2M4 Weight — Teaching materials introduction

|  |  |  |
| --- | --- | --- |
| File | Content | Main idea / Classroom usage |
| “Beam Balance” Powerpoint | Weighting by beam balance |      “Light” and “heavy” are relative concepts       Weight may not be size dependent       Demonstrate weighting by beam balance       From comparing the weight of 2 objects to 3 objects       Comparing the weight of 3 objects needs to weight at least twice, and needs using a “middleman” (like the object A below).  A  B  A  C       The same object on both ends of a balance can be removed in weighting       Improvised unit |
| “Beam Balance” Group Worksheet | Weighting by beam balance |      Use with the “Beam Balance” Powerpoint as a group activity       Weights shown on a straight line scale for comparing       First mark the weight of the “middleman”at the middle of the straight line scale. Avoid marking at the two ends which are the lightest and heaviest positions       Further discussion: if the “middleman” does not appear in both weightings, it will be necessary to weight the third time       The same object on both ends of a balance can be removed simutaneously in weighting |
| “Beam Balance” Worksheet | Weighting by beam balance |      Use with the “Beam Balance” Powerpoint        Three types of questions are included: “straight line scale”, “comparing the weight of 3 objects” and “removing the same object on both ends of a balance simutaneously” |
| “Weighting Scale” Powerpoint | Reading weighting scale (for 1 kg or less) |      Get the weight of 100g by different combinations of equal weights       Get a specific weight by using different weights       Practice reading intervals and sub-intervals on a weighting scale through measuring the weight of 1kg or less |
| “4-digit numbers” Powerpoint | Revision of 4-digit numbers (for conversion of unit of weight) |      A prerequisite of the “Gram and Kilogram” Powerpoint       Use visulised images (cubes) to revise the manipulation of 4-digit numbers, which is a prerequisite of calculation and conversion of units of weight       Combinations of 1g, 10g, 100g and 1000g |
| “Gram and Kilogram” Powerpoint | Reading weighting scale (over 1kg) |      Revise the methods and techniques of reading weighting scale        Read weighting scale for over 1kg       Illustrate that 1kg = 1000g, and find total weight by adding the weight of each part       Compare the readings of different weighting scales for over 1 kg       Convert between kg and g through adding different weights |