**Unit 5**
**Measure**

**Three daily lessons**

# Merseyside Consultants' Cluster Group

**Year 1**
**Spring term**

This Unit Plan is designed to guide your teaching.

You will need to adapt it to meet the needs of your class.

## Unit Objectives

### Year 1

- Understand and use the vocabulary related to mass
- **Compare two, then more, masses using direct comparison**
- **Suggest suitable standard or uniform non-standard units and measuring equipment to estimate then measure mass.**

Pages 72 and 78

p. 72

p.74,76

**Resources needed to teach this unit:**

- Resource sheet 5.1
- Resource sheet 5.2
- Activity sheet 5.2
- Resource sheet 5.3
- Sets of 4 labelled parcels each of different weights
- Sets of pan balances
- Objects for weighing, pegs, pencils, scissors, stapler etc
- Toy cars or other toys
- Interlocking cubes, washers, conkers and other units for measuring

## Link Objectives

### Reception

- **Use language such as more or less, longer or shorter, heavier or lighter…. To compare two quantities,** then more than two, by making direct comparisons of lengths…

### Year 2

- Use and begin to read the vocabulary related to mass.
- **Estimate, measure then compare masses using standard units** (kg). **Suggest suitable units and equipment for such measurements.**
- **Read a simple scale to the nearest labelled division,** recording estimates and measurements as "nearly 3 kilograms heavy".

(Key objectives in bold)

| **Planning sheet** | **Day One** | **Unit 5** ***Measure*** | **Term:** ***Spring*** | **Year Group:** ***1*** |
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| **Oral and Mental** | | **Main Teaching** | | **Plenary** |
|---|---|---|---|---|
| **Objectives and Vocabulary** | **Teaching Activities** | **Objectives and Vocabulary** | **Teaching Activities** | **Teaching Activities/ Focus Questions** |
| VOCABULARY | | Use and begin to read the vocabulary related to mass**.**<br>**Compare two, then more, masses using direct comparison.**<br><br>VOCABULARY<br>Weight, weighs, light, lightest, heavy, heaviest, balances, mass<br><br>RESOURCES<br>Sets of four labelled parcels of different weights for each group,<br>Pan balances for each group,<br>Resource sheet 5.1 | Select two parcels of different weights and pass them around the children.<br>Ask:<br>**Q Which is heavier? Which is lighter? How do you know?**<br>Collect their responses ("The heavy one made my hand drop.").<br>Show the children the pan balances and hold each one of the parcels above each of the pans.<br>Ask:<br>**Q** What do you think will happen when I put the parcels on the pan balances?<br>Take responses.<br>**Q** Were you right?<br>Establish that the heaviest parcel makes the pan go down.<br>Repeat the activity with the other two parcels. If possible the heaviest parcel should be smaller than the other one.<br>Repeat the questions.<br>Ask:<br>**Q How could we find out which is the heaviest parcel.**<br>Ensure their responses include comparing the two heaviest parcels by putting them on the pan balances, Comparing the lightest pair and then comparing the middle pair.<br>Ask:<br>**Q** Can we put them in order from the heaviest to the lightest? Which is the heaviest? Which is the lightest? How do you know?<br><br>In groups, children compare the weights of each of the four parcels. They take turns to hold them to estimate the heaviest and the lightest. Using the pan balances they weigh the parcels to establish the heaviest and lightest and try to put the four parcels in order of weight. Use Resource sheet 5.1 to place the parcels on to record their findings. | Discuss the results of weighing the parcels.<br>**Q Which parcel was the heaviest? The lightest? How did you decide?**<br>Ask:<br>**Q What would happen to the pan if I put the heaviest parcel on it?**<br>Ask:<br>**Q What would happen to the pan if I put the lightest parcel on it?**<br><br>Introduce the word mass. "This parcel weighs more than that parcel because it has a greater mass."<br><br>Revisit the vocabulary used in the lesson. Write each word on the board and ask:<br>**Q What does that mean?**<br><br>**By the end of the lesson, children should be able to:**<br>• **Understand and use the vocabulary of mass**<br>• **Compare two, then more, masses using direct comparison.**<br>(Refer to supplement of examples, section 5, page 72) |

