

Unit 8
Counting and properties of number
Reasoning about number

Five daily lessons

**Merseyside Consultants'
Cluster Group**

Year 1
Autumn 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

Know the number names and recite them in order to at least 20, from and back to zero.	Page 2
Count on and back in ones from any small number.	Page 2
Solve mathematical problems.	Page 62
Recognise and predict from simple patterns and relationships.	Page 62

Resources needed to teach this unit:

- Set of number cards to 20.
- Number tracks 1 – 20.
- Magnetic board/OHP.
- Counters.
- Whiteboard.
- Sorting hoops.

Link Objectives

Reception

Year 2

Recite the number names in order, continuing to count forwards and backwards from a given number.

Talk about, recognise and recreate simple patterns.

Solve simple problems and puzzles in a practical context.

Describe and extend simple number sequences, count on and back in ones and tens, starting from any two digit number.

Solve mathematical problems or puzzles, recognise simple patterns and relationships.

Planning Sheet	Day One	Unit 8		Term: Autumn	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Know the number names and recite them in order to at least 20, from and back to zero.</p> <p>Count on and back in ones from any small number.</p> <p>Vocabulary: Count on Count back Number names to 20</p> <p>Resources: Set of number cards 1 – 20 (1 for each pair of children) – Resource Sheet 1 Number tracks to 20 – Resource Sheet 2</p>	<p>Whole class activity: Seat the children in a circle. Count up to 20 and back to zero. Repeat with each child taking turns to say their number. Encourage the children to predict what will happen. Challenge individuals and the whole class.</p> <p>Q. Who will say the number 10? Q. What number will Ben say?</p> <p>Say three consecutive numbers in the range 1 to 20 e.g. 1,2,3 or 14,15,16. Ask children to respond by saying the next three numbers.</p> <p>Repeat above task but counting back. Initially the children can respond by saying the next number. Teacher says '11,10,9' Children '8'</p> <hr/> <p>Paired Activity: Demonstrate a paired activity.</p> <p>Invite a child to be your partner. Each pair has a set of number cards 1 – 20 shuffled and spread face up on the table.</p> <p>One person chooses a card and places it on the table.</p> <p>The other person continues the sequence counting on with the next three cards.</p> <p>Children can check their sequences with a number track and then record their sequences into their book.</p>	<p>Show the children a washing line with the numbers back to front.</p> <p>Invite a child to come and turn one number over.</p> <p>Ask for volunteers to say what the next three numbers will be.</p> <p>Turn the numbers over and check they are correct.</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> <p>Count on and back in ones from any single digit number</p> <p>Recite the number names to at least 20 and back to zero.</p> </div>	

Planning Sheet	Day Two	Unit 8		Term: Autumn	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Know the number names and recite them in order to at least 20, from and back to zero.</p> <p>Count on and back in ones from any small number.</p> <p>Vocabulary: Count on Count back Number names to 20</p> <p>Resources: Set of number cards 1 – 20 (1 for each pair of children) – Resource Sheet 3 Number tracks to 20 – Resource Sheet 2</p>	<p>Whole class activity:</p> <p>Seat the children in a circle. Count up to 20 and back to zero. Challenge individuals and the whole class to extend counting to 30 and more.</p> <p>Repeat above task but counting back. Initially the children can respond by saying the next number. Teacher says '11,10,9' Children '8'</p> <p>Extend to children responding with 2 or 3 numbers. Teacher says '10,9,8' Children respond '7,6,5'</p> <hr/> <p>Paired activity:</p> <p>Remind children of paired activity from day one.</p> <p>Repeat this activity with children counting back.</p> <p>Each pair has a set of number cards 1 – 20 shuffled and spread face up on the table.</p> <p>One person chooses a card and places it on the table.</p> <p>The other person completes the sequence counting back with the next three cards.</p> <p>Children can check their sequences with a number track and then record their sequences into their book.</p>	<p>Show the children a washing line 1 – 20 with the numbers back to front.</p> <p>Invite a child to come and turn one number over.</p> <p>Ask for volunteers to count back from that number.</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> <p>Count on and back in ones from any single digit number</p> <p>Recite the number names to at least 20 and back to zero.</p> </div>	

