MEASUREMENT

Mass, Capacity and Length

Learning Outcome: 4) Children who are effective communicators.

Related Achievements: Children who are versatile with the use of numbers, data handling, shapes and measurement and print in context as a means of production of knowledge and information as well as meaning making and comprehension.

3] I can sort a variety of objects during play.
4] I can match a wide variety of objects during play.
5] I can compare and contrast a wide variety of objects during play.
6] I can classify and sequence a wide variety of objects during play.
8] I can describe size, length, volume and capacity

Learning Outcome: 5) Children who nurture positive attitudes towards learning and become engaged and confident learners.

Related Achievements: Children who develop a range of cognitive skills to include labelling/identifying, recognition, sorting, hypothesising, predicting, comparing, sequencing and grouping.

1] I can identify similarities and differences between two or more objects *e.g. find pairs, spot the difference, odd one out, what's wrong.*
2] I can predict and think logically.
3] I can make assumptions and hypothesize.
4] I can ask questions and reply to open-ended questions.
5] I can make connections between experiences, concepts and processes.

Related Achievements: Children who develop positive dispositions to include enthusiasm and motivation, curiosity, questioning, concentration, perseverance, imagination, ability to accept alternative suggestions/ criticism.

1] I show a positive disposition towards learning, am curious and enthusiastic in my learning.
2] I use play to investigate, imagine and explore ideas.
3] I persist in the face of challenge.
4] I am motivated to pursue my interests and seek answers to my questions.
5] I take risks and learn from mistakes to reach my goals.

MASS

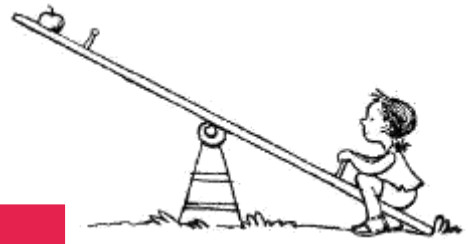
YEAR 1			
LEARNING OUTCOMES **Children will be able to:**		**KEY VOCABULARY**	**OPPORTUNITIES** **Children should be given a range of opportunities such as:**
E.1.1	use language such as heavier or lighter to compare two quantities, then more than two, by making direct comparisons of masses.	heavy light heavier than lighter than weigh/s larger/smaller balance scales	▪ feeling the weight of various familiar objects to compare them by using words such as 'heavier' or 'lighter'. ▪ estimating the weight of familiar objects by comparing two objects and guessing which one is 'heavier' or 'lighter'. ▪ identifying objects around them which they consider to be lighter or heavier than their weight. ▪ recognising that a larger object can be lighter and a smaller object can be heavier. ▪ using simple measuring scales such as the balance scales (rocker balance or pan scales) to understand that the heavier object is pulled down. This can also be compared to the idea of a see-saw.
E.1.2	compare the weights of two objects directly, using balance scales.		

MASS

YEAR 2			
LEARNING OUTCOMES **Children will be able to:**		**KEY VOCABULARY**	**OPPORTUNITIES** **Children should be given a range of opportunities such as:**
E.2.1	understand and use the vocabulary related to mass to compare two masses by direct comparison; extend to more than two.	Heavy light heavier than lighter than balance scales weigh/s weight order	• suggesting suitable uniform non-standard units and measuring equipment to estimate, then measure, a mass • recording estimates and measurements e.g. 'about as heavy as 20 cubes'. • practising comparing the mass (weight) of two objects using the balance scales (rocker balance or pan scales) and choosing which object is heavier or lighter (understanding that the heavier side goes down and the lighter side goes up). • understanding that smaller objects are not necessarily lighter than bigger objects, i.e. recognising that mass (weight) and size are not necessarily related. This could be carried out using toys or vegetables and fruits. • being exposed to the standard units in their environment (to become aware), i.e. kilograms and grams.
E.2.2	measure using uniform non-standard units.		

