**Text Book 1A- Chapter 1**

**Lesson 1- 4.9.18**Top of Form

**Counting to 10**

Pages 2–3

**Lesson Objective**

To be able to count numbers to 10 accurately – forwards and backwards.

**National Curriculum**

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.

**Lesson Approach**

To begin this lesson, provide pupils with digit cards and cubes and tell them a story to go along with them. For example, 'My friend gave me these cards this morning as a present as she knows I love maths, but she did not know how to put them in the right order. Do you know how? Can you help me?'

Ask pupils if they think they might be able to put them in the correct order and give them a few minutes to begin. For each number, show the correct digit card and pause between each one to allow pupils to associate the number name with the visual numeral. Ask them if they know other ways to show the numbers. Can they use objects to represent numbers?

Ask pupils which number they should start with to arrange the cards in the correct order and give them time to arrange them. Once pupils have arranged the cards in the correct order, ask them for the missing number. Tell them your friend said these cards were meant for number games. Ask them if they would like to play. Sort the digit cards into sets of three consecutive numbers with one card facing down and ask pupils to tell you the missing number. Ask them to chant the numbers as you point, revealing the missing number as you go. Focus on two consecutive numbers at a time, repeating the previous process, always asking pupils what number might come next.

During Guided Practice, pupils are discovering number patterns in consecutive numbers, increasing or decreasing by one each time. This can be done both in their Maths Journals and also by playing number games with other pupils to reinforce concepts of counting, starting from numbers other than 0 or 1 to go forwards, or starting at 10 and counting backwards.

**Misconceptions**

Pupils count 1 card as '1' rather than seeing each number as a representation of a number.
Pupils can rote count but not order numbers. Pupils can orally recite counting to 10 but cannot represent the digits numerically. Pupils may have difficulty counting backwards.

**Formative Assessment**

Pupils can count by 1 starting from 1 all the way to 10 and count backwards starting from 10 all the way to 1.
Pupils can identify missing numbers in any part of a sequence of 1 to 10 or 10 to 1.
Pupils can count forwards or backwards by 1 starting from any number.
Pupils can identify numbers in any part of a sequence, forwards and backwards.

**Non-negotiables**

Pupils can count to 10 forwards and backwards.
Pupils can identify the numerical notation of numbers to 10.
Pupils can associate the number name with the visual numeral.

**Variation**

Example 1: Counting forwards 3 numbers at a time, finishing the end of the sequence.
Example 2: Counting backwards from a number other than 10, identifying numbers mid-sequence.
Example 3: Counting forwards by 2 numbers at a time, finishing the end of the sequence.
Example 4: Counting backwards 3 numbers at a time, identifying numbers mid-sequence.

**Resources**

Linking cubes (10 between two)
Ten frames (one between two)
Base 10 materials – ones
1–10 digit cards (one set between two)
1–10 word cards (one set between two)

**Lesson 2- 5.9.2018**

[Go to workbook](https://mathsnoproblem.com/en/teacher-guides/year-1/workbook-1a/chapter-1/worksheet-2)

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**Counting Objects to 10**

Pages 4–6

**Lesson Objective**

To be able to count similar objects up to 10 with accuracy and fluency.

**National Curriculum**

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Identify and represent numbers using objects and pictorial representations.

**Lesson Approach**

To begin this lesson, place 5 everyday items with the same name in a basket. Items such as pieces of fruit or sweets work best. Take out one at a time and ask pupils to help you count how many there are altogether. Repeat the activity by hiding the basket, filling it with a number of items up to 10, and again ask pupils to help you count them. Then, show them the In Focus task. Ask them if they are able to count the apples in the basket in the picture. Give them a moment. Based on their responses, which are likely to be 2, 3 and 5, ask them how they got their answers. Allow them to discuss the fact that they could have counted only the red apples, only the green apples or the total number of apples.

It is important here that pupils can count objects with the same name and objects with the same name regardless of their colour, size and so on. Provide them with other similar scenarios (e.g. different coloured felt-tip pens, different coloured pencils, different sized oranges). It is also very important that they can count the objects using one-to-one correspondence.

