

Unit 5

four daily lessons

Title Measures, including problems

Year 2

Spring term

Unit Objectives

Year

- Use and begin to read the vocabulary related to mass and time.
- Know relationships between second, minute, hour, day, week.
- **Estimate, measure then compare masses using kilograms; suggest suitable units and equipment for such measurements.**
- Read a simple scale.
- Record measurements as '*nearly 3 kilograms heavy*'.

- **Recall doubles to 10 + 10 and corresponding halves**
- **Add 9 or 11. Subtract 9 or 11.**

This Unit Plan is designed to guide your teaching.

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

Resources needed to teach this unit:

resource sheet 5.1
activity sheet 5.1
resource sheet 5.2
activity sheet 5.3
ITP 'telling the time' or clock with seconds hand.
Activity sheet 5.4
resource sheet 5.3
1kg weight
resource sheet 5.4
balance scales
activity sheet 5.5
selection of objects for weighing
weighing scale(s)
stand-on weighing scales for weighing children
objects or bags of food weighing around 1 kg
(eg sugar, flour, pasta or rice).
whiteboards and pens
ITP 'number facts'
ITP number grid' or 100 square

Link Objectives

Year 1

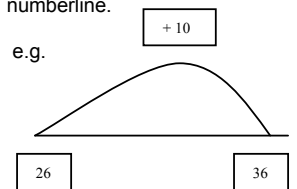
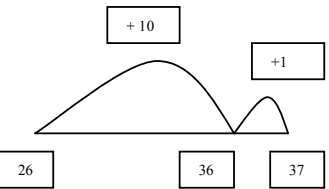
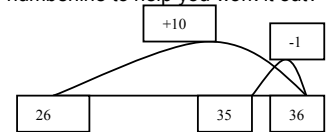
- Understand and use the vocabulary related to mass.
- Compare two, then more, masses using direct comparison.
- Measure mass using uniform non--standard units.

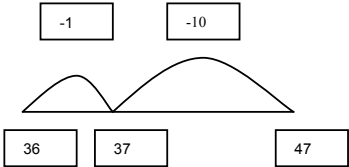
Year 3

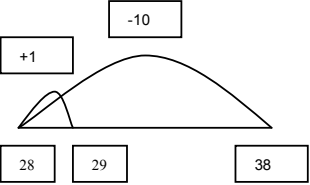
- Read and begin to write the vocabulary related to mass.
- Measure and compare using kilograms and grams, and know the relationship between them.
- Suggest suitable units and equipment to estimate or measure mass.
- Read scales.
- Record measurements using mixed units, or to the nearest whole/half unit (e.g. 3.5 kg).
- Choose appropriate number operations and calculation methods to solve measurement word problems with one or more steps.
- Explain and record method.



