



wise words

This picture book unit has been developed in the Wise Words section of the NTDLS website. It provides teachers, parents and home tutors with access to shared ideas, teaching and learning tips and some best practice materials to use with your children.

Learning Area :

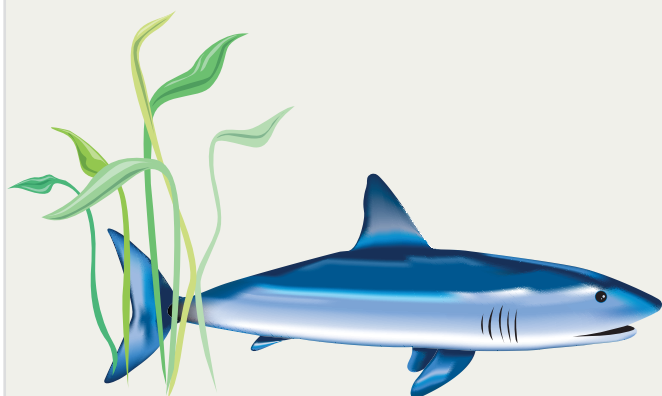
Maths Specifically

Integrated Band Level:

Key Growth Point 3 to Band 2.

Developer:

Sue Thomson.



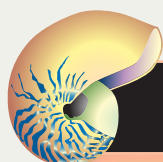
Counting on Frank

by Rod Clement

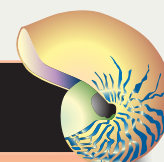
Book Overview

The narrator ("The boy", who does not have a name), like to collect facts with the help of his dog, Frank. Each two page spread of this fantastic book includes a different fact involving such mathematical topics such as: counting, size, comparison, algebra, patterns, measurement and ratio, to name a few. The illustrations are engaging and quirky. This book can be used from Preschool to Year 6.

Some of us like the book because it is funny. Some of us like it because it is about math and math problems. All of us thought it was interesting and FUN!



A w a r d s



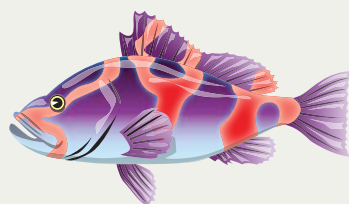
Honour Book, Children's Book Council Book of the Year Awards, 1991

- ♦ Winner, Young Australian Best Book (YABBA) Awards (VIC), 1991
- ♦ Shortlisted Kid's Own Australian Literature Awards (KOALA) (NSW), 1993 (from Penguin Australia).

Learning outcome from NT curriculum framework

Activities

- ◆ A lot of these concepts are used in kids' **everyday world** (estimation, fractions, large numbers, time, spatial sense etc.) Connect the links with the book. **Maths vocabulary:** about (estimation), as big as, calculate, count, facts, hours, million, minutes, slightly less, tall & wide.
- ◆ Discuss the **title and cover of the page**. Is this book fiction/non fiction? Could it be a combination of the both? *Counting on Frank* title. Does this have more than one meaning?
- ◆ **Thinking questions for your students:**
 - ◆ **Frank in the bedroom:** Read out loud: Follow up by asking, *'If Frank was a smaller dog, would more Franks or fewer Franks fit into the bedroom. Why?'*
 - ◆ **Humpback Whale:** Read out loud: Follow up by asking *'If 10 Humpback Whales fit into a house like Frank's; How many would fit into 3 houses like Frank's?'*
 - ◆ **Tree:** grows about 2 metres every year. *About how old is the boy?*
 - ◆ **Toaster Page:** Read text. Ask *if two friends joined "the boy" and ate the same breakfast as he does; How many glasses of juice/pieces of toast will they have?*
 - ◆ **Jellybean page;** read text. Ask; *"The boy" says there are 745 jellybeans in an average jar. Is 745 closer to 800 or 700.? Talk about place value.*
 - ◆ **Do for rest of the double spreads pictures in the book.**
- ◆ The narrator likes to collect facts with the help of his dog, Frank. Each two-page spread of this book includes a different fact involving such mathematical topics as counting, size comparison, and ratio along with excellent illustrations. Copy. **Make a class book, do a play, have a class mini expo doing a different maths experiment.**
- ◆ **Have a class competition** to give *"the boy"* a name. Discuss why the author Rod Clement did not give him a name.
- ◆ **Make a Class table:** Put facts in it like: Number of paws on Frank – 4. Number of paws on 4 Franks. Number of humpback whales in one house -10. in ten houses - .



Do an **Author Study on Rod Clement** other great books:

Louisa May Pickett

Frank In Time

Frank's Great Museum Adventure

Grandpa's Teeth

Edward the Emu

Edwina the Emu

Just Another Ordinary Day

Olga the Brolga



Jellybean maths: Spend a week counting and eating jellybeans.

I have a great unit of work on this. sue.thomson@ntschoools.net

Ending the unit: A fantastic final activity to end the unit is to get every student in the class to write to Rod Clement. (through Harper Collins Publications, North Ryde, Sydney).

They can comment on **ONE** maths claim in the book. He actually answers!! (E.g. The toaster shooting toast one metre in the air).