Next, introduce a ten frame. Explain to pupils that each apple is represented using one cube; so we will count the same amount of cubes as there are apples. As you count how many apples are in the basket, place the cubes on the ten frame so they begin to get the idea of the value of each number said. As you introduce other fruits or objects make sure that pupils also get the hands-on experience of using the ten frame and placing cubes in the formation. Begin by filling one row of 5 then fill the other row, as this will support visualisation and understanding of the value of all numbers within 10. As you work through the activity remember that pupils will need to repeat it several times.

During Guided Practice, pupils are reinforcing their understanding of ten frames, counting objects within the frame to determine the amount.

**Additional Activity**

After the In Focus task, ask the pupils to identify how many beans you are shaking in a box. Place a small number of beans into a box and shake it. Ask pupils to use digit cards once they think they know how many are in there. Ask them to focus on things such as the type of sound the box makes when you increase or decrease the number of beans. How that might be helpful?

**Misconceptions**

Pupils count the basket while counting the apples (not understanding that we count objects with the same name).
Pupils count the spaces in the ten frame rather than the objects in the frame.
Pupils place the cubes in random places in the ten frame.
Pupils count objects more than once.

**Formative Assessment**

Pupils can count items in a ten frame in various arrangements (top row only, top and bottom row, patterned, etc.).
Pupils can categorise objects by types and colours and count them accordingly.

**Non-negotiables**

Pupils can count objects in a ten frame without counting spaces.
Pupils can associate the number of objects in the ten frame to the visual numeral.

**Variation**

Example 1: Counting 2 lemons, side-by-side in same row.
Example 2: Counting 6 pears, 3 side-by-side in the top row and the same in the bottom row.
Example 3: Counting 8 oranges, top row filled and bottom row starting from right side-by-side.
Example 4: Counting 5 apples, different colours and patterned arrangement.

**Resources**

Linking cubes
Ten frames (one between two)
1–10 word cards (one set between two)
1–10 digit cards (one set between two)

**Lesson 3- 6.9.2018**

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**Writing to 10**

Pages 7–9

**Lesson Objective**

To be able to read and write all numbers to 10 in numerals and in words; to categorise and count only objects with the same name in a group.

**National Curriculum**

Read and write numbers from 1 to 20 in numerals and words.

**Lesson Approach**

To begin this lesson, fill a box with two different types of objects (e.g. balls and dolls). Ask pupils to count the number of balls in the box. Ask the class to count together: 'One ball, two balls, three balls…' Mistakenly pull out a doll and count it as a ball. Ask them if this is correct. Ask them how we know it is not correct. Continue counting, repeating this mistake a few times.

As you count, model using a ten frame to show how to record an object as a counter. This will allow pupils to begin to understand the initial steps in being systematic. As the adult counts and places the objects on the ten frame, the pupils should be involved by having their own ten frames where they can show how many are being counted. Provide pairs or small groups of pupils with objects to organise themselves – 2 to 3 different types of objects is appropriate. Ask pupils to sort the objects into groups. Tell them your friend said he would group the objects by name. Is this a good idea? What might that look like?

Once pupils have grouped the objects, provide them with number and word cards. Ask them if they can match the objects in the group with the number first. Tell them, if they are having a clever day, they might also be able to find the right word that says the name of the number. Allow them some time to try to match the objects to the numbers and words. Can they show the number of objects using a ten frame? Give them time to do this.

During Guided Practice, help pupils represent the number of objects using ten frames, number cards and word cards. This can be done as a shared activity at tables or on the interactive whiteboard. Paying attention to the arrangement of the objects, ask pupils if it is possible to have the same number of apples as tea cups.

**Misconceptions**

Pupils count all objects on the shelf, rather than just the balls.
Pupils do not count the American football because of its shape.
Pupils get the words four and five or six and seven mixed up.

**Formative Assessment**

Pupils can count items of the same name.
Pupils can count items of the same name when part of the item is concealed (bread).
Pupils can count items in a variety of arrangements.
Pupils can count items of the same name when colours are different.
Pupils can write the number to represent the number of items counted.

**Non-negotiables**

Pupils can count items of the same name regardless of their arrangement, colour, visibility.
Pupils can represent the number of items counted in written form.

