

M29



10-15 minutes



- ❖ Dot and digit cards for 0, 1 and 2 (per child)

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0	1	2

- ❖ A rocket (only needed if you don't have a toy one)



- ❖ A two-row abacus
- ❖ A small toy figure (driver) and 2 toy cars
- ❖ A toy rocket (or use the picture provided)
- ❖ 2 blue and 2 red cubes or blocks

# ONE, TWO, BUCKLE YOUR SHOE



To introduce the concept of zero (nothing left) and its numeral  
 To confirm and consolidate understanding of the number concepts one and two, and learn their numerals  
 To demonstrate the correct way to sequence dot number cards and their corresponding numerals - from left to right with the lowest always placed furthest to the left  
 To foster the understanding that all the numbers have neighbours (the number that is one before and the number that is one after)  
 To foster the understanding that every next number in a number row is made by adding one to the previous number in the number row, and that taking one gives the number you started with



**Note:** We know that it is quite possible that your child already knows the written numerals for many numbers, and/or how to count to fairly high numbers, and works with small quantities in day-to-day life - especially if your child is already at the older end of the age range for this program. However, we encourage you to do this session and the coming ones, and not be tempted to skip them - even if the activities are really quick and simple for your child, and you finish in a fraction of the time indicated. Traditional approaches to early math rarely facilitate a deep understanding of the fundamental concept of number and focus mainly on counting and writing numerals. There is significant symbolic meaning that children need to attach to the numbers and number skills that they learn, or have already learnt, outside of this program, in order to develop exceptional mental abilities. Using the wording, activities and prompts indicated below with your child, and those from the coming sessions, will ensure that they go forward with this critically important and comprehensive understanding in place.

## Two, One and Nothing at All:

Place a two-row abacus on the table with all the beads on the right. Show your child 2 cars and 1 driver. Say: *Here is a driver - one driver.* Slide 1 bead on the top row to the left hand side. Say: *These are the cars - two cars.* Slide 2 beads on the bottom row to the left.

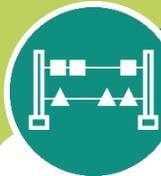
Now ask: *Is there a driver for every car? Which is more and which is less? Drivers or cars? Agree that there are more cars than drivers; there is 1 car; there are 2 drivers; 2 is more than 1 and 1 is less than 2.*

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Your child understands that neighbouring numbers in a number line differ by one, and that 1's neighbours are 0 and 2.  
 Your child understands the concept of zero (nothing left), and the 0 card that matches this.  
 Your child can match cards with the digits 1 and 2 to corresponding dot cards, and to towers consisting of 1 or 2 cubes.  
 Your child can count down from 2 to zero.  
 Your child can make 1 into 2 by adding 1, and 2 into 1 by taking 1 away.  
 Your child is able to think of different objects that come in ones, and different objects that come in twos.





# ONE, TWO, BUCKLE YOUR SHOE – continued



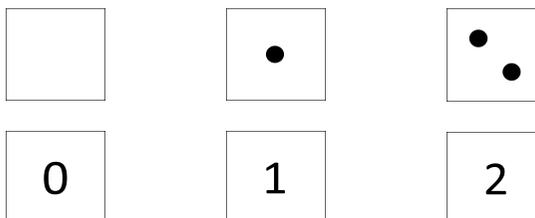
Show your child the 1 dot number card. Ask: *What does this card say?* Agree that it says 'one'. Then say: *You know that there is another way for a card to show 'one', right? We can show 'one' like this.* Show the digit card with the digit 1 on it.

Repeat with the 2 dot number card.

Now line up the 1 dot card and the 2 dot card, with the 1 dot card to the left of the row. Point and say: *One, two.* Place the corresponding digit cards underneath the dot cards. Point and say: *One, two.* Adjust the abacus so that there are 2 beads on the left of the top row and all other beads are on the right.

