Primary One
Curriculum Briefing
Mathematics
Aims of Math Syllabus

Laying a Strong Foundation

The Primary Mathematics Syllabus aims to enable all students to:

• **Acquire** mathematical concepts and skills for everyday use and continuous learning in Mathematics

• **Develop** thinking, reasoning, communication, application and metacognitive skills through a Mathematics approach to problem-solving

• **Build** confidence and foster interest in Mathematics
The Primary Mathematics Syllabus assumes no formal learning of Mathematics. However, **basic pre-numeracy skills** such as:
- matching,
- sorting and
- comparing
are necessary in providing a good grounding for students to begin learning at Primary 1.
Mathematics Framework

- Beliefs
  - Interests
  - Appreciation
  - Confidence
  - Perseverance

- Monitoring of one’s own thinking
  - Self-regulation of learning

- Attitudes

- Metacognition

- Concepts
  - Numerical calculation
  - Algebraic manipulation
  - Spatial visualisation
  - Data analysis
  - Measurement
  - Use of mathematical tools
  - Estimation

- Skills
  - Numerical
  - Algebraic
  - Geometric
  - Statistical
  - Probabilistic
  - Analytical

- Processes
  - Reasoning, communication and connections
  - Applications and modelling
  - Thinking skills and heuristics

ZHONGHUA PRIMARY SCHOOL
Love Math, Love Learning Math
Teachers use the **Concrete-Pictorial-Abstract (C-P-A)** approach together with activity-based learning to help students understand abstract mathematical concepts.
Activity-based learning and Performance Tasks also encourage active participation by students in the learning process. It involves learning by doing, individually or in a group.
Activity-based lesson (A Sample)

P1 Mathematics
Activity-based Lesson 5
Length
Long, Tall and Short

Group members: .................................................................

Class: P1 ___________________ Date:__________________________

Instructions
1. Use the following items to complete the following tasks.
   - Paper clips
   - Ice-cream sticks
   - Footprints
   - Interlocking cubes

2. Read the tasks carefully and fill in the blanks.

How long or short?

Task 1
1. What is the length of one footprint?

   (a) One footprint is about ________ long.

   (b) One footprint is about ________ long.

   (c) One footprint is about ________ long.
Performance Task (A Sample)

Instructions:
Use the □ on the table to measure the lengths of the straw, ice-cream stick and pen given.

1) The straw is about □ long. (1m)

2) The ice-cream stick is about □ long. (1m)

3) The pencil is about □ long. (1m)

Compare the pen and the ice-cream stick.

4) (a) Which one is shorter? Circle the correct answer. (1m)

   Ice-cream stick / Pencil

   Answer: Shorter by □

(b) How much shorter? (1m)
The Model Method requires students to draw a pictorial model to represent mathematical quantities and their relationships given in a problem.

It serves as a visual tool to process and analyse the given information and to plan and develop a sequence of logical steps to solve a problem.
Upon entering Primary 1, students who lack age-appropriate numeracy skills are identified and given support through the LSM. Students in this programme are taught in small groups by specially-trained teachers.

A structured teaching approach, incorporating multi-sensory teaching methods, is used to meet the learning needs of these students. The progress of these students is monitored by these teachers.
Holistic Assessment in Math is carried out:

- to gather evidence about pupils’ knowledge of Mathematical concepts
- to ascertain whether learning has taken place
- to provide parents with information on their child’s progress

In Primary 1, a key focus would be on building the child’s confidence and desire to learn. Thus assessment is bite-sized and focuses more on providing information on the learning progress of the child.
Bite-Sized Assessments:

• Level subject teachers plan the weeks in which the bite-sized assessments are conducted.

