**MASS 1 –STAGE 1**

**OUTCOMES**

A student:

MA1-1WM › describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols

MA1-12MG › measures, records, compares and estimates the masses of objects using uniform informal units

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| **CONTENT** | **PLAN** |
| **Investigate mass using a pan balance** |  |
| • identify materials that are light or heavy | 1-2 |
| • place objects on either side of a pan balance to obtain a level balance | 2 |
| • use a pan balance to compare the masses of two objects | 2 |
| discuss the action of a pan balance when a heavy object is placed in one pan and a lighter object in the other pan (Communicating) | 2 |
| predict the action of a pan balance before placing particular objects in each pan (Reasoning) | 3 |
| • sort objects on the basis of their mass | 1-3 |
| • use a pan balance to find two collections of objects that have the same mass, eg a collection of blocks and a collection of counters | 3 |
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**MASS 2 – STAGE 1**

**OUTCOMES**

A student:

MA1-1WM › describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols

MA1-2WM › uses objects, diagrams and technology to explore mathematical problems

MA1-3WM › supports conclusions by explaining or demonstrating how answers were obtained

MA1-12MG › measures, records, compares and estimates the masses of objects using uniform informal units

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| **CONTENT** | **PLAN** |
| **Compare the masses of objects using balance scales (ACMMG038)** |  |
| • compare and order the masses of two or more objects by hefting and check using a pan balance | 4 |
| • recognise that mass is conserved, eg the mass of a lump of plasticine remains constant regardless of the shape it is moulded into or whether it is divided up into smaller pieces | 5 |
| • use uniform informal units to measure the mass of an object by counting the number of units needed to obtain a level balance on a pan balance | 6 |
| select an appropriate uniform informal unit to measure the mass of an object and justify | 6 |
| explain the relationship between the mass of a unit and the number of units needed,  eg more toothpicks than pop sticks will be needed to balance the object (Communicating, Reasoning) | 7 |
| • estimate mass by referring to the number and type of uniform informal unit used and check by measuring | 7 |
| record masses by referring to the number and type of uniform informal unit used eg 'I will need more pop sticks than blocks as the pop sticks are lighter than the blocks' (Reasoning) | 7 |
| • compare two or more objects according to their masses using appropriate uniform informal units | 8 |
| • record comparisons of mass informally using drawings, numerals and words, and by referring to the uniform informal units used | 8 |
| • find differences in mass by measuring and comparing, eg 'The pencil has a mass equal to three blocks and a pair of plastic scissors has a mass of six blocks, so the scissors are three blocks heavier than the pencil' | 9 |
| predict whether the number of units will be more or less when a different unit is used, eg 'I will need more pop sticks than blocks as the pop sticks are lighter than the blocks' (Reasoning) | 10 |
| solve problems involving mass (Problem Solving) | 10 |
| • estimate mass by referring to the number and type of uniform informal unit used and check  by measuring | 10 |
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