us to make meaning ● Applying a range of strategies helps us to read and understand new and more complex texts ● Identifying the main ideas or central theme in a text helps us to understand what is important ● Knowing what we aim to achieve helps us to select useful reference material to conduct research ● Effective stories have a deliberate structure and sequence of events that link with a particular genre ● Reading opens our minds to multiple perspectives and helps us to understand how people think, feel and act
Writing	<ul style="list-style-type: none"> ● The way we structure and organize our writing helps others to understand and to appreciate it ● Rereading and editing our own writing enables us to express what we want to say more clearly ● Writing and thinking work together to enable us to express ideas and convey meaning ● Asking questions of ourselves and others helps to make our writing more focused and purposeful ● Effective stories have a purpose and structure that help to make the author’s intention clear ● Knowing what we aim to achieve helps us to plan and develop different forms of writing ● Through the process of planning, drafting, conferring, refining and publishing, our writing improves over time
Speaking and Listening	<ul style="list-style-type: none"> ● Taking time to reflect on what we hear and say helps us to make informed judgements and form new opinions ● The grammatical structures of a language enable members of a language community to communicate with each other ● Thinking about the perspective of our audience helps us to communicate more

	<p>effectively and appropriately</p> <ul style="list-style-type: none"> ● Spoken language can be used to persuade and influence people ● People draw on what they already know in order to infer new meaning from what they hear
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Readers and Writers Workshop:

We work with the Readers and Writers Workshop model, based on the resources developed by the Columbia University Teacher’s College Reading and Writing Project. The workshop model consists of several components each day, allowing for teachers to teach specific skills and for students to have lots of time to practice and apply the skills taught. The workshop model also allows teachers to support and challenge all students, no matter their level of competence. Each year, we teach four Writing Units of Study and four Reading Units of Study.

Writing Units of Study in Grade 4:

- ‘The Arc of Story’ - writing realistic fiction
- ‘Bringing History to Life’ – Historical fiction with migration
- ‘Boxes and Bullets’ – Opinion writing, personal and persuasive essays
- ‘Literacy Essays’ – Writing about fiction

Reading Units of Study in Grade 4:

- ‘Interpreting Characters’ – The heart of the story
- ‘Reading the Weather, Reading the World’ – Nonfiction reading
- ‘Historic Fiction’ – Book clubs
- ‘Reading History’ – Research texts

Spelling:

We work with the spelling programme ‘Read Write Inc.’. Students take part in short, focused sessions which are based on structured and cumulative activities exploring rules and concepts, enabling the students to become confident at spelling familiar and unfamiliar words.

German

All students at BIS study the German Language. Students enter either [German Language and Literature](#) (for students who speak German at a native language level) or [German Language Acquisition](#) (for students learning German as an additional language). German Language Acquisition is further divided into three phases of language acquisition. Students of all classes within the grade level have German at the same time, as we have four different groups with four German teachers. As in the English language, students work on written and oral communication skills in German. Aspects of German culture are explored through our host country celebrations such as St. Martin in November and Carnival in February. Students in the German programme also learn other aspects about Germany within some topics/Units of Inquiry in their language programme.

Mathematics

We believe that students learn best through purposeful, structured inquiry. The aim of our Mathematics Programme is to develop students into confident mathematical thinkers, with a sound knowledge of numbers and the creativity to apply this knowledge to solve problems in many ways. Our main resource for teaching Mathematics is the New Zealand Numeracy Framework. This framework involves a clear outline of progression in number knowledge and strategies, as well as rigorous assessment tools for tracking students' development. Mathematics lessons are usually differentiated, with students working on a variety of tasks in various different flexible groupings, in order to challenge and support all students, regardless their level of competency or experience. For more information on the NZ Numeracy Framework, you can go to: <http://nzmaths.co.nz/families>. Please note that Grade 4 at BIS is the equivalent of Year 5 in New Zealand.

The different strands of Mathematics are:

- Number (addition and subtraction, multiplication and division, proportion and ratios)
- Geometry and Measurement
- Statistics and Probability

In Grade 4, students work within the number strand for about 60/70% of the Mathematics teaching time. Students in Grades 4 and 5 typically work through Stage 6 of the Numeracy Framework, though of course some students may work in a higher or lower stage. The expectation is that students have mastered all outcomes within Stage 6 at the end of Grade 5. The strategies and knowledge in this phase will take about two years to develop completely, and some aspects might be consolidated earlier or later than other aspects.