• Letters are given out to inform parents and pupils of the week(s) in which the pupils will sit for these tests.
# Primary 1 Assessment Plan (A Sample)

## School: Zhonghua Primary School
### Subject: Mathematics
### Level: Primary 1 (2014)

<table>
<thead>
<tr>
<th>Topics</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
<th>Term 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole numbers (55%)</td>
<td>- Numbers to 20</td>
<td>- Numbers to 40</td>
<td>- Numbers to 100</td>
<td>- Multiplication and Division</td>
</tr>
<tr>
<td></td>
<td>- Addition and Subtraction within 20 (without regrouping)</td>
<td>- Addition and Subtraction within 40 (with and without regrouping)</td>
<td>- Addition and Subtraction within 100 (with and without regrouping)</td>
<td></td>
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<tr>
<td></td>
<td>- Ordinal numbers</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Geometry (10%)</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>- Shapes and Patterns</td>
<td></td>
<td></td>
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<tr>
<td>Measurement (30%)</td>
<td></td>
<td>- Length</td>
<td>- Time</td>
<td>- Money</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>- Length</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Analysis (5%)</td>
<td></td>
<td></td>
<td>- Picture Graphs</td>
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<tr>
<td>Topical Tests (AFL)</td>
<td>Topical Test 1 T1W8</td>
<td>Topical Test 2 (20%) T2W8</td>
<td>Topical Test 3 (20%) T3W5</td>
<td>Topical Test 5 (10%) T4W4</td>
</tr>
<tr>
<td></td>
<td>- Whole numbers within 20</td>
<td>- (5%) Shapes and Patterns</td>
<td>- (10%) Whole numbers within 100 (with and without regrouping)</td>
<td>- Money</td>
</tr>
<tr>
<td></td>
<td>- Addition and Subtraction within 20 (without regrouping)</td>
<td></td>
<td>- (10%) Time</td>
<td></td>
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<tr>
<td></td>
<td>- Ordinal numbers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Shapes and Patterns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Tasks (AFL)</td>
<td>Performance Task 1 T1W9</td>
<td>Performance Task 2 (5%) T2W9</td>
<td>Performance Task 4 (15%) T3W9</td>
<td>Revision Paper (30%) T4W7</td>
</tr>
<tr>
<td></td>
<td>- Ordinal numbers</td>
<td></td>
<td>- (5%) Picture Graphs</td>
<td>- Whole numbers within 100 (with and without regrouping) including multiplication and division</td>
</tr>
<tr>
<td></td>
<td>- Shapes and Patterns</td>
<td></td>
<td>- (5%) Shapes and Patterns</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- (5%) Length</td>
<td></td>
</tr>
<tr>
<td>Total (100%)</td>
<td>0%</td>
<td>25%</td>
<td>35%</td>
<td>40%</td>
</tr>
<tr>
<td>No. of assessments</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

On-going formative assessment practices and strategies used: (Observation, verbal reasoning, checklist)

Personal Quality Focus: Motivation, Teamwork & Communication Skills (indicated in Progress Report Card, which is returned termly to the parents)
In the classroom, teachers use a range of appropriate assessment modes to gather information about their pupils’ learning and provide feedback to the pupils.

Informal Assessments:
- Rubrics
- Checklists (Self / Peer/ Group)
P1 Mathematics
Activity-Based Lesson 1
Topic: Numbers To 10
Pupil’s Self-Assessment Checklist

Name: ___________________________ Class: P1 ____________

WB 1A Pq: 18

Put a ✓ in the appropriate column.

<table>
<thead>
<tr>
<th>What I can do</th>
<th>Agree</th>
<th>Disagree</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know how to count within 10.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know how to represent the numbers using dots.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know how to write the numbers in numerals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know how to write the numbers in words.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do not give up easily.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Teacher’s Feedback

<table>
<thead>
<tr>
<th>What you can do</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>You know how to count within 10.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You know how to represent the numbers using dots.</td>
<td></td>
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<td>You know how to write the numbers in numerals.</td>
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<tr>
<td>You know how to write the numbers in words.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You do not give up easily.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### INSTRUCTIONS
1. Follow all instructions carefully.
2. Answer all the questions.
3. Write your answers in this booklet.

