

UNIT One: Place Value, Ordering, Estimating and Rounding

Year: Three

Spring Term

Three daily lessons

UNIT OBJECTIVES

Read and write the vocabulary of comparing and ordering numbers, including ordinal numbers to 100.	11
Compare two three-digit numbers and say which is more or less.	11
Read and begin to write the vocabulary of approximation.	17
Round any two-digit number to nearest 10.	19
Read scales and dials.	77

YEAR TWO

Use and begin to read the vocabulary of comparing and ordering numbers including ordinal numbers to 100. Compare two given two-digit numbers, say which is more or less and give a number which lies between them. Use and begin to read the vocabulary of estimation and approximation. Round numbers less than 100 to the nearest 10.
Read a simple scale to the nearest labelled division.

YEAR FOUR

Read and write the vocabulary of comparing and ordering numbers. Give one or more numbers lying between two given numbers and order a set of whole numbers less than 10000. Read and write the vocabulary of estimation and approximation.
Round any positive integer less than 1,000 to the nearest 10 or 100.
Record estimates and readings from scales to a suitable degree of accuracy.

Resources needed to teach this unit:

Resource sheet 1.1
Resource sheet 1.2 & 1.2a
Activity sheet 1.3
Activity sheet 1.4
OHT 1.5
'Monty' Programme – available to download from www.standards.dfes.gov.uk/primary
Digit fans
Diennes apparatus
Arrow cards – table top and teacher
0-9 Dice
Number line – marked into multiples of 10
Collection of 2 digit numbers
Coins – silver and copper
Data sheets for sports events

Planning sheet Day 2		Unit One : Place Value, Ordering, Estimating and Rounding		Term <i>Spring</i>	Year group 3
Oral and Mental		Main Teaching			Plenary
Objectives and vocabulary	Teaching Activities	Objectives and vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
<p>Solve mathematical puzzles and problems</p> <p>VOCABULARY</p> <p>RESOURCES</p>	<p>Chase the target.</p> <p>Children to work as a group.</p> <p>Identify target number eg 17.</p> <p>Children to take it in turns to count.</p> <ul style="list-style-type: none"> ▪ they must count 3 numbers ▪ they must move the count forward ▪ they can repeat numbers ▪ numbers cannot be missed out <p>The 'winner' is the first child to say the target number.</p> <p>eg</p> <p>A 1, 2, 3 B 3, 3, 4 C 4, 5, 5 D 6, 7, 8 etc</p> <p>Q. What strategies did you use to help you be the one to say the target number?</p>	<p>Round any 2 digits to the nearest 10</p> <p>VOCABULARY</p> <p>round up round down</p> <p>RESOURCES</p> <p>Number line marked into multiples of 10 Card with a 2 digit number written on Or 0-9 dice Activity Sheet 1.3 Coins – Silver or Copper only</p> <p>Activity Sheet 1.4</p>	<p>Introduce a number line which identifies multiples of 10.</p> <p>Q. Where is the arrow pointing to? Identify the amount given</p> <p>Hold up a number card. This has fallen off</p> <p>Q. Where should it go? Q. How did you work it out?</p> <p>Explain that when we approximate numbers we usually do so to the nearest multiple of 10. For example – if I was travelling from school to Then I might say the journey takes 20 minutes, when really it takes 17 minutes and 28 seconds. However, in rounding numbers I want to be as close as I can so the journey that took 17 minutes – I wouldn't say it is 10 minutes away –</p> <p>Model on number line.</p> <p>Identify 17 as between 10 and 20 but is close to 20, so I would round up</p> <p>Q. Which other numbers do you think you could round up to 20?</p> <p>Discuss with a partner and take feedback</p> <p>Keep a list of suggestions on board.</p> <p>Q. Which numbers would you round down to 10? Discuss with a partner</p> <p>Take feedback and record on board</p> <p>Q. What about 15? Identify it is in the middle and ask children to explain what they think they would do and why. Identify the rule for numbers, ending in a 5.</p>	<p>Take a handful of coins from a purse. Count out the amount. Identify the amount to the nearest 10p. e.g. 87p is 90p to the nearest 10p.</p> <p>Repeat – children to identify the nearest amount</p> <p><u>Homework</u></p> <p>'Money Bags'</p> <p>Prepared bags containing silver and bronze. Children to take a handful out. Record the amount and identify it to the nearest 10p. Repeat 5 times</p> <p>Activity sheet 1.4</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>By the end of the lesson children should be able to –</p> <ul style="list-style-type: none"> - Round a number to the nearest 10 eg 33 is 30 rounded to the nearest 10 <p>(Refer to the Supplement of Examples Section 5, Page 19)</p> </div>	

So if a journey took 26 minutes, how long would I approximate this to? Identify in steps.

