Using < > or = and ordering numbers lesson plan

Subject: Maths	**Lesson Title:** Using < > or = and ordering numbers
Date:	**Time Span:**
Year Group: 2	**Group Size:** 30

Desired Learning Outcomes

To be able to use the symbols < > and = correctly to compare numbers

To be able to order numbers by their value

Key Language:	**Use of ICT:**
Higher, lower, greater than, less than, smaller, bigger and equal to,	Place Value ITP Game on IWB for extension & plenary

Assessment (Make reference to each section of the lesson)
Intro – Level of work based on ongoing assessment over last few weeks
Main – Mark children's work as they complete it. Sit with any children who are struggling, bringing them back to the carpet if necessary. If still unsure by end of lesson sit with TA during plenary.
Plenary – Can children select the correct symbol to go in the space?

Use of Other Adults
TA to work with lower ability children during main part of lesson
TA to sit and continue working with children (of any ability) who struggled in plenary

Anticipated Misconceptions/Difficulties
Children not understanding that numbers in the tens column are worth more than numbers in the units column or that numbers in the hundreds column are worth more than numbers in the tens column
Children not understanding that numbers with more digits are always worth more e.g. 600 is worth more than 60
Children not understanding that the open part of either < or > needs to face the higher number
Children forgetting to order the numbers from highest to lowest
G+T – thinking that numbers with more digits are always worth more e.g. thinking that 4.0 is worth more than 4 or 7.5 is worth more than 8

Resources
Place Value ITP at http://www.taw.org.uk/lic/itp/place_val.html (if link does not work, just Google 'Place Value ITP')
Game for extension at http://www.crickweb.co.uk/ks2numeracy-calculation.html
Numbers and symbols (laminated and cut up) for plenary
Units squares and tenth strips (laminated, *not* cut up)

	Time

Introduction
Have TA take G+T children to work on comparing and ordering numbers to one decimal place:
Show children a stick of ten:
 	
Show children another version of it:
 	
Explain how each unit in the second ten has been split in to tenths
Give each child a unit that has been split in to tenths and have them cut it up in to ten strips.
Explain that each of these is called a tenth, so a unit is made up of ten tenths
Show children some examples of numbers, representing them using these units squares and tenths strips e.g. 3.2 would be 3 unit squares and 2 tenth strips, 8.9 would be 8 unit squares and 9 tenth strips etc
Ask the children to show you some examples of their own
Show children how 1.0 and 1, 2.0 and 2, 3.0 and 3 (etc) are the same
Emphasise how 1.0 is not worth more than 1 even though it has more digits. Same for 2.0 and 2, 3.0 and 3 etc
Model how to order numbers with one decimal place
Teacher (with remainder of class)
For each explanation below you can use the Place Value ITP (which allows you to see a representation of each / all digits in a number) (http://www.taw.org.uk/lic/itp/place_val.html) to compare the numbers:
   1. Choose a number to display by clicking on the arrows above the boxes in the bottom right-hand corner and clicking on the numbers
   2. Use the arrows to change the number you wish to display, click on the numbers again and you should have both numbers there to compare
Revise how the first thing that you need to do to compare numbers is to see how many digits each number has. If one number has more digits than another, the one with more digits is the highest e.g. 50 is higher / more than 5, and 500 is greater than 50. Repeat with similar examples e.g. 56 and 8, 243 and 87
If two numbers have the same number of digits e.g. 45 and 72, first you need to look at the number furthest on the left e.g. the 4 in 45 or the 7 in 72, because the tens are worth more than the units. Repeat with similar examples e.g. 81 and 32
If two numbers have the same number furthest on the left e.g. 45 and 41, then you need to look at the next number along and compare them e.g. the 5 in 45 and the 1 in 41. Repeat with similar numbers e.g. 67 and 62.
 	
Repeat these explanations for numbers with 3 digits.
 	
Revise how < means 'less than' and > means 'more than'. Write these on the board. Explain that each one is a picture of a crocodile's mouth. Crocodiles are always hungry so the crocodile always gets ready to eat the biggest / highest / greatest number.
Model how to use these symbols with several examples, always reminding children that the crocodile eats the biggest / highest / greatest number
Model how to order numbers **from highest to lowest (keep reminding children of this)**
	15 mins

Main (including differentiated tasks) Lower ability – compare numbers below 20 (use number line if needed) Middle ability – compare numbers up to 100 Higher ability – compare numbers up to 1,000 Gifted and talented – compare numbers up to 10,000 and to 1 decimal place Extension – play game on IWB at http://www.crickweb.co.uk/ks2numeracy-calculation.html (3rd game down) as a reward and to reinforce lesson	20 mins
Plenary ICT activity on IWB at http://www.crickweb.co.uk/ks2numeracy-calculation.html (3rd game down) where children need to choose < > or = and drag and drop it between two numbers	15 mins