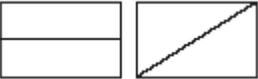
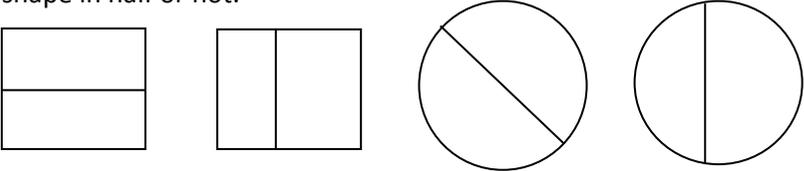


# Booragul Public School NSW Syllabus for the Australian Curriculum – Number and Algebra

## Fractions & Decimals – ES1

<p><b>Outcomes</b></p> <p>Early Stage 1</p> <ul style="list-style-type: none"> <li>› describes two equal parts as halves MAe-7NA p52</li> <li>› uses concrete materials and/or pictorial representations to support conclusions MAe-3WM Reasoning</li> <li>› describes mathematical situations using everyday language, actions, materials and informal recordings MAe-1WM Communicating</li> </ul>			<p><b>Language</b></p> <p>whole, part, equal parts, half, halves.</p>
<p>Syllabus p49</p> <p>The focus on halves in Early Stage 1 is only a guide. Some students will be able to describe other fractions from everyday contexts. The emphasis is on dividing one whole object into two equal parts. Fairness in making equal parts is the focus.</p> <p>Halves can be different shapes. Halves of different objects can be different sizes, eg half of a sheet of art paper is larger than half of a serviette. Fractions refer to the relationship of the equal parts to the whole unit.</p> 	<p>NUMERACY CONTINUUM</p> <p>Fractions</p> <p><i>Developing a quantitative sense of fractions, relies on forming partitions, relating the part to the whole, and recognising the need for equal wholes.</i></p>	<p><b>Emergent partitioning</b></p> <ul style="list-style-type: none"> <li>• Attempts to halve by splitting without attention to equality of the parts.</li> </ul>	<p><b>Halving</b></p> <ul style="list-style-type: none"> <li>• Forms halves and quarters by repeated halving.</li> <li>• Can use distributive dealing to share.</li> </ul>

Teaching and Learning Activities	Notes/ Future Directions/Evaluation	Date/ LAC Icons
<p><b>Ignition Activity</b></p>		
<p><b>What is Half?</b>            Teacher makes laminated shapes with two of each shape. Teacher then cuts one of these shapes in half. Teacher models how the halves fit into the whole. Students put the shapes over the top of the whole shape. Which are a half of the shape?            Teacher then plays a circle game with a dice. Shapes are spread out into the centre of the circle. Teacher identifies a particular number as being the 'number'. Each student rolls the dice and when it lands on a nominated number, the student can jump into the middle of the circle and start matching halves to wholes. Student tries to get all shapes covered before another student rolls the identified number. If a student is able to match all the halves before the number is rolled, they are the winner! If the nominated number is rolled again, that student who rolls the number swops with the previous student who is matching shapes. (think the chocolate game!)</p>		<p> Literacy   Critical and creative thinking</p>
<p><b>Explicit teaching</b></p>		
<p>Teachers will need to establish the concept of one-half and show students how to divide it into two equal parts. Teachers will assist students to describe how to make equal parts by modelling the language and then facilitating students have discussions with their peers.</p> <p>Students will need to be able to recognise that halves have two equal parts and explain the reason for dividing an object a particular way. Teachers must allow for students to discuss, evaluate and rationalise their decisions.</p> <p>Students must be able to use the term accurately in everyday situations</p>		<p> Literacy   Critical and creative thinking</p>
<p><b>Colouring</b>            Students colour half of a regular shape without any dividing lines present. Students explain the reason for dividing an object a particular way.</p>		<p> Literacy   Critical and creative thinking</p>
<p><b>Drawing Halves</b>            Students are shown half of a regular shape and are then asked to find, draw and</p>		

describe the other half.		
<p><b>Environmental Walk</b></p> <ul style="list-style-type: none"> <li>• Walk around the playground to observe things that can/cannot be divided into halves.</li> <li>• Discuss that natural objects that can be divided exactly into halves are harder to find than man-made objects.</li> <li>• Students record halves of objects using drawings.</li> </ul>		<p>Literacy Critical and creative thinking</p>
<p><b>Fair Shares</b></p> <p>Teacher cuts food correctly and incorrectly and students decide if it's a fair share. Discuss that halves have to be equal and that something can be cut into two pieces and that these pieces may not be halves.</p> <p>Teacher presents a variety of drawings of circles and rectangles with lines drawn on them dividing the shapes into two. Students decide whether the lines are dividing the shape in half or not.</p>  <p>Students explain the reason for dividing an object a particular way.</p>		<p>Literacy Critical and creative thinking</p>
<p><b>Fair / Unfair</b></p> <p>Display four rectangular pieces of paper. Invite students to the board to fold each piece of paper to make two equal parts that are fair. Question students, 'Why do you think that the parts are fair (correct) or unfair (incorrect)?'</p>		
<p><b>Find the Matching Half</b></p> <p>The teacher cuts shapes into halves for students to match in order to recreate the shape. Students discuss the number of parts needed to create each shape and use the term 'halves' to describe what they did.</p>		