Step 1 – What multiples of ten are 26 between?

Step 2 – is the 26 closer to 20 or 30?

LA – have a number strip to support – laminated

0	1	2	3	4	5	6	7	8	9
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They can then write on it eg

20	21	22	23	24	25	26	27	28	29	30
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Pose another question

Q. What is 33 round to the nearest 10?

Independent Work

Activity Sheet 1.3

Toss 2 x 0-9 dice to generate a two digit number. Identify the number rolled, the multiple of 10 closest to it. Shade in the multiple of 10 the rolled number would be rounded to.

Complete the sentence

Planning sheet <i>Day 3</i>		Unit : Place Value, Ordering, Estimating and Rounding		Term <i>Spring</i>		Year group 3																																				
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<p>Know what each digit represents HTU</p> <p>VOCABULARY Hundreds</p> <p>RESOURCES Arrow cards – tabletop Arrow cards - teacher</p>		<p>'Noisy Place Value'</p> <p>Use teacher arrow cards to show one number eg 164 Q. What is the number? Q. What can we partition it into?</p> <p>Explain that today we are not allowed to use words to count, instead we can use noises. Demonstrate that units will be finger clicks. Click 3 times and children to select the arrow card to represent that number. Identify claps will be worth ten. Clap twice and children to select the arrow card to represent that number. Identify stamps will be worth hundreds. Stamp 4 times and children to select the arrow card to represent that number. Perform a series of clicks, claps and stamps, children to show you with arrow cards the number you have constructed eg stamp, clap, clap, clap, click click would be</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 2px;">1</td> <td style="padding: 2px;">3</td> <td style="padding: 2px;">2</td> </tr> </table> <p>or show children a number and they sound it out.</p>		1	3	2	<p>Read scales to the nearest division (labelled or unlabelled)</p> <p>Round any 2 digit number to the nearest 10.</p> <p>VOCABULARY round up round down</p> <p>RESOURCES OHT 1.5 Data sheets for other events.</p>		<p>In our town sports, points can be scored for the following distances.</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>10m</td> <td>20m</td> <td>30m</td> <td>40m</td> <td>50m</td> </tr> <tr> <td>1pt</td> <td>2pts</td> <td>3pts</td> <td>4pts</td> <td>5pts</td> </tr> </table> <p>We are going to be the judges at some events and need to decide how many points should be awarded to the different competitors</p> <p>We have some performance readings to help us make our decisions and we are going to round numbers to help us award the points</p> <p>The first event is the Javelin</p> <p>Show OHT 1.5</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>Performance</th> <th>To the nearest 10</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>Emma</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sandra</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sita</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Anna</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Ask the children to identify the performance of each competitor, round their performance to the nearest 10 to identify the points that athlete has earned.</p> <p>Identify who is coming first, second, third and fourth.</p> <p>Repeat for the shot-put data</p>		10m	20m	30m	40m	50m	1pt	2pts	3pts	4pts	5pts		Performance	To the nearest 10	Points	Emma				Sandra				Sita				Anna				<p>Collect data for 4 athlete's performance in the town sports.</p> <p>Children to explain the points earned for each event e.g. In the shot-put, Sandra scored 1 point as she threw at 8m which rounds up to 10</p> <p>Ask children to work out the total score for the competitors to see who would have won the town sports</p> <div style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <p>By the end of the lesson children should be able to –</p> <ul style="list-style-type: none"> - Round a number less than 100 to the nearest 10 e.g. 33 is 30 rounded to the nearest 10 <p>(Refer to the Supplement of Examples Section 5, Page 19)</p> <p>Read a scale to the nearest marked division</p> <p>(Refer to the Supplement of Examples Section 5, Page 77)</p> </div>	
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			<p><u>Independent Work</u></p> <p>Children to have own performance data and chart to record competitors scores.</p> <p>Extend to include time scores</p> <p>HA – to round distances to 100</p> <p>Extend data sheets to provide the opportunity to round to 100.</p>	
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EQUAL TO