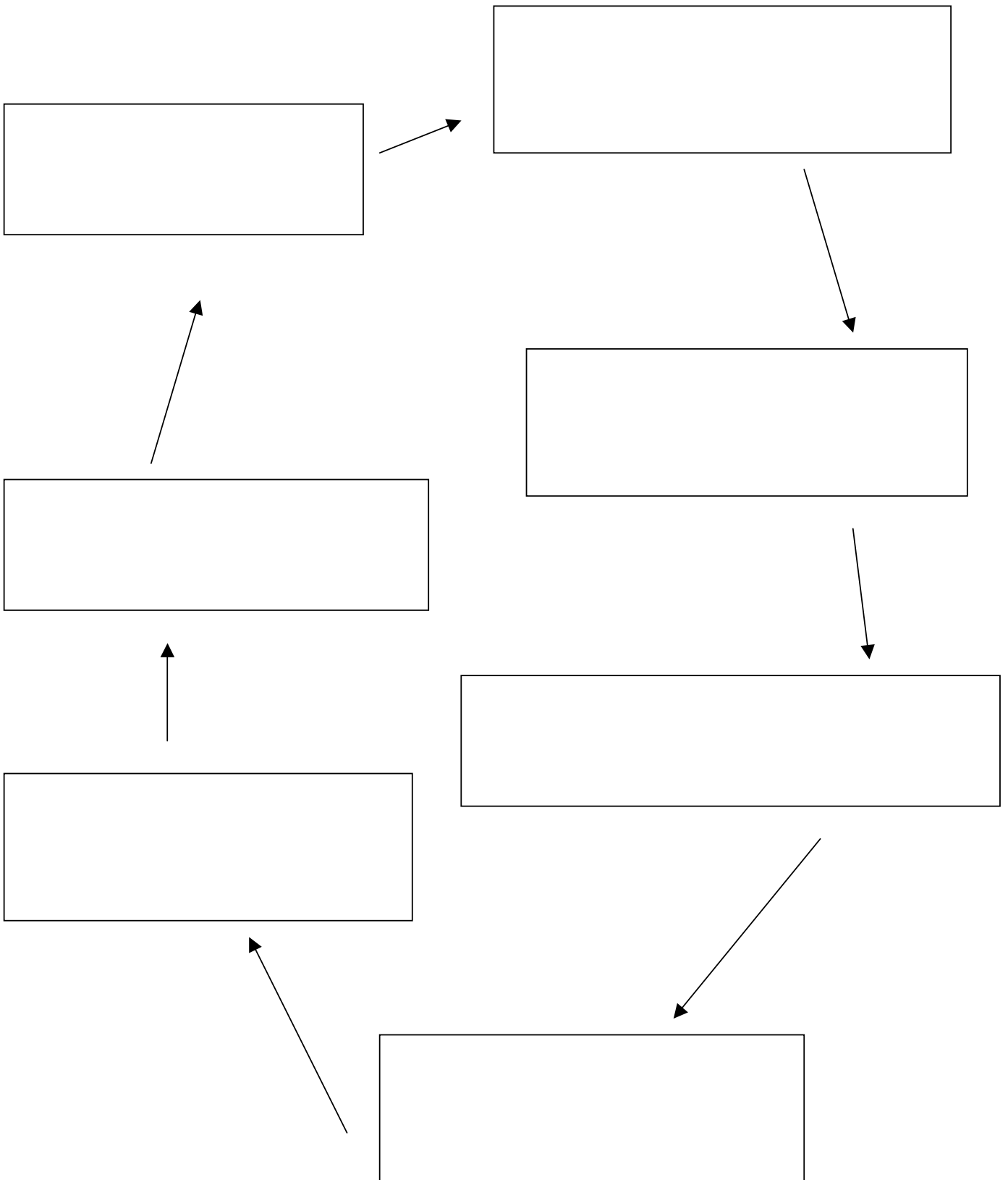
Planning sheet	Day one	Unit 5 measures including problems	Term: <i>Spring</i>	Year Group: 2
Oral and mental		Main teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
<ul style="list-style-type: none"> Recall doubles to 10 + 10 and corresponding halves <p>VOCABULARY: add, total, double, half, halve, equals, sum</p> <p>RESOURCES: whiteboards and pens, ITP 'number facts'</p>	<ul style="list-style-type: none"> Hand out whiteboards or clipboards. Set up ITPs 'number facts' to show 20 beads or use whiteboard to illustrate. <p>Q We're going to see if you remember your doubles. On your boards write down the answers. What is double 4? How did you work it out?</p> <p>Q what could you have done to help yourself if you hadn't remembered the answer?</p> <p>Q how can you write the answer down as a sum? (4+4=8).</p> <ul style="list-style-type: none"> When we double a number we are adding. Repeat with other doubles up to double 10. <p>Q If double 4 equals 8, what is half of 4? How did you work it out?</p> <ul style="list-style-type: none"> Use ITP to reinforce the concept of halving as dividing into 2 groups. Repeat with other numbers to 20. 	<ul style="list-style-type: none"> Know relationships between day and week. <p>VOCABULARY: Names of days of the week, day, fortnight, weekend, weekday.</p> <p>RESOURCES: resource sheet 5.1, activity sheet 5.1, resource sheet 5.2, activity sheet 5.3</p>	<ul style="list-style-type: none"> Hand out cards showing days of the week (e.g resource sheet 5.1) in the wrong order. It helps to reinforce the cyclical nature of time if you are sitting in a circle. <p>Q We have got the days of the week written on these cards, help me read them. Can you help me get the days of the week in the right order?</p> <p>Q Have we got them all? How do we know? How many days of the week are there?</p> <p>Q If we start reading the days of the week cards from Monday, what happens after Sunday?</p> <ul style="list-style-type: none"> Stick the days of the week cards to the board in a circle and add arrows (as activity sheet 5.1). note any unusual spellings. <p>Activity:</p> <p>Q Why do you think the Saturday and Sunday cards are printed in a different colour? What do we do at the weekend? What do we do in the week?</p> <p>Activity:</p> <p>Q Let's say the names of the days of the week we would have in two weeks . How many times will we say the word on each card? How many days are there in two weeks?</p> <ul style="list-style-type: none"> Two weeks has another name, It is called a fortnight. This is how you spell fortnight. <p>Q How many weekends are there in a fortnight?</p>	<p>Play hangman to reinforce the spellings of the names of the days of the week.</p> <p>By the end of the lesson children should:</p> <ul style="list-style-type: none"> Know relationships between day and week. Recall doubles to 10 and corresponding halves.