MASS - DISCUSSION

- What is heavy?
- What is light?
- When and where have you seen things being weighed? Why?
- Have you ever been weighed?
- Can you think of things heavier / lighter than you?



lighter than me	this is me	heavier than me

MASS – DISPLAYS AND ACTIVITIES

- Collect different kinds of **scales**, **balances** and **weights** and put on display on **low tables** so that the children can handle them and do experiments.
- Make a large illustrated chart: **'Things we weigh'** by drawing pictures or cutting from magazines.

MASS – DISPLAYS AND ACTIVITIES

- **Paint** or **collect pictures** of a set of **heavy things**, and a set of **light things**.
- Make a set of **mystery parcels**. Design and make wrappings for parcels so that they are easily distinguishable. Fill the boxes with different materials making perhaps the largest also the lightest. Discuss relationships between parcels. Start with 2 parcels and gradually increase to 3, 4, 5.
- Individual worksheet. Draw and label. Make a **class book** or **personal journal**.

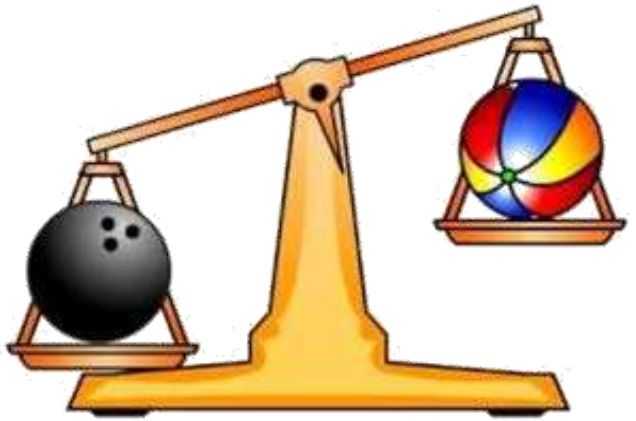
MASS – DISPLAYS AND ACTIVITIES

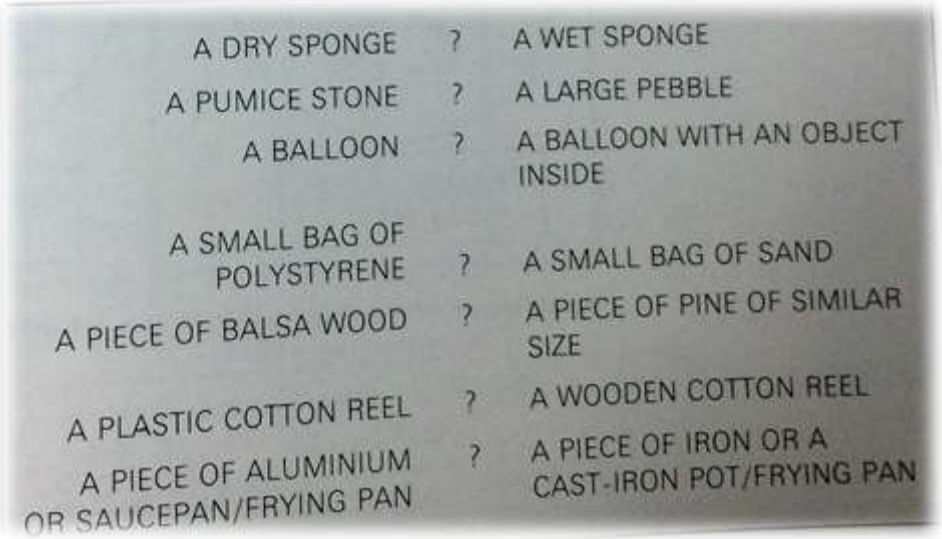
- Give each child a piece of **play dough** to make a model.
  - **Compare** the mass of **one model with another**, using a pan balance. Which is heavier?
  - Put the children in small groups. **Measure the mass** of **each model** and arrange the models in **order of mass**.
- Set up **display bags** on a line with the **same mass**.

Weigh out 20 cubes of: feathers, cubes, straw, sequins, sand, polystyrene.