**Name:** ___________________

**Class:** Primary 1 2014

### Zhonghua Primary School Performance Task 2

**Primary 1 2014**

### Rubrics (A Sample)

<table>
<thead>
<tr>
<th>Skills</th>
<th>🌟🌟🌟🌟</th>
<th>🌟🌟🌟</th>
<th>🌟🌟</th>
<th>🌟</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Able to measure the lengths of objects using non-standard units</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Able to compare the lengths of objects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Length

<table>
<thead>
<tr>
<th>🌟🌟🌟🌟</th>
<th>🌟🌟🌟</th>
<th>🌟🌟</th>
<th>🌟</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pupil is able to measure the length of objects using non-standard units efficiently.</td>
<td>The pupil is able to measure the length of objects using non-standard units relatively well.</td>
<td>The pupil requires prompts and guidance to be able to measure the length of objects using non-standard units.</td>
<td>The pupil requires prompts and guidance to be able to measure the length of objects using non-standard units. The pupil is still unable to place the non-standard units in a straight line to measure the length of the object.</td>
</tr>
</tbody>
</table>

The pupil is able to use a start line, **and** place the non-standard units in a straight line without any gaps or overlaps to measure the length of the object.

The pupil is able to use a start line, **or** place the non-standard units in a straight line without any gaps or overlaps to measure the length of the object.

The pupil is able to compare lengths correctly for all the questions.

The pupil is able to compare lengths correctly for most of the questions.

The pupil is able to compare lengths correctly for less than half of the total number of the questions.
Partnership with Parents

1. Holistic Portfolio
2. Progress Card
3. Report Book
Parents in Education (PiE) website

What will your child learn?

The aim of primary Mathematics is to enable all children to acquire and apply mathematical concepts and skills for everyday use. These skills will then be applied to support further learning in Mathematics, develop different levels of thinking, reasoning, communication, application and metacognitive skills, through a mathematical approach to problem solving. When your child is equipped with these skills and holds a good grasp of mathematical concepts, he/she will be confident in their use and may have a deeper interest in Mathematics kindled.

For Primary Schools, the content can be broadly described along three categories: Numbers and Algebra, Measurements and Geometry, and Statistics.
Tips to support your child’s learning of Mathematics

Did you know? Your presence and involvement in the learning process will both encourage and support your child in his/her learning. Some everyday activities that you and your child can do as a family can prepare and support your child’s learning of lower primary-level Mathematics.

Here are the following tips:

Create a homework routine

Work out a study timetable with your child, and guide him/her to set priorities. Encourage him/her to complete his homework daily – your support and supervision will help your child work towards his/her academic goals.

Focus on effort, not mistakes

As a parent, you can help make learning a truly educational experience, rather than a stressful one. Let your child know that you recognise the effort he/she is putting into the assignments. When it comes to mistakes, you can check if your child knows where and why he/she has gone wrong and help him/her if you can. Your encouragement can also instil in your child the confidence to seek help from his/her teachers.

- Play Mathematics Games [Read more...]
- Read Storybooks Relating to Mathematics with Your Child [Read more...]
- Relate Maths to Everyday Life Situation [Read more...]
Online Resources for Parents

There is a wealth of rich learning resources on the cyberspace.

http://mathstory.com
A rich resource portal with many math videos, songs, poems and stories for young children.

http://www.learningplanet.com
Educational website which includes interactive games and puzzles for children to practice for basic mathematical skills.

http://www.internet4classrooms.com
A portal which has an interactive Maths Skill Builders to help children practice the different maths concepts.

http://www.aplusMath.com/
A website which has a Game Room that offers games such as Matho and Hidden Picture. Children can test their maths skills with its e-Flashcards and eWorksheets. There is also a Home Helper to help children to check on their maths solutions.

http://www.coolMath.com/
This site offers tutorials, practices, and exciting activities. It has sections which include maths games, free online games and puzzles.

http://webMath.com
A math-help web site that generates answers to specific maths questions and problems. In addition to the answers, Webmath also shows users how to arrive at the answer. It includes topics such as Math for Everyone, General Maths and Geometry.

http://enlvm.usu.edu/nav/bb_dlib.jsp
A site which contains a library of interactive activities for children to experiment with various mathematical concepts.
Partnership with Parents

Upcoming Workshop for Parents

• Parent-Child Math Workshop conducted by our teachers (March)
Primary 1 Math Curriculum Briefing

Thank you.

Have a nice day.

ZHONGHUA PRIMARY SCHOOL