| **Planning sheet** | **Day Two** | **Unit 5 *Measure*** | **Term: *Spring*** | **Year Group: *1*** |
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| **Oral and Mental** | | **Main Teaching** | | **Plenary** |
|---|---|---|---|---|
| **Objectives and Vocabulary** | **Teaching Activities** | **Objectives and Vocabulary** | **Teaching Activities** | **Teaching Activities/ Focus Questions** |
| VOCABULARY | | Understand and use the vocabulary related to mass.<br>Compare two, then more, masses using direct comparison.<br>**Suggest suitable standard or uniform non-standard units and measuring equipment to estimate then measure mass.**<br><br>VOCABULARY<br>Weight, weighs, light, lightest, heavy, heaviest, balances, mass<br><br>RESOURCES<br>Objects to weigh e.g. Toys, Interlocking cubes, pegs, washers.<br>Sets of pan balances<br>Resource sheet 5.2<br>Activity sheet 5.2 | • Pass around a toy and an object that is obviously heavier than the toy. Ask:<br>**Q Which is heavier? How do you Know?**<br>Remind them of yesterday's lesson.<br>This time pass around two toys where the difference in weight is not obvious.<br>Ask:<br>**Q** Which is the heaviest? How could we check?<br>Discussion should bring out scales or a pan balance. Hold each of the toys over each of the pans of the balance and ask:<br>**Q If this toy** is the heaviest what will happen to this pan? If the other toy is heavier, what will happen to that pan?<br>Ensure children can predict, then place the toys on the pan balance and record the result on the board: *Toy A is heavier than toy B.*<br>Ask if there is another way to weigh the toys. Discussion should bring about the idea that we could use cubes or pegs but we need to use identical units each time.<br>Hold up a toy and ask:<br>**Q** How many cubes (pegs, washers) do you think will balance this? How could we check?<br>Place the toy on one of the pans. Invite a volunteer to help you to drop cubes, one at a time, onto the other pan. Get the whole class to count as they are dropped. They should tell you when the pans are balanced. Ask:<br>**Q** Is the balance level yet? How many cubes balance the toy?<br>If the pan doesn't exactly balance encourage the children to use expressions like: *about 15 cubes* or *just over 15 cubes.*<br>Repeat with other toys and other units.<br>Give the children a selection of objects to weigh with cubes or pegs etc.. Encourage them to estimate first and then record their findings using Resource sheet 5.2.<br>In groups children compare their results to find which were the heaviest /lightest objects. | • Discuss results with the children.<br>**Q Which objects were the heaviest/lightest? Were your estimates close?**<br>Select a toy and ask the children to estimate how many cubes it will take to balance. Use the balance pan to check. Repeat questioning for pegs. Check with the balance.<br>Ask;<br>**Q Why is it a different number of cubes to pegs?**<br>Discussion should centre on the different weight of the units involved " pegs are heavier than cubes so we don't need as many".<br><br>Repeat with a heavier and a lighter object. Repeat the questioning and check with the balance. Record the results on the board.<br>Bring out the discussion that the heavier object uses the greatest number of units no matter which unit is used.<br><br>Remind the children about the idea of using the same unit repeated to weigh each object.<br>Tell the children they will be doing this in their next lesson.<br><br>HOMEWORK – Give out Activity Sheet 5.2 and ask the children to use a pegs or crayons to estimate and weigh objects at home and record on the sheet to find which are heaviest and lightest.<br><br>**By the end of the lesson, children should be able to:**<br>• **Compare two, then more, masses using direct comparison**<br>• Measure mass using uniform non-standard units<br>• **Understand and use the vocabulary related to mass**<br>(Refer to supplement of examples, section 5, page 72.) |

| **Planning sheet** | **Day Three** | **Unit 5 *Measure*** | **Term: *Spring*** | **Year Group: *1*** |
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| **Oral and Mental** | | **Main Teaching** | | **Plenary** |
|---|---|---|---|---|
| **Objectives and Vocabulary** | **Teaching Activities** | **Objectives and Vocabulary** | **Teaching Activities** | **Teaching Activities/ Focus Questions** |
| | | Understand and use the vocabulary related to mass. Compare two, then more, masses using direct comparison.<br>**Suggest suitable standard or uniform non-standard units and measuring equipment to estimate then measure mass.**<br><br>VOCABULARY<br><br>Weight, weighs, light, lighter, lightest, heavy, heavier, heaviest, balances, mass<br><br>RESOURCES<br>Resource sheet 5.3, cubes, objects for weighing e.g. pens, pegs, scissors, stapler, toys and units for measuring e.g. cubes, washers, conkers etc. | Use one of the objects from yesterdays weighing.<br>Ask:<br>Q How many cubes will balance this toy? How could we check? How many pegs will balance the toy? Why is it a different number of cubes and pegs?<br>Have a selection of objects and units for weighing. Select an object that is obviously heavier than the toy e.g. a book. Ask:<br>Q Which is the best unit to use to balance the book? Why?<br>The discussion should focus on the heavier the object the larger (heavier) the unit.<br>Select an obviously lighter object e.g. pen and repeat the question:<br>Q Which is the best unit to use to balance the pen? Why?<br>The discussion should focus on the lighter the object the smaller (lighter) the unit.<br>• Repeat with objects of different masses and encourage the children to suggest suitable units for measuring. Children should explain their choice of unit.<br>• Give the children a selection of objects and a selection of non-standard units, e.g. pegs, cubes, washers, conkers. In groups children should select suitable units to balance the objects and record their findings on Resource sheet 5.3. | Ask some of the children to report back on their findings.<br>Hold up two of the objects and ask:<br>Q Which object was the heavier? How much heavier is it? How do you Know?<br><br>Establish that the same unit must be used to make a comparison.<br>Repeat the discussion for a different pair of objects for lighter. Ask:<br>Q Do we need to use the same unit to balance the objects? Why?<br>Select some items that have been weighed with identical units and ask:<br>Q How much heavier is this toy than that toy? How do you know?<br>Repeat for lighter.<br><br>Remind the children about selecting suitable units. Ask what would be suitable units to balance your school bag, shoes, a pencil sharpener.<br>Encourage discussion to bring about the suitable size of the unit.<br><br>**By the end of the lesson, children should be able to:**<br>• Use vocabulary related to mass<br>• Measure mass using uniform non-standard units<br>• **Suggest suitable standard or uniform non-standard units and measuring equipment to estimate then measure mass.**<br>(Refer to supplement of examples, section 5, page 72.) |
| VOCABULARY<br><br>RESOURCES | | | | |

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|---|
| **My toy is ☐ cubes heavy.** |
| **My toy is ☐ cubes heavy.** |
| **My toy is ☐ cubes heavy.** |

**Year 1 Unit 5 (Spring term) Resource sheet 5.3**

| | My estimate | Mass |
|---|---|---|
| | …… pegs | ……. pegs |
| | …… pegs | …… pegs |
| | …… pegs | …… pegs |
| | …… pegs | …… pegs |

**Year 1 Unit 5 (Spring term) Activity sheet 5.2**

| | |
|---|---|
| Lighter than  | Heavier than  |
| | |
| | |

Children should be encouraged to draw something that fits the description.
They should be encouraged to compare the weight of objects.

**Year 1 Unit 5 (Spring Term) Resource sheet 5.1**