## The Pet Graph

Level B.3: Represent, read and interpret data in two, three or four rows or columns, tables, pictograms and block graphs.

This problem provides pupils with an opportunity to interpret a selection of clues in order to label the different columns in the block graph.

Tim's class collected information about all their pets. They have six different kinds of pets between them. This is the block graph they are making to show how many of each pet the class has altogether. The children have not yet put in the animal names under each column. Can you do this for them using the information below?


Teacher Observation, Teacher Questioning, Pupil Learning Log, Peer assessment

Mathematical Skills: Understanding and Recalling, Implementing, Applying and Problem-Solving, Communicating and Expressing, Integrating and Connecting, Reasoning


There are two less cats than dogs. Only one child has a parrot at home. The number of fish added to the number of gerbils is equal to the number of dogs. There are twice as many fish as hamsters. There are half the number of gerbils as there are cats.

## Sticky Data

Level B.3: Represent, read and interpret data in two, three or four rows or columns, tables, pictograms and block graphs.
(In a class setting, data relating to the class profile can be gathered and used as a starting point for this investigation).

1. In groups, using a large flip chart page, draw two long lines to represent the horizontal and vertical axes of a block chart.
2. Construct questions for investigation based on the data gathered in the class profile for example how many boys and girls in the class, which month has the most birthdays etc
3. Using sticky notes, represent the data relating to each question.
4. Pupils can record observations about the different charts constructed in their Maths Journal.
5. As an extension pupils can create their own 'Mystery Graphs' based on data in the class profile. On completion of the 'Mystery Graph', pupils can challenge the remainder of their group to
 interpret the graph and identify the possible question being investigated.


Teacher Observation, Questioning, Learning Log, Pupil Portfolio, Rubric
Mathematical Skills: Understanding and Recalling, Implementing, Applying and Problem-Solving, Communicating and Expressing, Integrating and Connecting, Reasoning

| Name | Date of Birth | Name | Date of Birth |
| :--- | :--- | :--- | :--- |
| Ann Murphy | $1 / 3 / 2009$ | Mary O' Brien | $20 / 9 / 2009$ |
| John Barry | $12 / 12 / 2009$ | James O' Regan | $15 / 12 / 2010$ |
| Orla Hegarty | $4 / 12 / 2009$ | Patrick Kenny | $17 / 3 / 2010$ |
| Mark Meehan | $5 / 11 / 2010$ | Yvonne Murphy | $21 / 8 / 2009$ |
| Sarah Fitzgerald | $6 / 1 / 2010$ | Dylan Roynane | $14 / 11 / 2010$ |
| Daniel Murphy | $18 / 1 / 2010$ | Triona McCarthy | $3 / 8 / 2010$ |
| Barbara O' Connor | $15 / 5 / 2010$ | Miriam McHugh | $8 / 9 / 2009$ |
| Realtin Lynch | $8 / 8 / 2009$ | Joni Fitzpatrick | $10 / 6 / 2009$ |
| Adam Burke | $17 / 7 / 2009$ | Lorraine O' Leary | $3 / 3 / 2010$ |
| Brain Harrington | $5 / 2 / 2010$ | Yvonne Lehane | $21 / 10 / 2010$ |
| Aingeal Collins | $13 / 4 / 2010$ | $26 / 12 / 2009$ | $5 / 10 / 2010$ |
| Dennis Robinson |  |  |  |

## Yektee Cards

Level B.1: Sort and classify sets of objects up to three criteria
Level B.2: Represent and interpret a set of data using real objects, models and pictures.


## Yektee Investigation:

This investigation takes a trip into fantasy with a look at fantastical creatures called Yektees. These can be sorted according to three different criteria; head shape, eye type and antenna quantity

1. Examine a selection of the larger set of Yektee cards one at a time with pupils. Elicit from pupils what do you notice about the Yektees? As each new Yektee card is introduced, discuss their similarities and differences.
2. Challenge pupils to figure out the special features of the Yektee creatures. Pupils may have difficulty thinking of all the attributes at once. Therefore revealing Yektee cards that share the same head shape first, for example, reveal four squareheaded Yektee cards followed by two diamond - headed Yektee cards).
3. As pupils become familiar with the Yektee cards in the set, encourage pupils to ask for and describe a Yektee that may be in the set e.g. Do you have a Yektee with four sides and two antennae? This process will help confirm for pupils the different types of Yektees which form the set.
4. Pupils can also decide on different criteria to sort the set of Yektee Cards e.g. face type, type of eyes, number of antennae