MORE THAN

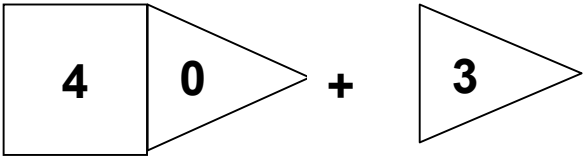
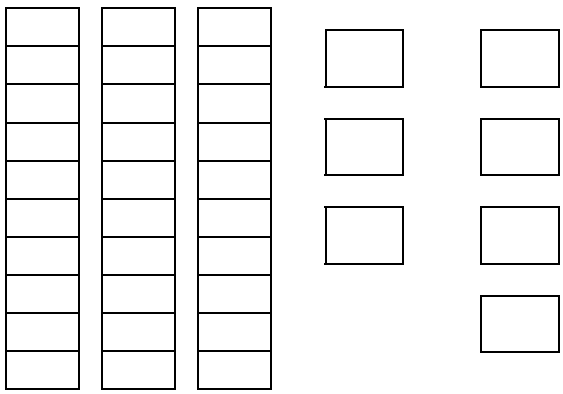
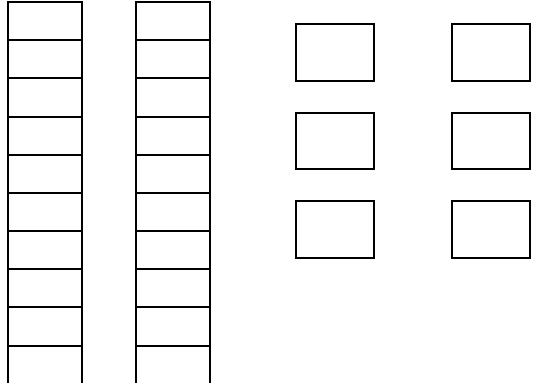
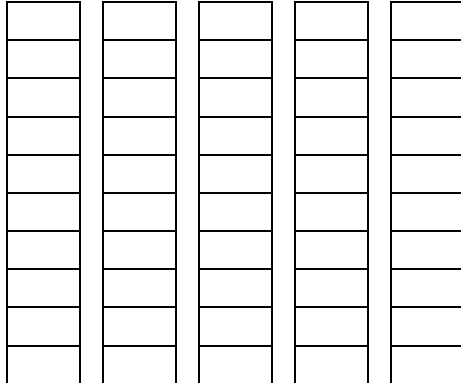
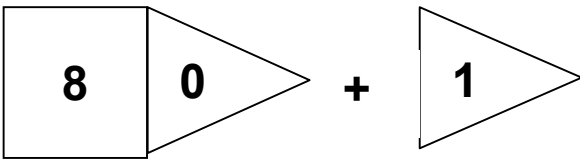
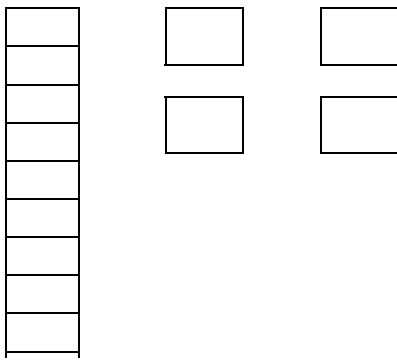
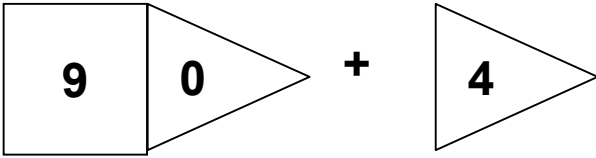
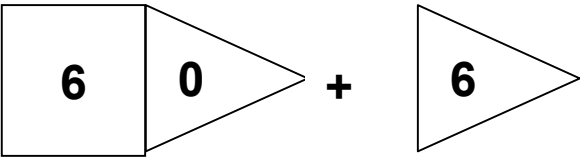
LESS THAN

