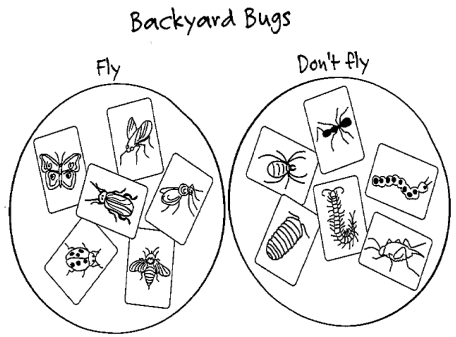
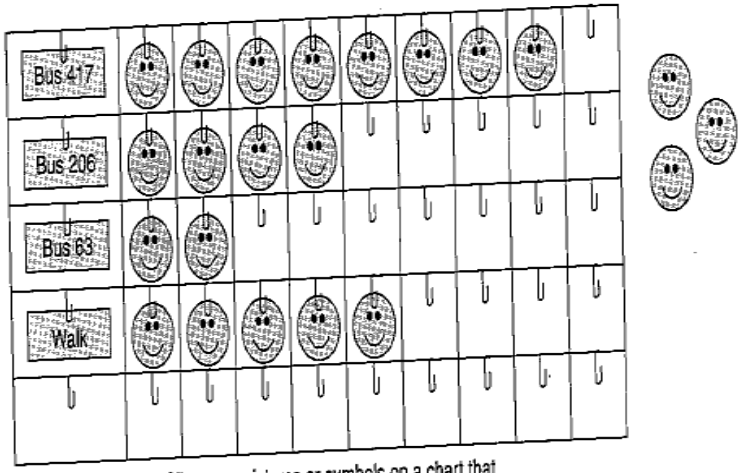
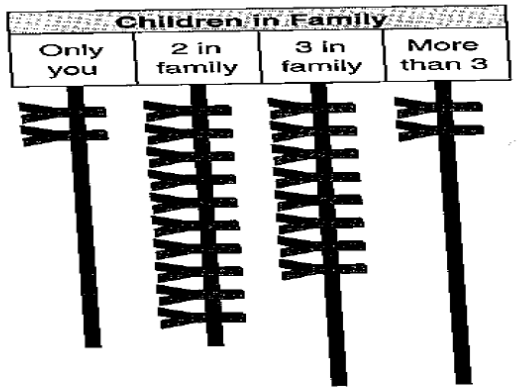
Data			
Outcome	**Teaching and Learning Activities**	**Notes/ Future Directions/Evaluation**	**Language / Date**
A student: › describes mathematical situations using everyday language, actions, materials and informal recordings **MAe-1WM** › uses concrete materials and/or pictorial representations to support conclusions **MAe-3WM** › represents data and interprets data displays made from objects **MAe-17SP** **Syllabus reference:** Hardcopy page: 66 Digital: 71		**Background information** In Early Stage 1, students collect information about themselves and their environment with teacher assistance. They use actual objects as data and group these objects into a data display.	• **information**, • **collect**, • **group**, • **display** • **objects**.

Activities		
<u>Explicit Mathematical Teaching</u> Data is information. Displaying information into groups or rows is an easy and quick way for us to read and compare that information. We can collect data on many things we can even collect data about ourselves. In our contemporary society, there is a constant need for all people to understand, interpret and analyse information displayed in tabular or graphical forms. Students need to recognise how information may be displayed in a misleading manner resulting in false conclusions. At this Stage, students collect data about themselves and their environment with teacher assistance. Students use actual objects or pictures of the objects as data. They organise and present the data in groups or in rows. The notion of representing an object with a different object is abstract and often difficult for students and is introduced in the next Stage. Explain to students that a graph is like a "number picture" that tells us information. Explain to students that a graph is like a "number picture" that tells us information. Explain the difference between columns and rows by showing examples. Explain/revise the meaning of associated language *Activities:* *Graphs can be made using objects such as toys, counters, blocks* *Graphs can be made about:* ** our hair colour* ** our eye colour* ** our favourite fruit/vegetable* ** our favourite sandwich filling* ** the weather*		

Ignition Activity Ask the question: 'Are there more boys than girls in our class today?' 'How can we find out?' Get students to line up in a row of girls and a row of boys emphasising the need to match one for one before comparing which group has the higher number of students. Discuss.		
Ignition Activity **Unifix graph**-Get children to select a unifix cube without looking, place each cube in rows of colours and discuss graph. Extension throw the dice, select a child to make a column with one colour,then repeat until all colours are used ,then discuss the graph-which colour has the most cubes, least cubes etc		
Whole Class Activities **Display a variety of constructed graphs for students to interpret.** A cluster graph is a good first graph for young students. It is especially useful for situations in which classification of data is part of the activity. For one set of data(in this case, bugs found in the backyard) two or more different cluster graphs provide even more information. Some cluster graphs may have overlapping loops.  		



Clip paper pictures or symbols on a chart that has a paper clip prepared in each square.



Hang ribbons, and students clip on pinch-style clothespins

Students sort lunch boxes according to colour. Arrange in rows. Discuss the biggest group, the smallest group, the most popular colour. Ask: *Does the biggest row contain the most lunch boxes?*

Eye Colour. Students sit in rows according to eye colour. They colour in a picture to match their eye colour. The pictures are arranged on a chart. The chart is given a title and the axes are labelled. Students ask questions that can be answered from the data		
<u>Whole Class Teaching Activities</u>-some suggestions **Initiating Activity** Students sit in a circle with their eyes closed while the teacher puts one multi-attribute block behind their back. Students compile a graph on the carpet according to a set attribute such as names of shapes, colours Students will then be asked to interpret the graph and to also suggest other characteristics that could be used **Favourite Colour** Children choose their favourite coloured cube. As a class sort these into colour groups. Discuss the need to only have one block each and why this is the case. Students stand in coloured groups with their blocks. Count the number of students in each group. Make stacks of cubes the same colour and count the cubes. Relate back to number of blocks equalling number of students. Discuss with students why one column may be bigger or smaller. **Birthdays** Discuss birthdays (provide information for those who do not know which month they were born in), group students according to their birth month and display in classroom. Discuss which month has more students and which has less according to the display. **Picture Graphs** Students collect data about themselves from their environment. Areas may include eye colour, pets, lunchbox colour, favourite TV show etc. Discuss each data collection. Questioning: Which column/group shows more students, which shows less? What does		

each column tell us? Which colour/show/pets has more? Students sort lunch boxes according to colour. Arrange in rows. Discuss the biggest group, the smallest group, the most popular colour. Ask: *Does the biggest row contain the most lunch boxes?* **Car Graph** Take children to the gate-watch cars going past, record the car colours. **Weather Graph** Record weather patterns over a period of a week **<u>Guided and Independent Activities</u>-some suggestions** **Picture Sort** • Children are given a picture. • Colour in all of eg. flowers, birds, trees. • Count how many in each group. Compare and discuss **Favourite Toy** Students draw their favourite toy on a piece of paper. As a whole class they paste their picture in the correct column. Discuss as previously. **<u>Reflection</u>** Discuss why we collect data and why we might represent it in groups/columns. Explain the data display and ask students how we have learnt to access and interpret the information. **<u>Ongoing</u>** Representing and discussing further data displays as they occur during the year.		