Ask: *How many beads can we see here?* Agree that there are two. Move one away to the right and say: *Only one bead left.* Move this bead away to the right and say: *Now we have zero beads, no beads at all, nothing left.*

Show your child the empty dot number card, and ask them what it says. Agree that it also shows nothing at all, zero, and place it to the left of the dot number card row. Then show them the card with 0 on it. Say: *This is another way to show zero, none left, nothing at all.* Place the card to the left of the digit card row.



## Rocket Count:

Put a rocket on the table. Talk about what happens when we launch a rocket – there's a big noise and flames come from the bottom. It can be very dangerous to stand close to the rocket. People come from miles around to watch the launch. However, no one wants to be looking the wrong way when the rocket takes off so when the rocket is about to be launched, there is a countdown. That's why the scientists there count the time backwards in seconds – 2, 1, 0 – blast off!

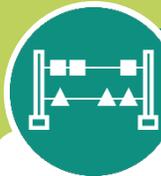
Count down together from 2 and 'launch the rocket', i.e. lift it high up above the table and carry it to a designated landing spot in your room.

## Name the Neighbours:

Slide 1 bead to the left of the top row on your abacus and 2 beads to the left of the bottom row. Point to the top row and ask: *What do we need to do to make one into two on this row?* (Add 1 bead.) Now point to the second row and ask: *What do we need to do to make two into one on this row?* (Take away 1 bead.)

Emphasise: *We always make the next number in a number row by adding one to the previous number; and if we take one away, we get the number we started with. So all the numbers have neighbours; one neighbour is the number that is the one before, the other is the number that is the one after.* Point to the digit row 0, 1, 2 and ask: *Who are number 1's neighbours?* (0, 2)

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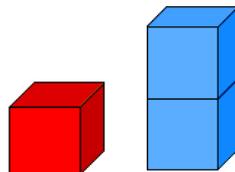
## ONE, TWO, BUCKLE YOUR SHOE – continued



### Red Tower, Blue Tower:

Give your child their own card showing the digit 1, their card showing the digit 2 and 4 cubes – 2 red and 2 blue.

Say: *Can you make a little red tower out of one red cube?* Once they have done that, ask: *Can you make a little blue tower out of two blue cubes?*



Ask: *Which is more and which is fewer, the cubes in the blue tower or the cubes in the red tower? So how can we make the towers equal, with one cube in each tower?*

Ask your child to hold up the digit card that says how many red cubes are in the red tower and then ask the same for the blue tower.

Finally, ask: *Can you see how to turn your one-cube blue tower and your one-cube red tower into two-cube towers? When they have done this correctly, ask them to hold up the digit card that says how many red cubes are in the red tower now.*