**Variation**

Example 1: Eggs are slightly different colour and positioned differently in each bowl. Final bowl has eggs that are partially covered.
Example 1b: Muffins on each tray have different number of chocolate chips, various positions and arrangements.
Example 2: Apples different colour/non-linear arrangement, mugs have one handle positioned on the opposite side/square arrangement, bread slices are not all easily visible and in linear arrangement, croissants on the plate in a new arrangement, eggs are different shape and in ten frame arrangement.

**Resources**

Linking cubes (10 between two)
Ten frames (one between two)
1–10 digit cards (one set between two)

**Lesson 4- 7.9.2018**

Top of Form

**Counting To Zero**

Pages 10–12

**Lesson Objective**

To be able to understand what zero represents and use it when counting; to be able to represent zero in its written form.

**National Curriculum**

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.

**Lesson Approach**

To begin this lesson, display the In Focus task on the whiteboard and then ask five pupils to be volunteers: four to be monkeys and one to be a tiger. Start with four monkeys in a row and the tiger far away. Ask the tiger to take a giant step closer: for each step the tiger takes, one monkey has to go away. After each step, ask the rest of the class how many monkeys are left. Continue in this way until the tiger is close and there are no monkeys standing. Lead pupils to what nothing means and how it is represented in its written form. Allow them to have access to ten frames.

After the role play, ask pupils if there is another way they think they could show four monkeys, and then three monkeys, and then two monkeys and so on. Is there a tool we have been using that could help us? Tell them your friend said that they could use a ten frame to show the four monkeys. Is this true? Can you show this? Redo the role play with them, this time with the counters. As they remove counters, have them say the number of counters that are left on the ten frame. Tell them your friend said that counting backwards and taking one away each time is the same thing. What did my friend mean by that?

**Additional Activity**

After the In Focus task, provide pupils with digit cards, 10-sided dice or lolly sticks numbered 1–10. They will also need a rectangular piece of paper divided into 10 equal parts and labelled from 0 to 10.

Ask pupils to pick a digit card or lolly stick or roll a die and shade in the corresponding number of boxes representing the number picked. Have them say the number and then count on to 10 and backwards to 0 from the shaded box.

**Misconceptions**

Pupils add a cube to represent the tiger.
Pupils count the ten frame spaces rather than seeing an empty frame as 0.

**Formative Assessment**

Pupils can recognise abstract numerals in their written form and represent them pictorially.
Pupils can use concrete materials to subtract.
Pupils can count forwards to 10 and backwards to 0 from any number.

**Non-negotiables**

Pupils can count backwards from numbers up to 10 to 0 using concrete materials.
Pupils can count backwards from numbers up to 10 to 0 when given a number in written form.

**Variation**

Numbers to 10 are represented with cubes. Each sequence has numerical representation and pictorial representation and concrete materials can also be used.

**Resources**

0–10 laminated number tracks (one between two)
Lolly sticks labelled 1–10 (or 10-sided dice)

# Lesson 5: Comparing Numbers of Objects – 10.9.2018

# Textbook pages: 13 – 16

# Lesson Objective

To be able to compare objects using matching and counting; to use the terms 'equal to', 'as many as', 'more than', 'greater than' and 'less than' as key terms.

**Lesson Approach**

To begin this lesson, show pupils a portion of the In Focus task and have them compare the rabbits and the mice. Ask them which group has more. Allow them some time to talk about this. Tell them that your friend said that there were more rabbits because they were bigger. Is this true? If an object is bigger does that mean there are more of them? Allow pupils time to discuss this idea. Ask them how we can be sure there are not more rabbits than mice. Are there any strategies they can think of? Allow them some time to discuss. Tell them your friend said that you could match them. What do they mean by that? How do we do that? Could we use counters to represent the rabbits and mice? Let them compare.

Then show them the picture of the rabbits and the squirrels. Ask them which group has more. Allow them to discuss. Tell them your friend said that there was an equal number of both because they take up the same amount of space. When we look at them, there doesn't look like there are more of either. Is this true? How can we compare them? Allow them some time to think about this and prompt them with the previous methods. Tell them you believe that there are more squirrels than rabbits. Is this true? How could we describe the rabbits compared to the number of squirrels? Is there a word we could use to say that there are not as many rabbits? Allow them some time to discuss and come up with possible solutions.

