



Exemplar 3 :

Collection, Organization and Presentation of Data

- Objectives :**
- (1) To use simple methods to collect data
 - (2) To construct appropriate graphs or diagrams to present data

- Learning Unit :**
- (1) Introduction to Various Stages of Statistics
 - (2) Construction and Interpretation of Simple Diagrams and Graphs

Key Stage : 3

Material Required : Data collection forms

- Prerequisite Knowledge :**
- (1) Construction of frequency distribution tables
 - (2) Construction of various diagrams or graphs by hand or by computer software

Description of the Activity :

1. The teacher divides students into groups of 4.
2. The teacher suggests some topics for students to choose. For example:
 - Survey on the sale of different types of snacks in the school tuck shop.
(This topic is used for demonstration in this exemplar. See Appendix 1)
 - Survey on the sale of different types of soft drinks in the school tuck shop.
 - Survey on the time spent on watching television.
 - Survey on the amount of pocket money.

Students are encouraged to propose a topic for the survey, but they should consult their teacher on the appropriateness of the topic before they start to collect data.

3. The students decide a topic for the survey.
4. The teacher then discuss with students the appropriate types of method in collecting data, e.g. observation, questionnaires, etc.

5. Students give their views on the types of statistical diagrams used to represent the data. The teacher gives comments on the appropriateness of diagrams used.
6. Students are asked to design a form and collect data on the chosen topic.
7. The teacher gives a schedule with sufficient number of days for the students to complete the activity.
8. Students are asked to present the collected data by an appropriate statistical diagram.
9. When the activity is completed, different groups of students are invited to present their results to the class.
10. To end up this activity, the teacher asks students to think about how to make use of the results of the survey.

Notes for Teachers

1. The aim of this exemplar is to let students acquaint with the different stages in statistics. Therefore, it is best to be carried out after completing the Learning Module “Organization and Representation of Data” in Key Stage 3.
2. The survey should be carried out inside the school campus for easy control and safety. The topics chosen should be closely related to school life or students’ learning experience.
3. Care must be exercised by the teacher to make sure that the data collection forms designed by students do contain necessary items for investigation in the survey. For less able students, the teacher can prepare the forms for them.
4. In discussing the types of methods for collecting data, students should justify why the method they adopt is better than the others. The teacher can write down the points raised by students on the blackboard for them to compare. Similar discussion sessions can be conducted if students have doubts on the types of statistical graphs used.
5. As it takes time for students to collect the required data, it is suggested that the time for completing the activity is one week or one cycle.
6. In drawing the statistical graphs to present the results, students can use computer software such as *Excel* or *Winstats*.
7. If there are difficulties in collecting data in the school, the topics should be changed so that the data for investigation could be collected from other sources, e.g. the Internet or books in the library. Below are some of the useful web sites that contain data for statistical activities:
 - (i) Travel and Tourism – Education Department
http://www.hkedtt.org/content/data_stat.html
 - (ii) Census & Statistics Department – Frequently Asked Statistics
<http://www.info.gov.hk/censtatd/eng/hkstat/index1.html>

Appendix 1**Sale of different types of snacks in the school tuck shop**

Type of snacks	Tally	Frequency
Sandwiches		
Fish balls		
Potato chips		
Candies		
Chocolate bars		
Biscuits		
Others		

Remarks : _____

Date : _____

Group No. : _____