



Maths curriculum policy

This policy reflects the values and philosophy of iCAN British International School in relation to the teaching and learning of mathematics. It is based upon the United Kingdom's Primary National Framework. It gives a framework to which learning facilitators and learning support assistants work and provide guidance on planning, teaching and assessment, ensuring continuity and progression in the teaching of mathematics.

The importance of Mathematics

Mathematics equips learners with a uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem-solving skills, and the ability to think in abstract ways. Mathematics is important in everyday life, many forms of employment, science and technology, medicine, the economy, the environment and development, and in public decision making. Different cultures have contributed to the development and application of mathematics. Today, the subject transcends cultural boundaries and its importance is universally recognised. Mathematics is a creative discipline. It can stimulate moments of pleasure and wonder when a pupil solves a problem for the first time, discovers a more elegant solution to that problem, or suddenly sees hidden connections.

National Curriculum 2000

Subject aims

At iCAN, our aim is to provide a numeracy curriculum which will produce individuals who are numerate, creative, independent, inquisitive, enquiring and confident. We aim to provide a stimulating environment with a range of supportive resources so that all learners can develop their mathematical skills to their full potential. We aim to provide learners with rich and enjoyable experiences related both to their individual needs and to the wider requirements of society.

We aim for each learner to:

- Have a positive attitude towards mathematics.
- Have self-confidence in their abilities as mathematicians.
- Think logically and work systematically.
- To be independent mathematicians.
- Experience a sense of achievement regardless of age or ability.
- To be able to think and solve problems mathematically by using the appropriate skills, concepts and knowledge in the areas of understanding.
- To be able to apply their understanding in a variety of contexts.
- To be able to communicate using appropriate mathematical language.

We aim for families to:

- Understand and support the school's mathematics policy and scheme of work.
- Be involved in their child's mathematical learning at home and in school.

Planning of Maths lessons at iCAN

Foundation Stage: use the 'Mathematical Development' area of the Early Learning Goals.

Mileposts 1/2/3: the Primary National Framework is divided into 5 blocks of learning

The blocks are:

- Block A: Counting, partitioning and calculating
- Block B: Securing number facts, understanding shape
- Block C: Handling data and measures
- Block D: Calculating, measuring and understanding shape
- Block E: Securing number facts, relationships and calculating

Details of the Primary National Framework for mathematics, including planning overviews to support planning and assessment, can be found on the network, in the folder entitled Primary National Framework.

Long Term Planning: is the Primary National Framework which outlines key objectives from Reception to Year 6. **Years 7 to 9 use the KS3 Mathematics framework.**

Medium Term Planning: medium term planning outlines the key objectives in a teaching block and is informed by the Primary National Framework.

Short Term Planning: all learning facilitators from Year 1 to year 6 use the same weekly planning format; which sets out the 'I can...' learning objectives, differentiated activities and resources. Learning facilitators use the learning objectives from the Primary National Framework to inform their planning.

Teaching of numeracy lessons in iCAN

All learners have a daily numeracy lesson (60 minutes). Whenever appropriate, numeracy skills will be applied within other subjects, e.g. data collection in science.

Within numeracy lessons, there is a balance between whole-class, group and individual work. Learning facilitators ensure a variety of teaching approaches are used, incorporating a range of co-operative structures to reinforce learning. Practical work is particularly important, and learners are supported when needed.

EYFS

In the Early Years and Foundation Stage learners have access to practical numeracy activities to develop their skills and are introduced to different mathematical concepts through songs, rhymes, games and role play.

In Reception, learners have 10-15 minutes whole class learning each day, delivered by the learning facilitator. All learners then experience a group focus activity once a week with the learning facilitator, based on the Development Matters learning objectives. When not learning with the class learning facilitator, learners have access to independent numeracy learning and activities supported by the LSA based on the same weekly objectives.

Primary

Learning facilitators are encouraged to keep the structure of their lessons flexible and varied to maximise learning and achievement within the session. However, a typical daily 45-60 minute lesson in Year 1-6 will be structured like this:

Mental/oral starter (5-10 minutes)

Whole class work to rehearse, sharpen and develop mental and oral skills. This does not have to be related to the main lesson.

Teaching input (15-20 minutes)

This includes input from the learning facilitator and the use of co-operative structures. The teaching input must have a clear learning objective (I can...) which is line with the Primary National Framework.

The main teaching activity (30-40 minutes)

This includes a balance between whole class, group, paired and individual work. This work should be differentiated for the range of abilities in the class. The learning facilitator and the learning support assistant should have clear roles of support that have been determined in the planning.

During the main teaching activity, learners engage in:

- the development of mental strategies
- written methods
- practical work
- investigational work
- problem solving
- mathematical discussion
- consolidation of basic skills and number facts

Plenary (10 minutes)

This is a whole class activity which might include; identifying and sorting out misconceptions, summarising key facts, discussing next steps, celebrating success and reviewing work.