During Guided Practice, pupils are using matching as a key strategy to determine if there are a greater number, smaller number or equal number of objects in the pictures, using 'greater than', 'less than' and 'equal to' as key terms. Explicitly lead them to use these terms in their discussion.

**Additional Activity**

After the In Focus task, ask pupils to work in pairs to show 'more than', 'fewer than' and 'equal to' using counters and frames. It is suggested that all of the pupils complete each of the steps at the same time to begin with, so they are able to show the different categories confidently before doing it on their own.

**Misconceptions**

Pupils confuse size with number.
Pupils miscount due to colour variation in animals.
Pupils subitise incorrectly because items begin and end at same point.

**Formative Assessment**

Pupils can use the terms 'equal to', 'as many as', 'greater than', 'more than', 'fewer than' and 'less than' to compare a number of objects.
Pupils can count and compare objects of the same size and spacing with different colours.
Pupils can count and compare objects of the same size, with different colours and spacing.

**Non-Negotiable**

Pupils can count and compare two groups of objects using concrete materials.
Pupils can use the terms 'equal to', 'more than' and 'less than' to compare objects.

**Variation**

Example 1: Objects have different colours but same spacing and size; comparing using 'more than'. As an extension, ask pupils to think of another way of comparing using 'less than'.
Example 2: Objects have same spacing and size; comparing using 'less than'. As an extension, ask pupils to think of another way of comparing using 'more than'.
Example 3: Objects have same spacing and size; comparing using more and less than.
Example 4: Objects have different spacing but same size; determining if there are more or less green cubes.

**National Curriculum**

Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: 'equal to', 'more than', 'less than' (fewer), 'most', 'least'.

**Resources**

* Linking cubes (10 between two)
* Ten frames (one between two)

# Lesson 6: Ordering Numbers – 11.9.2018

# Textbook pages: 17 – 19

# Lesson Objective

To be able to order numbers to 10 and know which number is greater or is lesser in value.

Book Contents

**Lesson Approach**

To begin this lesson, prepare three plates with the same amount of items as in the In Focus task. Show the plates to the pupils and ask them to compare the items you have on the plates. Ask them which plate has the most. Allow them some time to discuss and count. Tell them your friend said that the 'doughnut' plate and the 'cookie' plate have the same number as each other because they are in the same formation. Is this true? How can we be sure? Allow pupils to count the items and determine that they do not have the same number.

Ask pupils how they can describe the amounts on the two plates of cupcakes and cookies. Does one plate have more than the other? Does one have less than the other? Which plates could be described that way? Provide pupils with counters and counting squares. Ask them if they are able to show you the number of items on the plates using counters? What about using number squares? Continue to ask them which has more? Which has less?

Draw their attention to comparing all the three plates of items. Which plate has more than the others? Which plate has less than the others? Tell them when comparing the numbers 5, 3 and 7, your friend said that 7 is the greatest. Is this true? What does being the greatest number mean? Provide them with a few examples using number squares from 1–10 and number cards.

During Guided Practice, pupils are comparing number cards and numbers to determine which numbers are the smallest and which are the greatest. They are also putting numbers in order from greatest to smallest and vice versa.

**Misconceptions**

Pupils think there are more cupcakes because they are larger.
Pupils see/subitise the same number of doughnuts and cookies based on their similar arrangement.
Pupils see 5 as 1 more than 3 as there is only 1 space between them on the number squares.
Pupils confuse numerical representations with actual number. Pupils have difficulty comparing numerical representations of numbers.

**Formative Assessment**

Pupils can count concrete objects to 10.
Pupils can count pictorial representations of objects to 10.
Pupils can count using number squares and recognise abstract numbers.
Pupils can compare 2 numbers and identify the smaller and greater numbers.
Pupils can compare 3 numbers and identify the smallest and greatest numbers.

**Non-Negotiable**

Pupils can recognise numbers up to 10 in concrete form and abstract notation.
Pupils can arrange numbers to 10 in order from smallest to greatest and vice versa.

**Variation**

Example 1: Terminology used is 'greater'. (a) Given 2 numbers arranged in increasing order, identifying the greater one. (b) Given 2 numbers arranged in decreasing order, identifying the greater one.