Specific outcomes in Stage 6 are:

Number Knowledge

- Recall the multiplication and division facts for the multiples of 2,3,5 and 10
- Recall multiplication to 10x10 and the corresponding division facts
- Recall groupings of twos, threes, fives and tens that are in numbers to 100 and the resulting remainders
- Identify all of the numbers in the range 0- 1 000 000
- Say the forwards and backwards whole number word sequences by ones, tens, hundreds and thousands in the range 0 – 1 000 000, including finding numbers that are 10, 100 or 1000 more or less than a given number
- Order whole numbers in the range 0 -1 000 000
- Read decimals with tenths, count forwards and backwards in tenths, order decimals with tenths
- Recall groupings within 1000 (eg 270 + 730)
- Round whole numbers to 10, 100 or 1000
- Find out how many ones, tens, hundreds and thousands there are in all of a whole number

- Find the number of tenths and hundredths in decimals to two places
- Round decimals with up to two places to the nearest whole number
- Identify symbols for any fraction, including tenths, hundredths, thousandths and those greater than 1
- Say the forwards and backwards word sequences for halves, quarters, thirds, fifths and tenths
- Order unit fractions
- Rename improper fractions as mixed numbers and position improper fractions on a number line

Number Strategies

- Solve addition and subtractions problems by going back through tens
- Solve addition and subtraction problems by using place value
- Solve addition problems by looking for compatible numbers
- Solve addition and subtraction problems by compensating with tidy numbers
- Solve subtraction problems by using reversing
- Solve addition and subtraction problems using decomposition, leading to a written algorithm
- Choose critically from a range of mental strategies to solve addition and subtraction problems
- Derive multiplication facts from 2, 5 and 10 times tables
- Change the order of factors to make a multiplication problem easier
- Multiply by 10s, 100s, 1000s and other multiples of 10
- Solve multiplication and division problems by using multiplication facts
- Solve problems using a combination of addition, subtraction, multiplication and division mental strategies
- Find fractions of a set using multiplication and division
- Find fractions of regions
- Solve division problems involving fractions

Geometry in Grade 4

- Construct models of polyhedra
- Use the terms faces, edges and vertices to describe models of polyhedra
- Investigate properties of symmetry in shapes
- Investigate spatial features of shapes
- Find all the lines of reflection symmetry in shapes
- Identify the order of rotational symmetry of a given shape
- Create designs which have reflection, rotational and translational symmetry

Measurement in Grade 4

- Make estimates of lengths
- Accurately measure lengths in metres, centimetres and millimetres

- Convert between metres and cm
- Develop a concept of a km
- Measure a distance of a km
- Find perimeters of objects using addition
- Use a square metre to measure areas
- Estimate and measure to the nearest square metre
- Use multiplication to calculate the area of a rectangle
- Use proportional reasoning to find the area of a rectangle
- Measure time in periods of up to 15 minutes
- Recognize the need for a standard unit of temperature
- Measure temperatures in degrees Celsius using a thermometer
- Calculate changes in temperature

Statistics and Probability in Grade 4

- Interpret information from graphs
- Make statements based on data shown on graphs
- Identify the most suitable graph to show survey results

Personal, Social and Physical Education (PSPE)

Personal and Social Education

The development of a student's well-being is addressed through all areas of the PYP curriculum. Therefore students' social, personal and emotional development is the shared responsibility of all teachers at BIS. Children are given guidance to help develop positive attitudes and behaviours in order to meet challenges, make healthy lifestyle choices, and become successful learners.

Physical Education

Physical Education at BIS is about more than just student participation in sports and games. Its purpose is to develop a combination of transferable skills promoting physical, intellectual, emotional and social development. During the PYP, we provide meaningful opportunities for learning about movement and through movement in a range of contexts.

Students in Grade 4 have PE lessons in the Sports Hall two periods per week. Depending on the time of year, some lessons take place outside on our fields.

PE units in Grade 4 include:

- Healthy lifestyle - the body and exercise
- Movement Composition - dance to express emotions
- Handball
- Gymnastics
- Striking and Fielding Games
- Track and Field

The Arts

Learning about and through the Arts is fundamental to the development of the whole child. It promotes creativity, critical thinking, problem-solving skills and social interactions. Through our Arts Programme students develop attitudes such as appreciation, empathy and Learner Profile attributes such as being a communicator and a risk-taker.