Planning Sheet	Day Three	Unit 8	Term: Autumn	Year Group: 1
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions
		<p>Recognise and predict from simple patterns and relationships.</p> <p>Suggest extensions such as 'What if... ?'</p> <p>Vocabulary: Pattern Last Take</p> <p>Resources: Magnetic board OHP Counters (11 for each pair)</p>	<p>Whole class activity:</p> <p>Seat the children in a circle. Tell the children they are going to help you to make some patterns.</p> <p>Ask the first two to stand up and the next two to sit down and so on until a pattern is forming.</p> <p>Ask the children to predict what will happen next:</p> <p>Q. What will the next person do, stand up or sit down? Q. What will the last person in the circle do?</p> <p>Repeat with other patterns. For example: Cross arms, stretch legs etc.</p> <p>Paired activity:</p> <p>Demonstrate paired activity for the class.</p> <p>Use a magnetic board or OHP to display 11 counters. Invite a child to come and play with you. Explain that two players take turns to remove 1 or 2 counters. The player that removes the last counter wins.</p> <p>Allow the children to play several games keeping track of who wins.</p> <p>After a short time stop and ask:</p> <p>Q. Who has won a lot of games? Q. Does anyone have a special way to win, a strategy? Q. Is it better to go first or second?</p> <p>?? Allow children to play several more games, trying out some of the ideas.</p> <p>After 5 minutes stop and ask: Q. What did you try? Q. What happens if you both try that? Q. What else could you try?</p> <p>Extend by changing the number of counters to 13, 15 etc.</p>	<p>Ask two children to play the game on the magnetic board using 11, 13 or 15 counters.</p> <p>Stop the game when there are three counters left and ask:</p> <p>Q. Who will win? Q. How do we know?</p> <p>If no child suggests how to ensure that you can always win, remove all the counters until three remain.</p> <p>Ask: Q. So now it is your turn how many do you want to remove?</p> <p>Demonstrate however many the children remove you will win.</p> <p>Homework: Play game at home using coins.</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> <p>Continue a simple pattern</p> <p>Predict with some accuracy what will happen next.</p> </div>

Planning Sheet	Day Four	Unit 8		Term: Autumn	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Solve mathematical problems and puzzles; predict from simple patterns and relationships. Suggest extensions by asking 'What if...?' 'What could I try next?'</p> <p>Vocabulary: Odd Even More Less Before After Between</p> <p>Resources: Number Cards 1 – 20 – Resource Sheet 1 Whiteboards</p>	<p>Whole class activity:</p> <p>Show the children that you are holding a set of number cards 1 – 10. Shuffle the cards and ask a child to pick a card for you and give it to you without looking at it.</p> <p>Ask the children to take turns to ask questions about the number you are holding to try and identify it. When they have guessed correctly show the children the number on the card.</p> <p>As the activity proceeds ask the children:</p> <p>Q. How did that question help you? Q. What have you found out so far?</p> <p>Once you have shown them the number ask:</p> <p>Q. What would have been a good question to ask?</p> <p>Repeat the game a number of times and tell the children you are looking for questions that give us a good clue as to what the number is.</p> <p>Next extend the number of cards you use to 1 -20. This time give the children a clue to help them find the number. For example: Teacher says: My number is a single digit number more than 6. What could it be?</p> <p>Children can record the possibilities on a whiteboard. Discuss the suitability of the possibilities with the children.</p> <p>Finally show the children the number.</p> <p>Repeat this activity, extend the whole class and individuals by calling on the children to have a go.</p>	<p>Ask the children about the types of questions they asked.</p> <p>Record some useful examples for the children to use on the board.</p> <p>For example: Is it odd / is it even? Is it more / is it less than? Is it between __ and __ ?</p> <p>Play the game again this time keeping a tally of how many questions the children ask before finding the answer.</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> <p>Ask questions to find an unknown number</p> <p>Find the possibilities.</p> </div>	

Planning Sheet	Day Five	Unit 8		Term: Autumn	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Solve mathematical problems and puzzles; predict from simple patterns and relationships. Suggest extensions by asking 'What if...?' 'What could I try next?'</p> <p>Vocabulary:</p> <p>Odd Even More Less Before After Between</p> <p>Resources:</p> <p>Number cards (Enough for each child in the class to have one) Sorting Hoop</p>	<p>Whole class activity:</p> <p>Seat the children in a circle. Place a sorting hoop in the middle of the circle.</p> <p>Give each child a number card from 1 – 20 and beyond if necessary.</p> <p>Tell the children that they have to guess your rule. Decide on a rule in your head. For example: <i>Numbers less than 10.</i></p> <p>Invite the children to try and put their number in the circle. You then reject or accept their number depending on your rule. Once all the children have had a turn invite the children to guess your rule.</p> <p>Repeat the activity and pose questions to the children as the activity progressed.</p> <p>Q. What could the rule be? Q. Does everybody agree with this? Q. Can you think of another number we could put in the circle?</p> <p>This activity could be repeated using different apparatus such as shapes.</p>	<p>Begin with numbers 1 to 10.</p> <p>Decide together on a rule and place all the necessary numbers in to the hoop.</p> <p>Now ask one child to turn his back on the hoop whilst a number is removed.</p> <p>Can the child identify the number that has been removed?</p> <p>Can the class give the child some clues to help?</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> <p>Find possibilities for solving the problem.</p> </div>	

Number cards

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