Example 2: Terminology used is 'smallest'. Given 3 numbers with the smallest number in the middle of the sequence rather than at the beginning or end, identifying the smallest one.

Example 3: (a) Arranging 3 numbers in order, beginning with the largest number. (b) Arranging 3 numbers in order, beginning with the smallest number.

**National Curriculum**

Identify and represent numbers using objects and pictorial representations including the number line, and use the following language: 'equal to', 'more than', 'less than' (fewer), 'most', 'least'.

**Resources**

* 1–10 number tracks (one between two)
* 1–10 number cards (one set between two)
* Counters

# Lesson 7: Comparing Numbers - 12. 9.2018

# Textbook pages: 20 – 22

# Lesson Objective

To be able to compare numbers using the terms '1 more than' and '1 less than'.

Book Contents

**Lesson Approach**

To begin this lesson, provide each pupil or pair of pupils with 6 cubes stuck together. Ask them what number is represented or is shown. Ask them how many different ways they can count the cubes (one at a time, in twos and so on). Tell them your friend said that they could show 1 more than 6 by using more cubes. Is this possible? How might they do that? Can we try? Show them the same rod of cubes next to another rod of cubes with 6 in one colour and 1 more cube of a different colour. Show them that it has 1 more and say that 7 is 1 more than 6, so 7 is more than 6. Do this with rods of different value. Then do a similar activity, however the second rod will have 1 less. Get them to verbalise that '5 is 1 less than 6' and '5 is less than 6'.

Lay one of each of the rods horizontally to make it easier to compare the value of each rod. Show this alongside a number line so that the pupils can see the value of each number and where they are within the relationship of 10. Ask pupils if it is possible to show 1 less using cubes. Would we add more cubes or take cubes away? What might this look like? Can we try? Allow pupils some time to experiment with other numbers, then showing 1 more or 1 less. This can be played for 5 minutes to consolidate the idea of 1 more and 1 less. Focus on getting pupils to use the correct vocabulary when they are answering the questions that are posed. The vocabulary should be in the context of a sentence, not just one-word answers.

During Guided Practice, pupils are practising their understanding of '1 less than' and '1 more than' a number.

**Additional Activity**

After the In Focus task, provide pupils with cubes. In pairs, they will construct a number using the cubes and then one partner will identify 1 more and the other 1 less. Allow them some time to take turns to consolidate their understanding by practising the use of '1 more than' and '1 less than'.

**Misconceptions**

Pupils see the objects stuck together as 1, rather than as 6 cubes.
Pupils show 1 more by adding a cube, but to show 1 less do not start with the number they had originally and only take away the cube they added.
Pupils confuse 'more' and 'less'.

**Formative Assessment**

Pupils can recognise numbers to 10 on a number line and using cubes.
Pupils can recognise the relationship between a number line and number squares.
Pupils can use the terms 'more than' and 'less than' in relationship to a number to 10.

**Non-Negotiable**

Pupils can use concrete materials to show 1 more and 1 less than a number to 10.
Pupils can use a number line to show 1 more and 1 less than a number to 10.

**Variation**

Example 1: Number is represented pictorially; looking for 1 more and 1 less than the number shown.
Example 2: Number is represented in abstract notation only; looking for any number less and then 1 less.
Example 3: Number is represented in abstract notation only; looking for any number more and then 1 more.

**National Curriculum**

Given a number, identify 1 more and 1 less.

**Resources**

* Linking cubes (10 each)
* 0–10 number lines (one between two)

# Lesson 8: Chapter Consolidation – 13.9.2018

# Textbook pages: 23 – 24

# Lesson Objective

To be able to apply knowledge of numbers to solve problems.

Book Contents

**Lesson Approach**

Mind Workout
Allow pupils to complete the word search in the puzzle to reinforce recognition of the written words for numbers 1 to 10. Ask them to identify which number is not in the puzzle.

Maths Journal
Ask pupils to write the following things: five apples, eight balls and two cakes. Guide them to use number words as well as numerals for them to read, write and illustrate.

Self Check
Complete this with pupils as a chapter summary and determine if any pupils need extra support.

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