Calculators

Learners have access to calculators throughout the school and might check their own work with them. However, the introduction of calculators as calculating tool begins in Year 4 when learners begin to develop strategies for using their knowledge of number facts to solve problems with and without the aid of a calculator. They can also begin to compare their mental, written and calculator methods.

Record keeping and assessment

Assessment is an integral part of teaching and learning and is a continuous process. It is the responsibility of the class learning facilitators to assess all learners in their class and record their progress. Accurate assessment allows us to identify learning priorities and plan relevant motivating experiences thus benefiting the learners and ensuring progress. Assessments are used to inform teaching in a continuous cycle of planning, teaching and assessment.

Daily assessment:

Daily assessment is an informal part of every lesson and includes; checking for understanding, questioning, observations, marking of learners' work and a weekly mental maths test (MP1/2/3). Plans will be annotated, making a note of learners who did not reach the expectation or exceeded the expectations of the lesson.

All learners' numeracy work will be marked daily, following the guidelines of the Maths marking policy.

End of unit assessments:

Year 1

At the end of the academic year, Year 1 learners will complete reviews, which covers all the objectives covered throughout the year.

Year 2 – Year 6

When the learners complete a full cycle of blocks (e.g. Block A – E, Unit 1), they will complete the Testbase end of unit assessment which is based on the objectives covered in that cycle. They will complete several reviews throughout the year.

Learning facilitators complete an assessment record showing the learners' progress in each objective. They also record the level of each child in the school spreadsheet. This information is used by the learning facilitator and the Maths leader to highlight learning needs and set individual learning targets.

Formal assessment:

All learners will complete an InCAS computer based assessment once a year. The results of this will be used to identify trends and areas of strength or for development within the Maths curriculum.

Families are kept informed of their child's progress in mathematics during the Family-Learning facilitator meeting at the end of Learning Block 3 and in the learning reviews sent home twice a year. Children also have the opportunity to share their numeracy learning with their families informally during family drop in sessions, and formally in their Child Led Conference.

Target setting:

Based on their assessment of learners' work, learning facilitators set differentiated learning targets for learners every learning block. Targets are discussed with the learners so they are aware of their personal learning goals and shared with families so that they can most effectively support their child at home.

Equal opportunities & additional learning needs (ALN)

We are committed to ensuring all learners are offered the same range of mathematical experiences regardless of gender, religion or culture. The daily mathematics lesson is appropriate for all learners, as learning facilitators will involve all learners through differentiation and support, through use of resources, adult help or peer support. If necessary, learners identified as needing additional support will be given support by the Learning Support Team, in the classroom, in a small group setting or 1:1.

We are also aware of the specific needs of learners with English as an additional language (EAL). Learners identified as needing additional EAL support will be given support by the EAL team.

Class learning facilitators are responsible for challenging all learners and this is monitored by the Learning Support Team. Learners who are identified as gifted and talented in mathematics are extended through differentiated activities.

Use of ICT

ICT is used in various ways to support teaching and motivate learners' learning. Interactive whiteboards are installed in the all classrooms and it is the responsibility of the teacher to use these to provide models and images to aid mathematical understanding. ICT also involves using appropriate CD-ROM's, computer programs, calculators, digital scales and stopwatches. ICT will however only be used when it is the most efficient and effective way of meeting the lesson objectives.

Promethean interactive whiteboards are used to provide excellent opportunities for learning facilitators and learners to experience the world of maths in a truly visual and interactive way. There is no doubt that their use enhances both the teaching and learning of maths at iCAN.

Resources

Every class is provided with a numeracy resource box containing a variety of resources that are considered useful for every day numeracy teaching. This should be returned to the Maths leader at the end of the year, with a clear list of resources that need to be remade in preparation for the next year.

Shared resources, which include practical resources and books, are kept in the resources room and signed out when borrowed.

ICT will be used in various ways to support teaching and learning. This includes classroom laptops, calculators, cameras and audio visual aids. They will however only be used when it is the most efficient and effective way of meeting the learning objective.

The role of the Maths leader

- To be enthusiastic about mathematics and demonstrate good practice.
- To develop and update skills, knowledge and understanding of numeracy.
- To deliver training during INSET days and within staff meetings.
- To review, organise and order all resources.
- To maintain the schools mathematics policy.
- To support and guide staff in planning, teaching and assessment.
- To afford colleagues the opportunity to share good practice.
- To monitoring and evaluate teaching and learning progress through Looking for Learning observations and team teaching.
- To keep teaching staff informed of relevant development and information linked to the numeracy curriculum

The role of the class learning facilitator

- to ensure progression in the acquisition of mathematical skills with due regard to the Primary National Framework
- to develop and update skills, knowledge and understanding of mathematics
- to identify INSET needs in mathematics and take part in CPD
- to keep appropriate on-going records of learner progress by annotating planning and delivering end of unit assessments
- to plan effectively for mathematics, liaising with the Maths leader when necessary. See Primary National Framework planning overviews for details of planning procedures
- to inform families of learners' progress, achievements and attainment