## Guess My Rule With Yektee Cards:

1. In this activity each group plays 'Guess the Rule' with Yektee Cards. Give each group a set of attribute classification cards, a set of Yektee cards and a loop, for example a tied shoelace. The loop will help them define an area for the subset.
2. A pupil in the group selects an attribute card from the deck of attribute cards, reads it, and turns it face down inside the loop.
3. Pupils take turns asking that pupil with the attribute card (the 'Ruler'), does this Yektee with two antennae fit your rule? Or can this Yektee be part of your subset? If it does, the Yektee card is placed into the subset, if not, it stays outside the subset. The object of the game is to guess the rule.

All of the Yektees in the set has a head in the shape of a triangle? How does this piece of information help us? Let's predict the rule. Record your prediction in your Maths Journal.

Teacher Observation, Teacher Questioning, Pupil Learning Log, Peer assessment

Mathematical Skills: Understanding and Recalling, Implementing, Applying and Problem-Solving, Communicating and Expressing, Integrating and Connecting, Reasoning

## Mother's Button Box

Level A.1: Sort, classify, compare, match and discuss sets of objects by one and two criteria and by equivalence


Pupils work in pairs to sort a collection of buttons using sectioned containers, for example, an egg carton.

1. Examine your collection of buttons and discuss with your partner how your collection of buttons could be sorted. Use a magnifying glass for a more detailed examination of your collection.
2. Once a chosen criteria for sorting has been decided for example size or number of holes, sort your collection of buttons using the different containers in the egg carton. After each 'sort' is complete, close the carton, shake the set of buttons, re-open the egg container and place the set of buttons onto an empty tray before sorting them according to a new criteria into compartments.


Teacher Observation, Teacher Questioning, Pupil Learning Log, Peer assessment
Mathematical Skills: Understanding and Recalling, Implementing, Applying and Problem-Solving, Communicating and Expressing, Integrating and Connecting, Reasoning

## Grab and Graph

Level B.3: Represent, read and interpret data in two, three or four rows or columns, tables, pictograms and block graphs.


In this activity, pupils work in groups to construct a graph.

1. Provide each group of pupils with a box of pattern blocks. Group members put their hand into the box and grab a fistful of blocks. Once all members have a fistful of blocks, the box is closed.
2. Pupils discuss what blocks they 'grabbed' from the box. Comparisons can be made between the different blocks pupils picked from the box.
3. Pupils tally their fist of blocks and record their findings on the 'Grab and Graph' template. This gives pupils the opportunity to represent their data in two complementary ways (Tally and Block Graph).
4. Once the graph is constructed, elicit from each group the key information in their graph. Following this pupils can compose three statements about the graph in their Maths Journal.


Teacher Observation, Teacher Questioning, Pupil Learning Log, Peer assessment

Mathematical Skills: Understanding and Recalling, Implementing, Applying and Problem-Solving, Communicating and Expressing, Integrating and Connecting, Reasoning

## Grab and Graph

Grab a handful of pattern blocks. Sort them. Now tally them on the tally chart.

|  | Tally | Total |
| :---: | :---: | :---: |
| $\square$ |  |  |
| $\boldsymbol{\square}$ |  |  |
|  |  |  |
| $\square$ |  |  |
| $\square$ |  |  |
| $\square$ |  |  |

What do you notice?

What do you wonder about the tally chart you created?

Could you make up a question about the chart?

## Could you create a block graph to record your findings?

|  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Compare your graph with your partners.
What shape do you have the most of? What shape do you have the least of? How many shapes do you have altogether? What is the difference between the quantity of triangles you have and the quantity your partner has?

Create a question for you graph, can your partner answer it?

| square | triangle |
| :---: | :---: |
| rhombus | hexagon |
| plain eyes | ringed eyes |
| 1 antenna | 2 antenna |
| 3 antenna | 4 antenna |










