

Enhancing Learning in Mathematics Lessons through Immediate Feedback (Primary 1 - 3)

Objectives:

Pupils will be able to represent collected data by using frequency tables and block graphs.

Dimension : Data Handling

Key Stage : 1

Description of Exemplar :

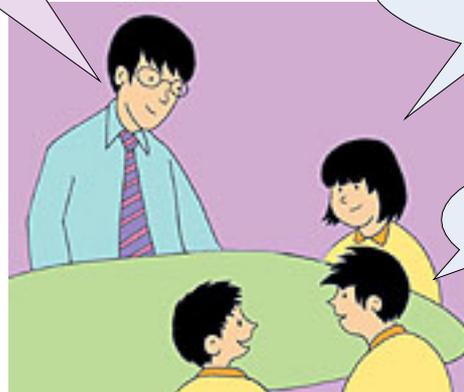
Topic: Collecting and Presenting Statistical Data

This exemplar focuses on the presentation of real data using tables and block graphs. It is not recommended to conduct the lessons in such a way that pupils present the data following teachers' instructions step by step. Instead, pupils are free to present the data collected as they wish, in order to develop their creativity. It is important to let pupils discuss critically the meaning of the data collected and appreciate the systematic and clear presentation of data.

A game can be conducted for motivation, for example, a class-monitor election game. Pupils may be requested to nominate a few candidates (say, 4 candidates) and vote. Pupils are encouraged to suggest ways to collect data, record the results and interpret the results. Teachers can raise the following questions for discussion:

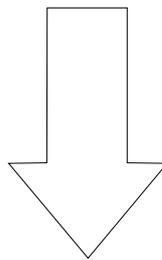
- Can you suggest any alternative methods to collect data?
- What are the advantages of the method that you suggest?
- Which graph is better? Why?
- How can you record the results?
- How can you use pictures or graphs to show the results?
- What are the advantages of using graphs and tables to present data?

How would you collect data about the class-monitor election game from your fellow classmates?



I will use a questionnaire.

I will ask them one by one.



Your suggestions are all very good.

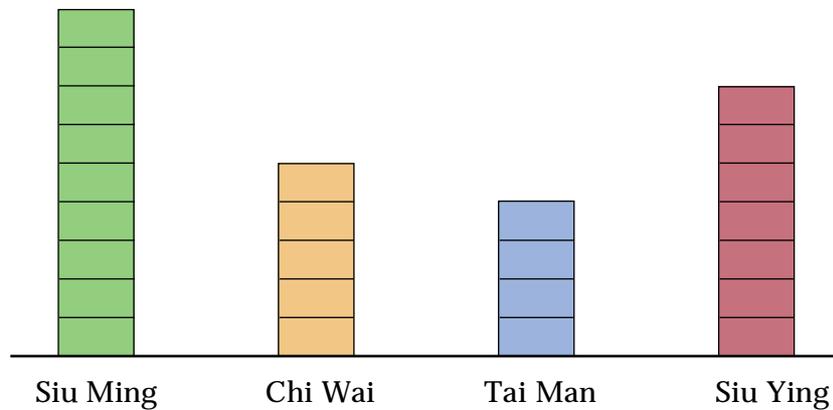
The teacher gives suitable feedback to pupils' suggestions during discussion and finally leads them to the goal of collecting data and presenting data in tables and block graphs as below.

(Frequency Table)

Candidate	Siu Ming	Chi Wai	Tai Man	Siu Ying
Mark	++++ +---	++++	+++	++++ +---
Frequency	9	5	4	7

(Block Graph)

Number of votes in the class-monitor election game

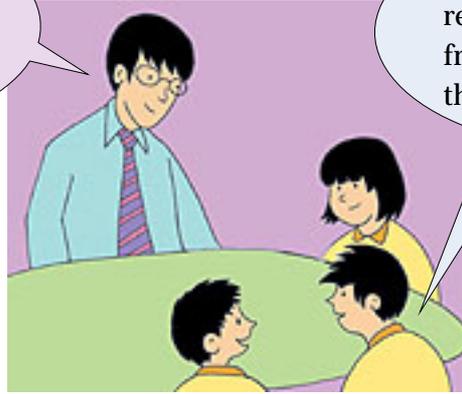


Pupils are encouraged to interpret the graph and the following questions will be discussed:

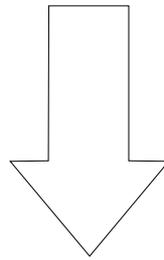
- Who won in the election game?
- How many pupils joined the class-monitor election game?
- What were the difficulties when you collected the data?
- What were the difficulties when you drew the Block Graph?
- Is the number of votes equal to the number of pupils in the class? Must they be equal? Why?

After the game, pupils are divided into groups and start another data collection game in their groups as an assignment or for practice, for example, "My favourite fruit", "My favourite TV programmes", and so on. Each group of pupils collaborates and presents their data.

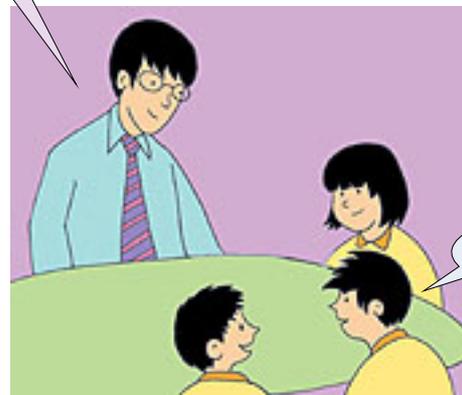
In what way would you express the most favourite fruit?



I will use a large block to represent the most favourite fruits and a smaller block for the less favourite ones.



Do you think the reader will misinterpret your findings if you express them in this way?



Assessment of pupils' understanding can be made during class practice. The **teacher** can **join the group discussion** with the pupils to understand their thinking and misconceptions. Through discussion with the groups/group members, the teacher will **give immediate feedback** to the groups/individuals to clarify their misunderstanding. Each group is requested to report to the class orally and interpret the set of data collected.

In this exemplar, immediate feedback to pupils' suggestions and work is essential for improving their learning and consolidating the concepts acquired.