Planning sheet		Day two	Unit 5 measures including problems	Term: <i>Spring</i>	Year Group: 2
			Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities		Teaching Activities/ Focus Questions
<p>▪ Add 9 or 11</p> <p>VOCABULARY: Add, empty numberline.</p> <p>RESOURCES: ITP 'number grid' or 100 square, whiteboards and pens,</p>	<p>▪ Show ITP 'number grid' or 100 square. Q If I choose a number, who can tell me 10 more? How did you work it out? Q show me how you write it down on your whiteboards in an empty numberline.</p>  <p>e.g.</p> <p>▪ repeat adding 10 to other numbers. Q If 26 add 10 is 36, what is 26 add 11? How did you work it out? Q If we look at the 100 square, what did we do? Can you show me how to write the answer to 26+11 on an empty number line?</p>  <p>▪ Repeat with other numbers, adding 11. Q what is 26 add 9? Show me how you worked it out on the 100 square. Q How could you use an empty numberline to help you work it out?</p> 	<p>• Know relationships between second, minute, hour, day, week.</p> <p>VOCABULARY: minute, hour, second, minute hand, hour hand, second hand</p> <p>RESOURCES: ITP 'telling the time' or clock with seconds hand. Activity sheet 5.4, resource sheet 5.3</p>	<p>• Show the children the clock (or use ITP 'telling the time').</p> <p>Q What does the long hand show us? What does the short hand show us? Q I'm going to set the time to 1 o'clock. If the minute hand goes all the way around the clock, what will the new time be? Q The minute hand has just moved 1 whole hour from 1 o'clock to 2 o'clock, how many minutes is that?</p> <p>• Repeat moving minute hand 1 whole hour, counting the minutes as you go.</p> <p>Q Do you think an hour is a long time or a short time? what do you think you could do in 1 hour?</p> <p>• If we look at the clock again, I'm going to set it to show you how long 1 minute is. Some clocks have a third hand like this one. It is called the second hand. • Watch the clock for 1 minute, following the second hand.</p> <p>Q If the minute hand takes 60 minutes to go all the way around the clock, how many seconds do you think there are in 1 minute, when the second hand goes all the way round the clock? ▪ If you have ITP or digital clock you can count the seconds alongside the analogue clock to reinforce 60 seconds in 1 minute.</p> <p>Q which period of time is longer, a minute or an hour? What sorts of things could you do in 1 minute?</p> <p>Activity: Complete activity sheet 5.4</p>		<p>▪ Show cards on resource sheet 5.3.</p> <p>Q these are all words that mean a length of time. Can you help me put them in the right order starting with the shortest length of time?</p> <p>By the end of the lesson children should be able to: explain relationships between second, minute, hour, day, week.</p>

Planning sheet	Day three	Unit 5 Measures, including problems.	Term: Spring	Year Group: 2
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
<p>• Subtract 11.</p> <p>VOCABULARY: take away, subtract</p> <p>RESOURCES: whiteboards, ITP 'number grid' or 100 square.</p>	<ul style="list-style-type: none"> Show ITP 'number grid' or 100 square. Q If I choose a number, who can tell me 10 less? How did you work it out? How can the 100 square help you work it out? Q show me how you write it down on your whiteboards in an empty numberline. Repeat with other numbers. Q If 47 take away 10 is 37, what is 47 take away 11? How did you work it out? Q If we look at the 100 square, what did we do? Can you show me how to write the answer to 47-11 on an empty number line?  <ul style="list-style-type: none"> Repeat with other numbers. 	<ul style="list-style-type: none"> Estimate, measure then compare masses using kilograms; suggest suitable units and equipment for such measurements <p>VOCABULARY: Weigh, balances, heavy/light, heavier/lighter, heaviest/lightest/, kilogram, scales, weight</p> <p>RESOURCES: 1kg weight, resource sheet 5.4, balance scales, activity sheet 5.5, selection of objects for weighing.</p>	<ul style="list-style-type: none"> Hand round the 1 Kilogram weight. <p>Q Do you think it is heavy or light? Do you think it is heavier or lighter than you? Can you think of something that is heavier?/lighter than this weight?</p> <p>Q I've got some things here, some are heavy, some are light. Use your hands to compare the weight of each of these things with the 1 Kilogram weight. Can you help me sort them into groups: 'heavier than 1 kilogram', 'about the same as 1 kilogram', 'lighter than 1 kilogram'. (use labels on resource sheet 5.4 if needed).</p> <p>Q you have just made a sensible estimate. What equipment do you think we will need to check if you are correct?</p> <ul style="list-style-type: none"> Recap on how to use the balance scales accurately using the 1kg weight. <p>Activity:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>In your groups sort the objects on your table by estimating which will be heavier/lighter/the same as 1kilogram. Then use the scales to see if you were right. Fill in Activity sheet 5.5</p> </div> <ul style="list-style-type: none"> Show the children a selection of objects where the heaviest is the smallest and the lightest is the biggest. <p>Q Take a look at these objects, which one do you think will be the heaviest/lightest?</p> <ul style="list-style-type: none"> Weigh them. <p>Q Were you right? Can you tell how heavy an object is by just looking at it? Why not?</p> <ul style="list-style-type: none"> Explain the homework, noting that sometimes 1 kilogram will be written as 1KG, or 1kg. 	<p>Q if I buy 1 packet of sugar that weighs 1kg, how much will 2 packets of sugar weigh?</p> <p>Q Look at my shopping list. I buy a 1kg packet of butter, a 1 kg packet of flour, 1kg carrots, 3kg potatoes. How much does my shopping weigh altogether?</p> <ul style="list-style-type: none"> Repeat as necessary with other items of shopping. <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-top: 10px;"> <p>Homework: Look in the food cupboard at home or visit your local supermarket. Make a list of all the packages that weigh 1kg.</p> </div> <p>By the end of the lesson children should be able to:</p> <ul style="list-style-type: none"> Estimate, measure then compare masses using kilograms; suggest suitable units and equipment for such measurements.