<p><b>Food Halving</b>  Teacher cuts fruit, chocolate, cupcake into half and hides/eats half. Discuss how much is left and students recognise that half has been eaten, used or hidden.  Ask student would they like half of a muffin, choc bar or other. Cut in 2 and give "small ½ " to student. Discuss.</p> <ul style="list-style-type: none"> <li>- Ask: What is 'a whole'?</li> <li>- Ask: What is 'a whole cake'?</li> <li>- Ask: What does 'our whole class' mean?</li> <li>- Students record halves of objects using drawings.</li> </ul>		 Literacy  Critical and creative thinking
<p><b>Folding</b>  Students can fold:</p> <ul style="list-style-type: none"> <li>- Their own jumper into half.</li> <li>- Paper shapes (rectangles, squares, circles, diamonds) and draw along the fold. They could then be used to create a picture.</li> <li>- Paper strips into half and then discuss what is half of the strip?</li> <li>- Investigate objects at home that can be folded exactly in half and report back to the class.</li> </ul>		 Literacy  Critical and creative thinking
<p><b>Half a container</b></p> <ul style="list-style-type: none"> <li>• Ask students to estimate how many cupfuls of water it will take to fill a specific container.</li> <li>• Next ask them to estimate how many cupfuls will half-fill the same container. They should explain their strategies for making their estimates.</li> <li>• Students can investigate filling and half-filling containers with water and record (in drawing and writing) what they find out.</li> <li>• Discuss what happens when you half-fill a cylindrical jug and a tapered jug.</li> <li>• Students record halves of objects using drawings.</li> </ul>		 Literacy  Critical and creative thinking

<p><b>Half Circles</b> Ask the students to draw circles. Can they do this successfully? Next give each student a circle cut from paper and ask them to show where they would draw a line to divide their circle in half, and explain why they would draw it there. If they are successful, ask student to fold the circle along this line. Next they can cut along the line. Ask them to describe the shapes they now have. Finally, get them to draw one of the shapes. Students explain the reason for dividing an object a particular way.</p>		 Literacy  Critical and creative thinking
<p><b>Jelly Snakes</b> Children have a jelly snake to share with a friend. How could we make sure the pieces are fair? Break snakes into two pieces and share with friend. Students explain the reason for dividing an object a particular way. Students record halves of objects using drawings.</p>		
<p><b>Lamington Bar Sharing</b> Introduce the idea of folding to make two equal parts. Hold up lamington bar-brown piece of paper, and ask children where to cut to make two equal parts (develop the idea that parts must be equal to be fair.) Students explain the reason for dividing an object a particular way. Students fold rectangular paper showing where half is –ask if it is fair. Students record halves of objects using drawings.</p>		
<p><b>Making Half</b> Give students some play dough and ask them to cut it into halves. Observe if the student makes a uniform shape and takes care to make 2 equal parts? Discuss students’ attempts and identify which students have divided their play dough in half. Students record halves of objects using drawings.</p>		
<p><b>Paper Strips</b> Students fold paper strips into half and discuss what is half of the strip? Show unequal parts and discuss why they are not halves. Students explain why two parts of one whole are or are not halves.</p>		
<p><b>Semi Circles</b> With the students sitting in a circle on the floor, place the semicircles in a pile on the middle, and ask: ‘What are these?’ Ask: Can we use these shapes to make circles? Then ask: How many circles do you</p>		

<p>think we can make with these shapes? Because the semicircles are in a pile, this task requires students to make estimates of the answer. Ask some students to explain how they worked out their estimates. Students record halves of objects using drawings.</p>		
<p><b>Sharing</b> Provide students with a variety of concrete materials eg counters, teddy bears, pop sticks. Model the process of sharing a collection of materials. Ask the students to use concrete materials to show a story about sharing.</p>		
<p><b>Sharing a Birthday Cake</b> Give students a picture of a cake. Students cut and paste into two groups, one for a friend and one for them. Are they fair?</p>		
<p><b>Sharing the Whole</b> <b>Part A</b> In pairs (or groups of four), students share a slice of bread so that each person gets the same amount of bread with none left over. Students discuss and record their strategies.</p> <p><b>Part B</b> The teacher demonstrates cutting a piece of fruit into two or four pieces. Students:</p> <ul style="list-style-type: none"> <li>- count the pieces</li> <li>- describe how the pieces are alike</li> <li>- describe the pieces as 'halves' or 'quarters'.</li> </ul> <p>In small groups, students attempt to cut paper shapes into two or four equal parts. They discuss whether the parts are equal and share the pieces.</p>		  Literacy Critical and creative thinking
<p><b>What Is Left?</b> Cut fruit, chocolate or a cupcake etc into halves and hide the other half. Discuss how much is left and have students recognise that half has been eaten, used or hidden.</p>		
<p><b>What is the shape?</b> Show children a folded shape and ask what the original shape was. Then open the shape to discover if they were correct.</p>		

<p><b>Using Technology to Teach Mathematics:</b></p> <p>Pikelet Fractions</p> <p>Ribbon Cutter</p>		
<p><b>Storybooks</b></p> <ul style="list-style-type: none"><li>- Milestones in Maths</li></ul>		
<p><b>Other Activities:</b></p> <p><b>Sample Units of Work – Pg 53,54,55, 56</b> <b>has activities that explore halves and quarters.</b></p>		