Grade 4 students have three periods of Visual Arts, two periods of Music and two periods of Drama over a ten-day cycle. Lessons take place in the Primary Art Room and the Primary Music Room in the Agora building.

Visual Art units in Grade 4 include:

- Artist study: Mian Situ and Jacob Lawrence
- Sculptures - Paper
- Watercolours
- Wild Life Drawing and Shading
- Mask Making and Set Design

Music units in Grade 4 include:

- Vocal studies and Ensemble Studies
- Singing (as part of the Upper Primary School Choir)
- Musical elements - Form
- Music appreciation - Jazz improvisation

Drama units in Grade 4 include:

- Presentation Skills: Focus on the Voice, Delivery and Projection. Pronunciation and Articulation.
- Script Writing Techniques: Dialogue that leaps off the page! Creating characters. Plot development.
- Acting Techniques: Physical & Vocal Warm ups. Building a Role. Using the voice effectively to convey emotions.
- Drama Techniques to enhance thinking skills: Storytelling, Character Hot Seating, Tableaux Work, Intro to Improvisation Techniques.

iPads

iPads are used as a tool for learning from Early Learning to Grade 10, including a 1-to-1 iPad programme in Grade 4. Students in Grades 4 and 5 are allocated iPads, which remain in school and are used in many different ways to enhance and extend students' learning. Students use their iPads as research tools, to create animations, to record observations and to present their learning. We encourage students to be 'balanced', so learning with technology is part of a broad range of activities and approaches to learning. We also recommend to parents to balance 'screen-time' with other age appropriate activities.

Seesaw

Students are involved in learning how to assess, and reflect on, their own and others' work. Seesaw is an online assessment, journal and portfolio tool. Seesaw is used to record student progress, to plan for their next steps in learning and to document the learning journey. Parents log on to see and respond to examples of their children's learning.

Assessment and Reporting

In the PYP, assessment is integral to all teaching and learning. We use assessment data to inform our planning. This enables us to differentiate our programme so that each student is included, engaged and challenged at their own level.

Teachers use a range of assessment strategies and tools for formative (assessment FOR learning) and summative (assessment OF learning) assessments.

We also use a range of standardized assessment tools to keep track of children's progress, in Grade 2 these include:

- Developmental Reading Assessment (DRA) - administered at least twice a year to give an indication of reading level
- Spelling/Phonics assessments linked to our programmes
- GloSS (Global Strategy Stage) Mathematics Assessment - administered at least twice a year to track student progress through the New Zealand Numeracy Framework

Annual Reporting Cycle

There are several opportunities each year for parents to be informed about their child’s progress at school. In addition to the scheduled conferences, parents are encouraged to engage in open conversations with their child’s teachers throughout the year, and can make appointments to speak with the teachers whenever they so wish. Teachers may also request additional meetings with parents if needed. Parents are also kept up to date through regular posts on the digital portfolios, Seesaw and Tapestry.

Scheduled reporting times are:

September	Students in Grade One - Grade Five will participate in a three-way meeting with the teacher and parent to establish learning goals for the year.
January	Parent/teacher conferences are scheduled where you can discuss the progress your child is making.
March	Parents are invited in for a student-led conference whereby each student will talk through their learning progress with their parents.
June	At the end of the year, parents receive a formal written report for the academic year.

Students in Grades 3 - 5 will carry out the International Schools Assessment. This is primarily used by the school to document growth and to track patterns across time.

Student Support

At BIS, we have a range of ways in which we support our students. We believe that sound relationships between teachers, support staff and students, as well as between students, are vital to ensure a good learning environment. Our aim is for all our students to feel safe, to feel accepted, to feel included and to feel cared about. We have a Primary School Counselor, who works with those students who might need some additional emotional or social support. She also works with whole classes on issues that might impact all children, such as bullying or safety issues.

The philosophy of the Learning Support Department (LS) is to empower students with learning differences to become confident, independent, well-balanced, responsible students who can self-advocate and find their own path to success. Our LS Programme is designed for students with mild to moderate learning difficulties. The LS teachers work in collaboration with homeroom teachers and parents to ensure that these students can make progress and show academic growth.