

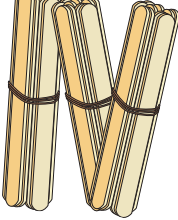
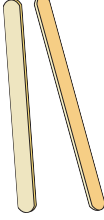
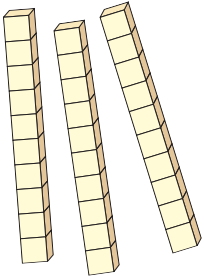



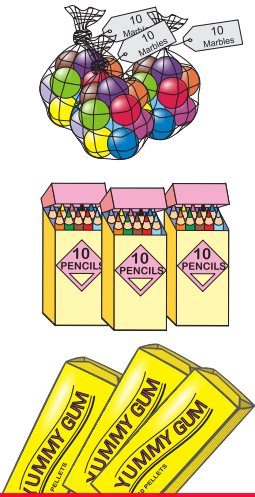
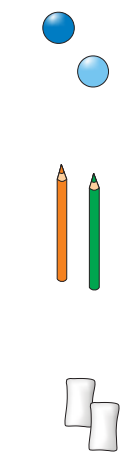


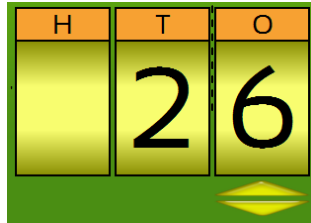
# Introduction to Tens and Ones Place Value Manipulatives

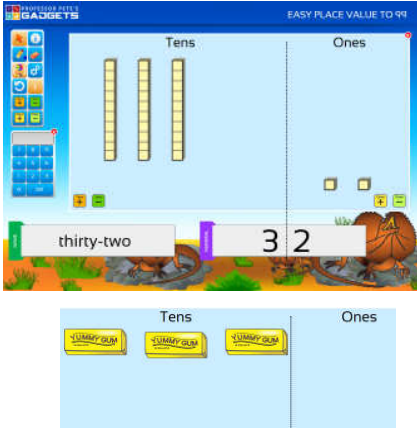

## Understanding Manipulatives:

There are many different manipulatives (concrete materials) that can be used to show place value. Each one of these has its own unique properties that help students understand the grouping of ten ones into one ten.

The table below shows manipulates in the order in which they should be introduced, from the easiest to the most advanced.

Manipulatives	Tens	Ones	Properties
Unifix cubes			<ul style="list-style-type: none"> <li>easily counted and manipulated by young children</li> </ul>
ten frames			
bundling sticks			<ul style="list-style-type: none"> <li>individual sticks join together to make a ten bundle with a rubber band</li> <li>can be separated and re-bundled easily</li> <li>10 bundles of ten can be joined later to make a hundred</li> </ul>
base ten blocks			<ul style="list-style-type: none"> <li>ten blocks are easily manipulated and always show groups of exactly 10</li> <li>need to exchange or trade 10 ones for 1 ten (higher level of understanding required)</li> <li>can later show large numbers easily and quickly showing numbers into the hundreds and thousands with consistent representations</li> </ul>

Manipulatives	Tens	Ones	Properties
<ul style="list-style-type: none"> <li>sets of objects</li> <li>• marbles</li> <li>• pencils</li> <li>• gum</li> </ul>			<ul style="list-style-type: none"> <li>clearly displays groups of 10 individual objects making up a larger group that can be handled both as one group and a set of 10 individual ones</li> <li>can be separated and regrouped easily</li> <li>real objects from everyday life help students see the common idea of grouping and handling groups</li> <li>larger numbers may be shown later, but are less easily recognised</li> <li><b>N.B.</b> make sure the group actually has 10, as it is easy with some number, division</li> </ul>
<p><b>Virtual Manipulatives</b></p>	<p>This is a</p> <h1 style="color: red;">PREVIEW</h1> <p>Subscribe today for a whole year's access to ALL our worksheets and videos!</p> <p>Already a subscriber? Log in to download the full version of this worksheet.</p>		
<p>Software (Professor Gadgets)</p>	<p>• Ten Frames (<a href="http://profpete.com.au/gadget/ten-frames/">http://profpete.com.au/gadget/ten-frames/</a>)</p>		<p>Manipulatives</p> <p>separately and grouped</p> <p>handles with</p> <p>students are</p> <p>s and if</p>
<p>• Odometer (<a href="http://profpete.com.au/gadget/odometer/">http://profpete.com.au/gadget/odometer/</a>)</p>		<p>possible after handling the physical material</p> <ul style="list-style-type: none"> <li>allows students to self correct faulty ideas, as the screen can display information such as the numeral and the written name</li> <li>allows for whole class seeing exactly the same number</li> <li>allows for counting quickly and accurately</li> <li>allows for counting in 2s and 5s</li> <li>can extend well beyond tens and ones to millions</li> </ul>	

Virtual Manipulatives	Tens	Ones	Properties
<ul style="list-style-type: none"> <li>Easy Place Value (<a href="http://profpete.com.au/gadget/easy-place-value/">http://profpete.com.au/gadget/easy-place-value/</a>)</li> </ul>			<ul style="list-style-type: none"> <li>represents 6 different types of physical manipulatives on screen</li> <li>allows for accurate counting in 1s, 2s, 5s, or 10s</li> <li>animates to show the grouping and ungrouping of 10 ones to “make a ten”. It displays quickly every time, being precise and flawlessly simple.</li> <li>allows for the whole class to see the same number all at once.</li> <li>no fumbling and losing pieces when counting is required</li> </ul>
<p>PROFESSOR PETE'S <b>CLASSROOM</b></p> <p>This is a</p> <h1 style="color: red;">PREVIEW</h1> <p>Subscribe today for a whole year's access to ALL our worksheets and videos!</p> <p>Already a subscriber? Log in to download the full version of this worksheet.</p> 			<p>s such as and need</p> <p>locks nd hat is not</p>
	