MASS – INVESTIGATE

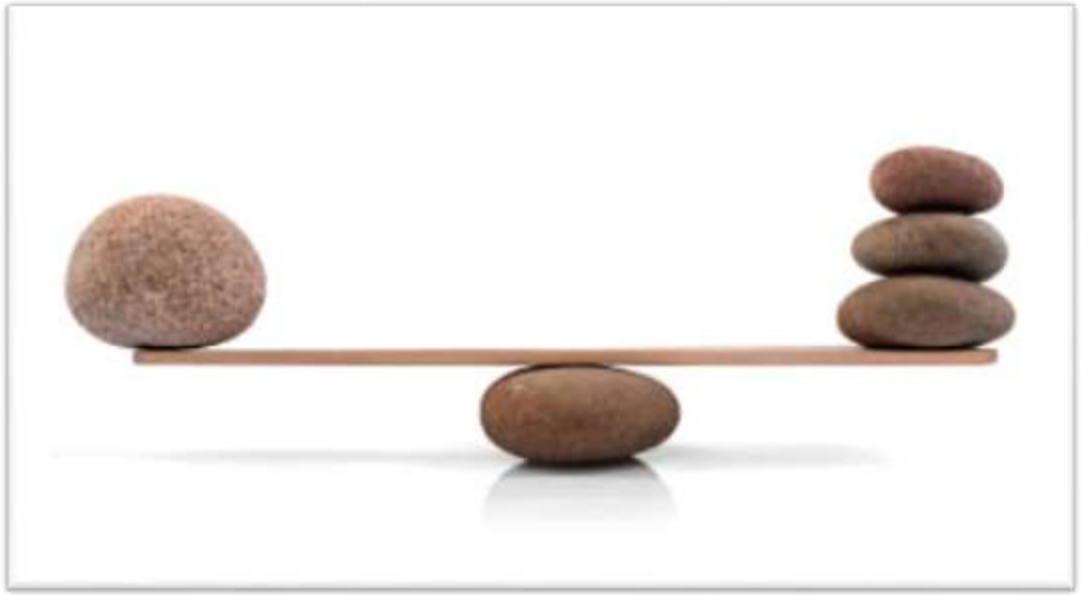
- Set up a display table labelled **'It's not what you think!'**
- Children **compare** the weights of **similar objects**, using a simple pan balance.





MASS – INVESTIGATE

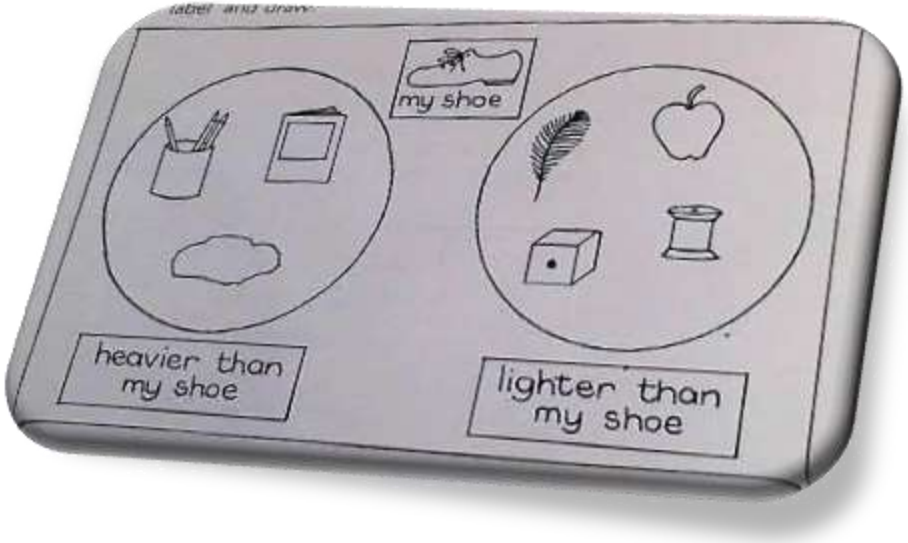
- Investigate ways of **making** simple **see-saw balances** using junk materials and things available in the classroom. You can even make pan – balances.