### What Comes in Ones? What Comes in Twos?

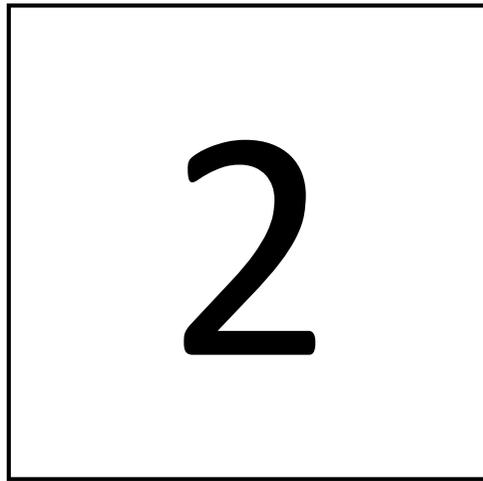
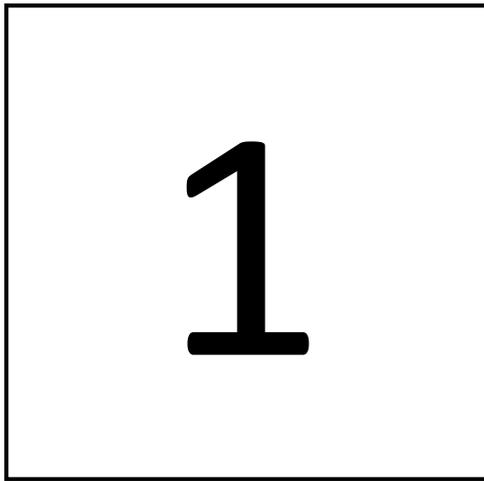
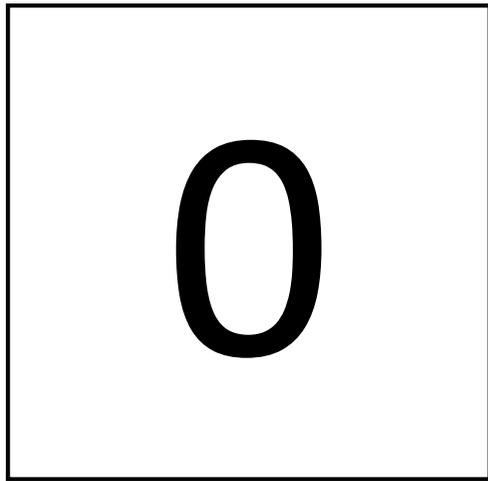
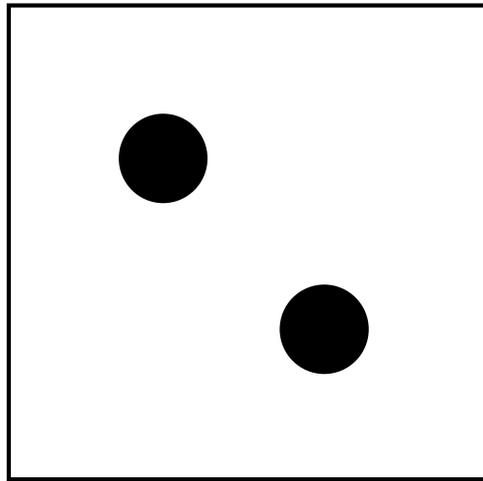
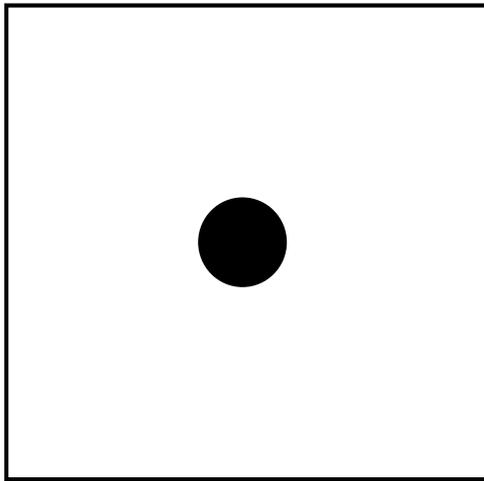
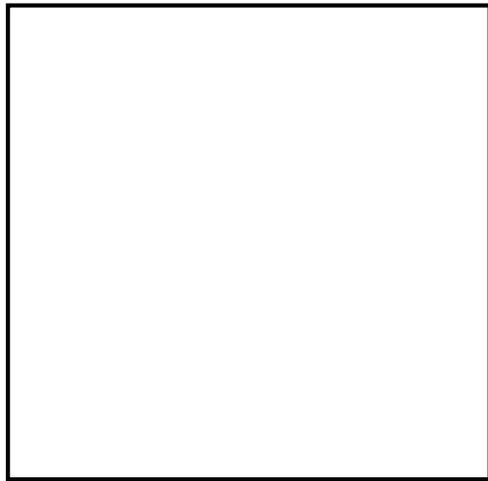
Play 'What Comes in Ones?' Your child has to think of as many things as they can in the world that come in ones. Give out a token for each correctly identified object. Possible answers include the Sun, the Moon, the Queen, nose, tail, neck...



Then play 'What Comes in Twos?' Possible answers include: Eyes, ears, hands, legs, gloves, socks, twins, shoulders, elbows, wheels on a bicycle and wings on a bird.

If your child would like to, they could make a poster of their ideas of all things that come in ones, and another for all the things that come in twos, perhaps with the corresponding numeral and dot cards in the centre of each poster.

Cut out each of the dot and numeral cards separately.



Cut out the rocket.

