



# Stewards MKMCF Ma Ko Pan Memorial College

## English MOI Strategies in Junior Mathematics Lessons under MOI Fine-tuning

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Under the **fine-tuning MOI Policy**, our school formulates the whole school language policy with due consideration of the following bases:

- the needs of students
- the expectation of parents
- the standard and performance of English of our students
- the language expertise of our existing teachers and their professional development needs
- supportive measures for learning and teaching of English language



# Whole School Language Policy

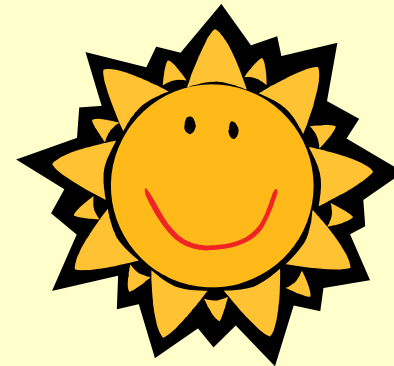
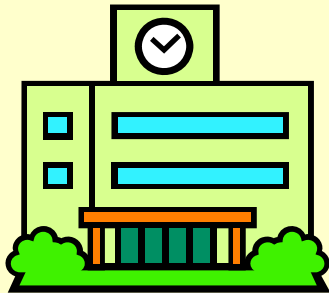
Our School adopted the medium of instruction in the following subjects:

EMI Subjects			CMI Subjects	
English	Mathematics	Geography	Chinese	Chinese History
History	Integrated Science	Computer Literacy	Putonghua	Liberal Studies
Physics	Biology	Chemistry	Religious Studies (Christian Education)	Physical Education
BAFS	Economics	Visual Arts		
Music	Home Economics	Language Across the Curriculum		



# MOI strategies of Mathematics subject in our school

1. Language across the Curriculum (LAC)
2. Classroom Learning and Teaching



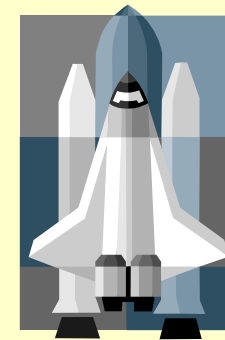


# Sharing on Classroom Learning and Teaching

## Challenges for teachers:

**1. Language competency requirement from EDB**

**2. The demand of language for each lesson and  
language input for each topic**





# Sharing on Classroom Learning and Teaching

## Challenges for teachers:

**3.The teaching pedagogies of mathematics contents**

**4.The change in questioning skills**





# Sharing on Classroom Learning and Teaching

## Challenges for teachers:

**5. Learning diversities may further be broadened**





# Language support for teachers

## A) Lesson studies and advice from the English Department of the school

- i) Using language at appropriate level and pace
- ii) Reading aloud and breaking down words into syllables for some specific terms
- iii) Writing key terms on the blackboard
- iv) Guiding students to use proper sentence structures



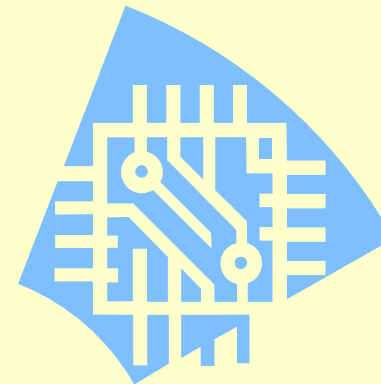




# Language support for teachers

## **B) EMI Training on mathematics subject offered by tertiary institutions**

- i) Subject-centred**
- ii) Questioning skills, design of class activities, group discussion, micro-teaching**
- iii) Post-course support**



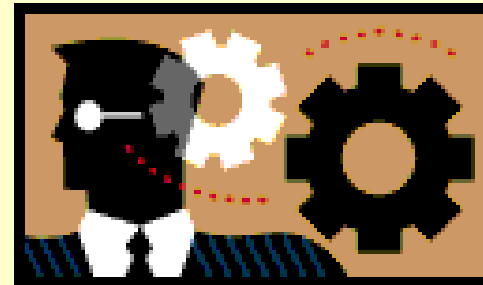


# Language support for teachers

## C) Comments and advice from the MOI

### FI team of EDB after the inspection

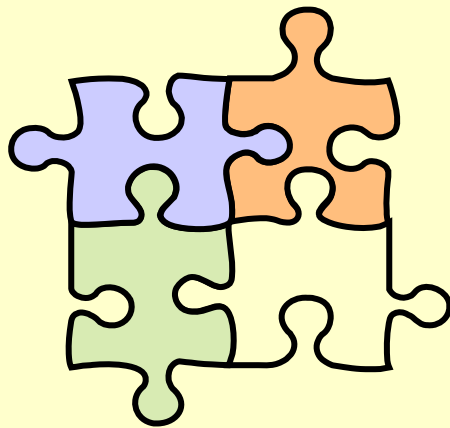
- i) Perform professional assessment and judgement to maintain the standard
- ii) Give advice and support after lesson observation





## Some tips after summing up the advice from the above parties in a Maths classroom

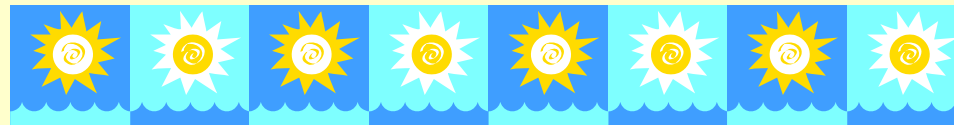
- Maximize students' opportunities to use English inside classroom
- Diagnose students' learning progress





## Some tips after summing up the advice from the above parties in a Maths classroom

- Use prompting and probing questions to provoke students' thinking
- Use different pedagogies such as demonstrations, rephrasing, analogies, daily-life examples, visual aids and body language





# *Sharing on some Junior Mathematics Lessons*

## **General strategies**

- **Questioning**
- **Wording**
- **Quick Revision**
- **Activities**





# Lesson studies

## Lesson: S1 Percentage

### Aims of the lesson

- Apply knowledge of ‘percentage decrease’ to ‘discount’
- Understand the terms related to ‘discount’
- Handle complicated problems





# Questioning

- **Different levels**
- **Use guided questions**
- **Choose different students to answer**
- **Elaborate students' answers**
- **Alter the given conditions / extreme cases**
- **Encourage complete sentences**



# Wording

- **Use simple words**
- **Use more mathematical terms**
- **Specific sentence structure**







# Activity

- **Students are divided into groups**
- **All students should take part in the activity**
- **With different tasks, including thinking, discussing, demonstrating and reporting**
- **Time control**





# Conclusion

- **Involve more students to join the lesson**
- **Reward / praise should be given**
- **Instruction should be clear**
- **Boost students' motivation**
- **Teachers should have self-confidence**
- **Use appropriate body language**





# Appendix 1

## S3 Area and Volume of Sphere

### Aims of the lesson

- Use an orange to study the terms related to a sphere
- Use an experiment to derive the formula for the volume of a sphere



# Appendix 2

## S3 Area and Volume of Pyramid and Cone

### Aims of the lesson

- **Derive a formula for the volume of a pyramid**
  - **Case 1: use a pyramid with right-angled triangle base**
  - **Case 2: use a pyramid with square base**
- **Derive a formula for the volume of a cone**
  - **Use water to fill up the cone**



**Persevering Humbly  
Improving Continuously**



**Thank you!**