Planning sheet	Day four	Unit 5 Measures, including problems.	Term: <i>Spring</i>	Year Group: 2
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
<p>• Subtract 9.</p> <p>VOCABULARY: take away, subtract, count back, count on, add one.</p> <p>RESOURCES: ITP 'number grid' or 100 square, whiteboards.</p>	<ul style="list-style-type: none"> Show 100 square or ITP 'number grid'. Choose a number, eg 38. <p>Q what is 38 take away 9? Show me how you worked it out on the 100 square. (take away 10 then add 1).</p> <ul style="list-style-type: none"> Repeat with other numbers. <p>Q How could you use an empty numberline to help you work it out?</p> 	<ul style="list-style-type: none"> Estimate, measure then compare masses using kilograms; suggest suitable units and equipment for such measurements. Read a simple scale. Record measurements as '<i>nearly 3 kilograms heavy</i>'. <p>VOCABULARY: Weigh, balances, heavy/light, heavier/lighter, heaviest/lightest/, kilogram, scales, weight</p> <p>RESOURCES: weighing scale(s), stand-on weighing scales for weighing children, 1kg weight, objects or bags of food weighing around 1 kg (eg sugar, flour, pasta or rice),</p>	<ul style="list-style-type: none"> Show the children a weighing scale marked in kg. If possible, show several different kinds of weighing scales. <p>Q look at the numbers on this weighing scale. What do you think they mean? Which mark shows 1kg? Is it the same on all my weighing scales?</p> <p>Q If I have a weighing scale with kilograms marked on it, do I need to use a 1kg weight to find out how much things weigh?</p> <p>Q If I put a 1kg weight on to the scale, what will happen? Do you remember from yesterday how we write it?</p> <p>Q If I put (e.g.) a bag of flour on the scale, what will happen? What will the scale read? Will it be the same on my other different kinds of scales?</p> <ul style="list-style-type: none"> Write on whiteboard '1 bag of flour = 1kilogram heavy'. Weigh the other objects and record, rounding up to the next whole kg by recording (eg) '<i>nearly 3 kilograms heavy</i>'. <p>Q how much will 2 bags of flour weigh? 1 bag of flour and 1 bag of rice?</p> <ul style="list-style-type: none"> Repeat with different combinations. <p>Q how much do you think you weigh?</p> <p>Activity: Choose a selection of volunteers who are not sensitive about their weight or weigh whole class. Each child records as '<i>nearly x kilograms heavy</i>'.</p> <p>If there's time, follow up this activity with a cooking session, or make no-bake sweets in class such as peppermint creams.</p>	<p>Q look at my shopping list: 8kg potatoes 6kg butter 2kg sugar 1 kg flour If I wanted to make twice as much food I would have to double these weights. How much would I have to buy then? What about if I wanted to make half as much?</p> <p>By the end of the lesson children should be able to:</p> <ul style="list-style-type: none"> Estimate, measure then compare masses using kilograms; suggest suitable units and equipment for such measurements. Read a simple scale. Record measurements as '<i>nearly 3 kilograms heavy</i>'.

Activity sheet 5.1



Activity sheet 5.3

Weekday	Weekend
Things I do on weekdays	Things I do at weekends

Activity sheet 5.4

Things I can do in 1 hour	Things I can do in 1 minute

Activity sheet 5.5

Name of object	Estimate Is it heavier, lighter, the same as 1 kilogram	Weigh it. Were you right?

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Resource sheet 5.2

Monday

Thursday

Saturday

Friday

Tuesday

Wednesday

Sunday

week

day

hour

second

minute

month

year

**Heavier
than 1
kilogram**

**Lighter
than 1
kilogram**

**About the
same as 1
kilogram**