Some great websites:

<http://www.garethstevens.com/products/TGFrankTG.pdf>

http://countdown.luc.edu/NCTM_cat/NumberOperation/Estimation/050407/CDAUs-CountonFrank/index.html

<http://www.education.tas.gov.au/school/health/disabilities/iep/planning/Frank.doc>

<http://www.enchantedlearning.com/subjects/whales/>

<http://www.pbs.org/wnet/nature/>



Reference

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Measuring Penny
by Loreen Leedy

Parts of the Lesson	Materials Needed
<p>I. Pre-activity: How many ways?</p> <ul style="list-style-type: none"> -Have children generate a many ideas as they cn about how to measure different things. -Tell children that today's book is about a girl who finds a LOT of ways to measure her dog. Ask them what they THINK she measured. Make a chart and see if any of their ideas are mentioned in the book. 	<p>I. Pre-activity: How many ways?</p> <ul style="list-style-type: none"> -If you have copies of Funbook 2, you can have the children use the chart on <u>page 17</u>. (They can do the rest later.) -Or use <u>index cards or pieces of paper with pictures of items to measure</u>, such as a person, a tree, a flower, a plate of spaghetti, a shoe, a soccer ball, etc. Give each child, pair, or group of children a picture for generating measurement ideas. -<u>Chart paper</u> for listing dog ideas.
<p>II. Read the book (Talking points)</p> <ul style="list-style-type: none"> -Read the story, and as Penny the dog gets measured, tick off any ideas that were generated by the students during the pre-activity discussion. 	<p>II. Read the book.</p> <ul style="list-style-type: none"> -At least one copy of <u>the book</u>. -<u>The chart paper</u> with ideas for measuring a dog, generated during the pre-activity discussion.
<p>III. Do the math: Measuring</p> <ul style="list-style-type: none"> -Have children weigh and measure their own stuffed animals. (Or bring a collection of different kinds and sizes of animals to measure.) -Children record the measurements they make. -(If possible, use a digital camera to take pictures of the children with their stuffed animals.) 	<p>III. For the activities</p> <ul style="list-style-type: none"> -<u>Stuffed animals</u> to measure (preferably brought from home) -Have available <u>as many measurement tools as you can think of</u>: <ul style="list-style-type: none"> Bathroom scales (to .5 lb if possible) Postage scales Weight-watcher food scales Balances with counterweights Rulers, yardsticks A height chart on the wall Tape measures -<u>Plain paper or Funbook page 18</u> for recording measurements.
<p>IV. Wrap Up (Debrief)</p> <ul style="list-style-type: none"> -Discuss measurements and find tallest, lightest, heaviest, longest, etc 	<p>IV. Wrap Up</p> <ul style="list-style-type: none"> -(optional) Give children <u>measuring tapes</u> as a take-home item.

ME and the MEASURE of Things by Joan Sweeney

Second Grade Math Lesson –40 minute introduction lesson

Created by: Cherie Brogan and Nicole Myers

Math Objectives:

VBO 2.28 Measure weight in customary units (SOL 2.15)

VBO 2.29 Use actual measuring devices to compare customary units (SOL 2.17)

Language Arts Objectives:

2.2 Use listening skills to develop and support comprehension

2.9 Organize and record information by charting

2.11 Write daily across the curriculum using a variety of formats

Materials:

ME and the Measure of Things by Joan Sweeney

Scales

Measuring cup

Ruler

Math reflection journal

Gummy Bears (1 pound/ 4 students)

Bowls

Gummy Bear Weight Sheet

Chart paper

Measurement, ounce, pound, ton word cards

Procedure:

Introduction:

1. T will show students a scale, measuring cup, and ruler. S will have “think time” to discuss with their team what these three things have in common.
2. S will share with the class their ideas. S will write what they think “measurement” means in their math reflection journal. T will display the word “measurement” on the board.
3. T will introduce the term “measurement”.

Main Lesson:

1. T will tell students that the measuring cup is used to measure liquids and the ruler is used to find out how long things are, but today they will be learning about the scale as a device for measuring weight.
2. S will discuss with their partner things they measure at home. The pairs will share and the teacher will record on chart paper.
3. T will introduce the book ME and the Measure of Things. Starting on page 12 the teacher will read about the weight of gummy bears through page 15.
4. T will display the words “ounce”, “pound”, and “ton” on word cards to display on the board.
5. T will give each pair a bowl of gummy bears, a scale, and gummy bear weight chart. S will have “exploration” time to manipulate the gummy bears and the scale.
6. After exploring, the T will demonstrate the correct method for measuring and reading the scale.
7. Using the gummy bear weight chart, S will weigh and record the set number of gummy bears.

8. After completing the chart, S will combine gummy bears with another pair of students and see how many gummy bears would equal one pound. (Pg. 17 in book)
9. Kids can eat the gummy bears!

Closure:

1. At this point the T will stop the students and focus them on appropriate units of measure for different amounts of items.
2. T will distribute picture cards to each student. S will sort themselves into groups around the room under the headings ounce, pound, and ton. (Teacher will move word cards while students are measuring during main lesson).
3. After S are sorted, each child will hold up his/her card and tell why they are standing under their unit. Class will discuss any disagreements or incorrect answers.
4. S will then return to their math reflection journal and using the words measurement, ounce, pound, and ton S will create a simple story. T will model using the gummy bear activity, but S work must be original.

Ex. Today I learned about measurement. A handful of gummy bears weigh one ounce. Sixteen ounces of gummy bears equal one pound. We didn't have enough to make a ton!

5. T will assess S understanding of measurement, ounce, pound, and ton through story.

*** Additional sections of the book can be used when teaching length and volume.



Gummy Bear Weight Chart

Names: _____

Weigh and record each amount of gummy bears.

Gummy Bears

Weight

5	
10	
20	
25	
30	

How many gummy bears do you need to make a pound? _____

Picture Cards