GREATER THAN

SMALLER THAN

LARGER THAN

43**37****26****50****81****14****94****66**

 <p>A number bond diagram for the addition of 40 and 3. It consists of a large rectangle on the left with the number '4' inside, and a triangle on the right with the number '0' inside. A plus sign is between them. To the right of the plus sign is another triangle with the number '3' inside.</p>	 <p>Base ten blocks representing 40 + 3. There are three vertical rods, each with 10 small cubes, representing 40. To the right, there are three small squares representing 3. Further right, there are two columns of empty boxes: the first column has three boxes and the second column has four boxes, for a total of seven empty boxes.</p>
 <p>Base ten blocks representing 40 + 3. There are two vertical rods, each with 10 small cubes, representing 40. To the right, there are three small squares representing 3. Further right, there are two columns of empty boxes: the first column has three boxes and the second column has three boxes, for a total of six empty boxes.</p>	 <p>Base ten blocks representing 40 + 3. There are five vertical rods, each with 10 small cubes, representing 50. This is a visual representation of the sum 40 + 3 = 50.</p>
 <p>A number bond diagram for the addition of 80 and 1. It consists of a large rectangle on the left with the number '8' inside, and a triangle on the right with the number '0' inside. A plus sign is between them. To the right of the plus sign is another triangle with the number '1' inside.</p>	 <p>Base ten blocks representing 80 + 1. There is one vertical rod with 10 small cubes, representing 80. To the right, there are two small squares representing 1. Further right, there are two columns of empty boxes: the first column has two boxes and the second column has two boxes, for a total of four empty boxes.</p>
 <p>A number bond diagram for the addition of 90 and 4. It consists of a large rectangle on the left with the number '9' inside, and a triangle on the right with the number '0' inside. A plus sign is between them. To the right of the plus sign is another triangle with the number '4' inside.</p>	 <p>A number bond diagram for the addition of 60 and 6. It consists of a large rectangle on the left with the number '6' inside, and a triangle on the right with the number '0' inside. A plus sign is between them. To the right of the plus sign is another triangle with the number '6' inside.</p>

Rounding to the nearest 10

Number rolled

The nearest multiples of 10

5

2

50

60

52 would be rounded **down** to **50**

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.....would be rounded.....to.....

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.....would be rounded.....to.....

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.....would be rounded.....to.....

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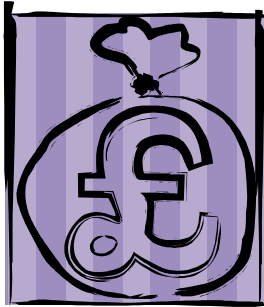
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.....would be rounded.....to.....

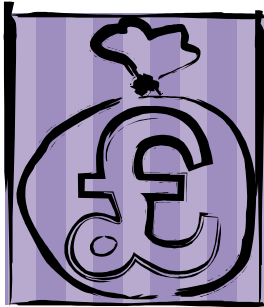
MONEY BAGS



Bag 1 contains

The amount I have, to the nearest 10p is

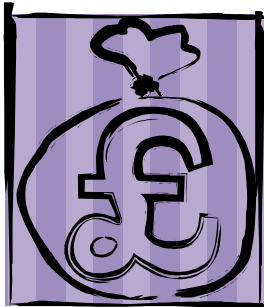
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Bag 2 contains

The amount I have, to the nearest 10p is

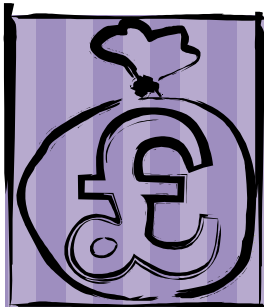
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Bag 3 contains

The amount I have, to the nearest 10p is

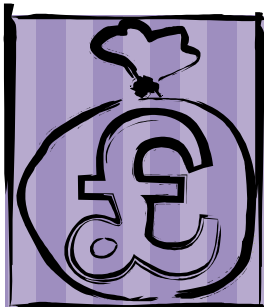
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Bag 4 contains

The amount I have, to the nearest 10p is

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Bag 5 contains

The amount I have, to the nearest 10p is

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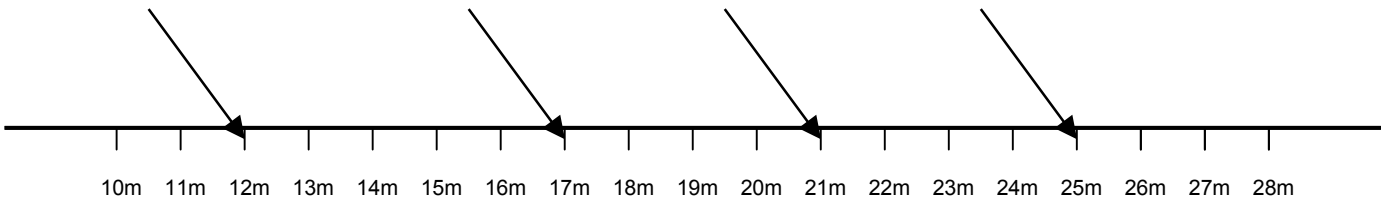
Javelin

Sandra

Emma

Sita

Anna



Shotput

Anna

Sandra

Emma

Sita

