



Measurement - 3

2.4.7

Word Wall: measuring, measure, mass, balance scales, different, more, less, the same, heavier, lighter, pan balance

Introduction

Students will use balance scales to determine whether the mass of different objects is more, less or the same. Students will use informal uniform units to measure the mass of common objects.

Resources

- Equal arm balancing scales
- A collection of items, for example: a pencil, a stapler, a ruler, a shoe, a ball, an orange, bottle of water, bag of rice, tennis ball, cricket ball, a calculator, a book.
- Unifix cubes
- Marbles



Time / Classroom Organisation

The activity process may be introduced in a whole or small group format. Allow 20 to 30 minutes for each part of the activity. Come together for discussion and reflection at the end and review the findings about mass. Students' understanding of uniform units of measurement (MAG 2.1.9 and 2.3.9) is pre-requisite to this activity.

Australian Curriculum Year Two
Compare masses of objects using balance scales (ACMMG038)

Proficiency Strand:

Fluency – using units iteratively (repeatedly) to compare measurements



Activity Process---Balance scales

1. Have a collection of items, for example, a ruler, a glue stick, a shoe, a ball, an orange, bottle of water, bag of rice, tennis ball, cricket ball, a calculator, a book.
2. Pick up the ruler and the book. *Which one do you think is heavier? How could we check to see which is heavier?* Listen to suggestions.
3. If students suggest hefting, demonstrate how this is done. Ask a student to place one item in each hand and compare the two masses and predict which object is heavier and which is lighter.



4. Ask the students: *How could we check to see if this guess is correct?* Use the balancing scales to show how it can be used to find which item is heavier.



5. Pick up other items. Ask: *Which is heavier/lighter?* Choose a student to heft both items and another to use the balancing scales to check. Repeat several times.

Source: Tertini, J. 2004. *Queensland Targeting Maths, Year 2. Teaching Guide.* Pascal Press: Glebe. P12.



Activity Process---Measuring mass

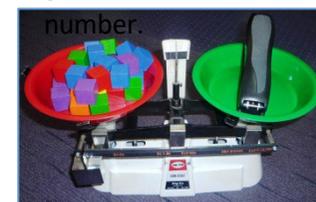
1. Use a balancing scale, a collection of cubes, and some everyday items such as a pencil and a stapler. Hold up the pencil and the stapler. *Which item is heavier?*
2. Demonstrate how items are weighed. Put the pencil in one side. *How many cubes would we need to balance the pencil?* Students estimate and write their estimation on their individual



whiteboard

The pencil	
my guess	- 1
actual	- 2

3. Count together as a student puts the cubes in the other side of the balancing scale. When the pans balance say: *The pencil has the same mass as 2 cubes.*
4. Check the estimations and discuss who guessed a number closest to the actual



number.

The stapler	
my guess	- 10
actual	- 24

5. Repeat this process using the stapler.
6. Say: *The pencil has the same mass as 2 cubes and the stapler has the same mass as 24 cubes. Which is heavier? Which is lighter.*



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