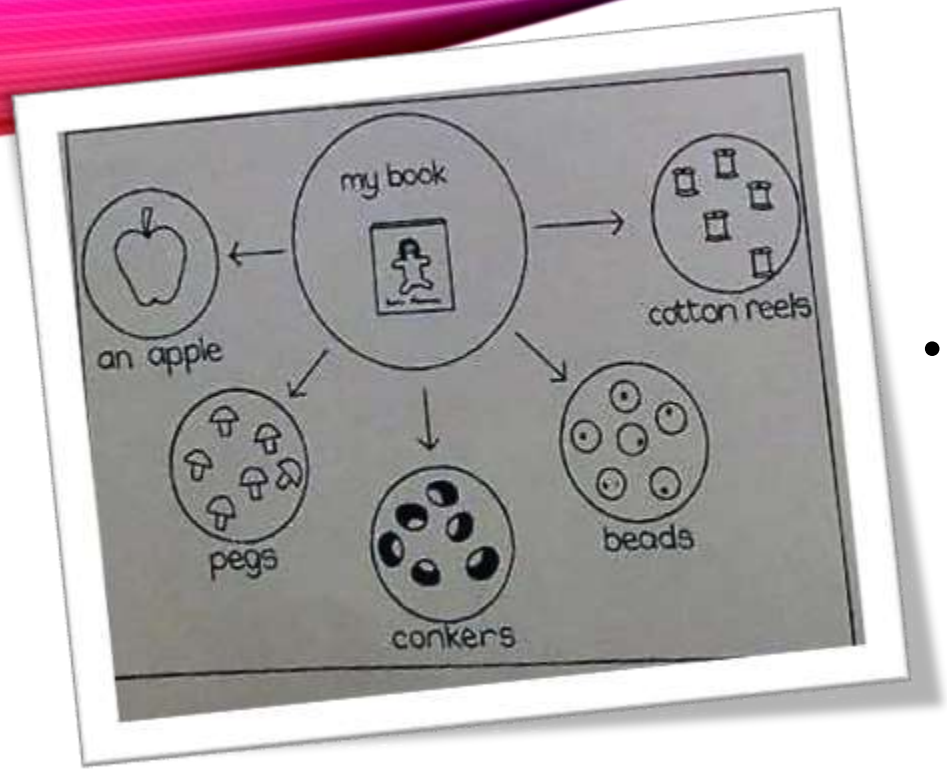
MASS - BALANCES

- Give each child a **ball of playdough**.
- Ask the child to **halve it using a pan balance**.
- Roll **half into a ball** and make a **model with the other half**.
- **Display** model and ball together.

- Find things **heavier than** and **lighter than** one **object**.
- Put into **sets**.
- Help the children **label** and **draw**.

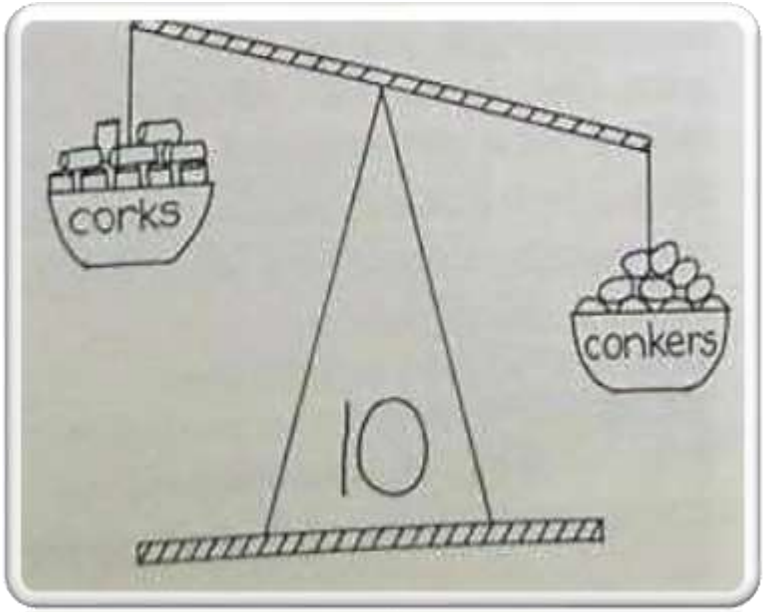


MASS - BALANCES



- Balance **one object** against sets of different objects.

