# If the World was a Village: A book about the world's people

**Summary:**
The world's population is in the billions and it is difficult to grasp the significance of the proportions of people with different characteristics within that population when dealing with such large numbers. David Smith asks readers to shrink that population to 100 people, a village, keeping the proportions intact and imagine what the village looks like. The statistics related to ethnicity, urban-rural splits, gender, age and many other variables are explored as parts of 100. This is an engaging way to explore the concept of percentage within a global context.

## Achievement Objectives:

S4-1: Plan and conduct investigations using the statistical enquiry cycle: determining appropriate variables and data collection methods; gathering, sorting, and displaying multivariate category, measurement, and time-series data to detect patterns, variations, relationships, and trends; comparing distributions visually; communicating findings, using appropriate displays.
AO elaboration and other teaching resources

## Purpose:

This is an activity based on the picture book *If the World was a Village.*

## Specific Learning Outcomes:

1. Students will be able to describe the characteristics of a population using percentages.
2. Students will be able to communicate population statistics in a variety of ways and evaluate the displays for clarity and effectiveness.

## Description of mathematics:

1. Percentages are an effective way to understand the proportions within a population.
2. Graphic representations of population statistics vary in clarity when communicating percentage data.

## Required Resource Materials:

If the World was a Village by David J. Smith
World population over time (copymaster)
Slavonic abacus
World map
10x10 grid (copymaster)
coloured pencils
Excel or other graphing software to create charts and graphs

## Activity:

Picture of 100: Percentage Populations
This activity is based on the picture book *If the World was a Village.*

## Lesson Sequence:

1. Prior to reading, share some of the statistics about world population growth in whole numbers. (At the time of publication, *If the World Were a Village* was updated in 2005 and the world's population was 6.4 billion people. It is projected to reach 7 billion before the end of 2011). Ask students to read the large numbers and make some estimates about the population of different countries such as New Zealand, Australia, Japan, etc.
2. Share the first section "Welcome to the global village" with your students. Explain how the book will explore the proportions within the world's population by condensing it to 100. Assess their understanding of percentage as a term relating to the fraction $n/100$.
3. Hand out the 10x10 grids or have students make a square in their quad maths notebooks. Ask them to have 6 different coloured pencils.
4. Say
   *We are going to get a picture of where people are from in the global village. If there are 100 people in the village, how many (or what percentage) do you think come from Oceania (NZ, Australia, and the Pacific Islands)?*
   Record some of their estimations. Instruct students to use the different colours as you reveal the geographic population information to colour in their 10x10 grid (percentage picture).
5. Model the statistics given on page 8 on the abacus and the world map gradually building to the total population.

| Of the 100 | Are from... |
| --- | --- |

| people in the village... | |
|---|---|
| 61 | Asia |
| 13 | Africa |
| 12 | Europe |
| 8 | Mexico, South and Central America and Caribbean |
| 5 | Canada and USA |
| 1 | Oceania |

6. Revisit the students' estimations about the percentage of people from Oceania. Assess students' understanding of a percentage being a part of a whole made up of a 100.
7. Provide students with access to graphing software and have them explore various representations of the geographic data. Ask:
*Which representation most clearly shows the proportions of the whole village?*
Evaluate the effectiveness of pie graphs vs the 10x 10 grid they did earlier in displaying percentage data.
8. Assign pairs or groups students a page from the book to graph and present to the rest of the class.

**World Population Statistics**

The world's population meter can be accessed at:

http://www.worldometers.info/population/

**Year Population**
1 200 million
1000 275 million
1500 450 million
1650 500 million
1750 700 million
1804 1 billion
1850 1.2 billion
1900 1.6 billion
1927 2 billion
1950 2.55 billion
1955 2.8 billion
1960 3 billion
1965 3.3 billion
1970 3.7 billion
1975 4 billion
1980 4.5 billion

1985 4.85 billion
1990 5.3 billion
1995 5.7 billion
1999 6 billion
2000 6.1 billion
2005 6.45 billion
2006 6.5 billion
2010 6.8 billion
2020 7.6 billion
2030 8.2 billion
2040 8.8 billion
2050 9.2 billion