- Compare **equal numbers** of different objects on a pan balance. Draw what you see.



MASS: LINK TO OTHER AREAS

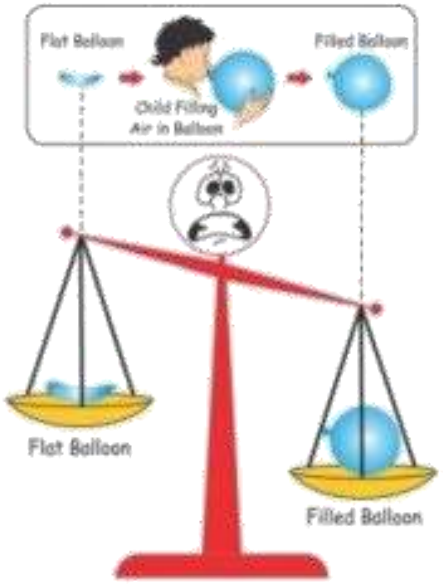
- Cooking
  - Illustrate recipes.
  - Compare observe colour, texture, and taste, as well as mass of biscuits and cakes before and after baking.
  - Make sweets to sell, or candy cones for school party. Weigh out amounts and package them attractively.

MASS: LINK TO OTHER AREAS

- Science Activities
  - Make model bridges with cardboard and junk boxes. Which bridge supports the heaviest weight?
  - Make weighted toys, balancing toys and mobiles.

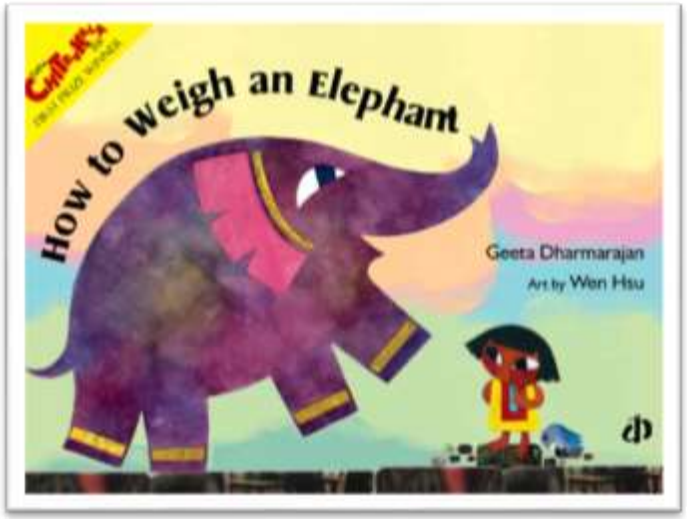
Air Has Weight

- Air has weight.
- When a balloon is blown-up it becomes heavier than a flat one. This is because air is heavy.



MASS: LINK TO OTHER AREAS

- Language
  - Collect vocabulary: 'feather weight', 'lighter than air', 'light as a fairy', 'weightless', 'tip the scales' etc.
  - Write imaginative sentences: dreams of flying, floating, being weightless in space. Display sentences on the baskets of painted hot air balloons.
  - Display 'heavy' stories / sentences on elephant shapes.
  - Interview the school nurse or bring a nurse or doctor to school and ask about weighing children. Why is it necessary?
  - https://www.youtube.com/watch?v=arRUDc8c508



MASS: LINK TO OTHER AREAS

- P.E., Music and Movement
  - Lifting, pushing, pulling.
  - Moving in a heavy or light way.
  - Taking weight on different parts of the body.
  - Moon-hopping, floating and jumping.

- Research
  - Use The Guinness Book of Records to discover mass facts.