

# Mathematics pitch and expectations

Foundation Stage

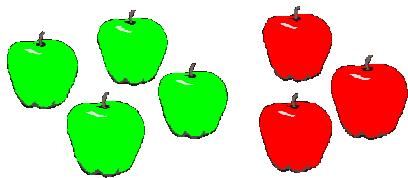
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## Foundation Stage

### Using and applying mathematics

- Use developing mathematical ideas and methods to solve practical problems**

Look at the apples.  
Are there more green apples or more red apples?  
How can you find out?



Who is taller, John or Julie? How can we find out?

Put the shortest of these paintbrushes in this pot.  
How did you find out which paintbrush is the shortest?

How many glasses do you think this jug of milk will fill?

There are four cups on the table. Put two more cups on the table. How many cups are on the table now?

There are five cubes in this box. I am taking out two of the cubes. How many cubes are left in the box?

Which of the jigsaw pieces will fit in the corner?  
How do you know?

Which of these three containers do you think will hold the most water? Why? How can we find out?

Put all the books on the shelf so that they are in order. Put the tallest one first.

Give everyone two biscuits from this box.

Share the biscuits out so that everyone has the same number.

There are three bricks in the box. How many more bricks must we put in the box to make five bricks altogether?

Make a line of toy cars.

Make the second car yellow.  
Make the fifth car red.

Here are five squares of the same size.  
Use some or all of the squares to make a bigger square.



- Match sets of objects to numerals that represent the number of objects**

This birthday card has 4 on it. Put the right number of candles on this birthday cake.

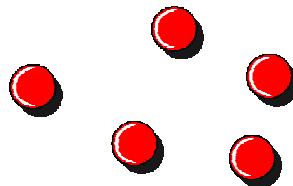
This number card says three.



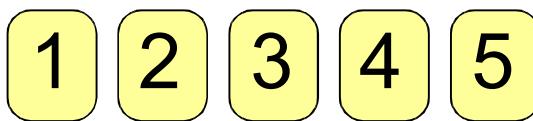
Put three shells with the number card.  
Now put the right number of shells with this number card.



How many red counters are there?



Pick up that number from this set of number cards.  
Put it with the red counters.



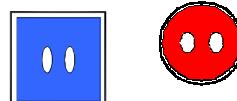
## Framework review

- Sort objects, making choices and justifying decisions

Here are some pebbles and shells. Put all the shells in this box.

Put all the squares inside this hoop.

Tell me one way in which these two buttons are the same.



Now tell me one way in which they are different.

### • Talk about, recognise and recreate simple patterns

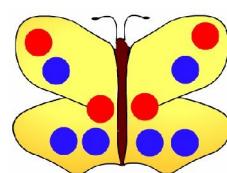
Use the beads. Copy this pattern.



Use the sponges. Continue this pattern that I have started.



Make a butterfly pattern.



Count the spots on each side of your butterfly.

- Describe solutions to practical problems, drawing on experience, talking about their own ideas, methods and choices

Look at all these leaves. How could you sort them?

Tell me how you have sorted the objects.

[Put seven cups and six saucers on a table.]

Tell me why you sorted the objects like that.

Here are some cups and some saucers. Find out whether there are more cups, or more saucers, or the same number.

How did you find out which of these four pencils is the longest?

How did you find out that there are more cups?

## Counting and understanding number

### • Say and use the number names in order in familiar contexts

Count with me to ten.

Finish this rhyme.

one, two, three, ...

*One, two, three, four, five,*

*Once I caught a fish alive...*

Count on from one for me as far as you can go.

I will say some numbers. I want you to count on the next three numbers.

one, two, three, ...

four, five, six, ...

What is the next number after four?

Start with two. Count on to seven.

Count back from ten.

What number is the one before six?

- Know that numbers identify how many objects are in a set

How many toys are there in this box?

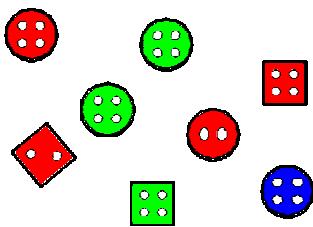
In the field there are four cows and three horses.

How many animals are there altogether?

Framework review

• Count reliably up to 10 everyday objects

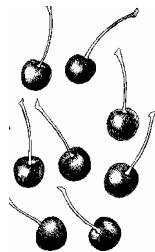
Count these buttons.



You can move them as you count them if you wish.

Put three aprons on this hook.

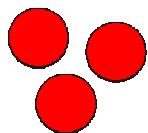
Count the cherries in this picture.



Take this box of cubes. Count out nine of the cubes and put them on the table.

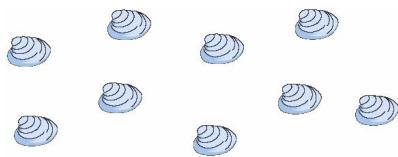
• Estimate how many objects they can see and check by counting

How many circles are there?  
Tell me without counting them.



Now check by counting.

Guess how many shells there are on the table.



Now check by counting them.

• Count aloud in ones, twos, fives or tens

I will clap where a number is missing.

1 2 3 [one clap] 5

Tell me the missing number.

I will clap where a number is missing.

2 4 6 [one clap] 10

Tell me the missing number.

I will clap where a number is missing.

20 40 60 [one clap] 100

Tell me the missing number.

• Use language such as 'more' or 'less' to compare two numbers

Are there more books on the top shelf or on the bottom shelf? How do you know?

[Put out a set of four red cubes, and a set of five green cubes, positioned randomly.]

Which plate has fewer biscuits on it? How do you know?

Which set has more cubes, the set of red cubes or the set of green cubes? How do you know?

There are eight cubes in this stick of cubes. There are five cubes in this stick of cubes.

Look at this group of cubes [eight cubes positioned randomly].

Which stick has more cubes? How do you know?

Now look at this group of counters [five counters positioned randomly].

Ella has three plums.  
David has two plums.  
Who has fewer plums, Ella or David?

Are there fewer cubes or fewer counters? How do you know?

Choose two cards from this set.



Which of your two numbers is more?  
Which number is less?

## Framework review

- Use ordinal numbers in different contexts

Look at this string of beads.



Point to the fourth bead. What colour is it?

Who is third in this line of children?

Look at this string of beads.



Point to the second yellow bead.

What colour is the bead that lies between the fourth bead and the sixth bead?

Find the fifth page of your picture book.

### • Recognise numerals 1 to 9

[Show the child a card, choosing from numeral cards 1 to 5.]

Read the number on this card.

Point to the number 4 on this telephone keypad.

[Put out numeral cards 1 to 10, face down in random order].

Turn over one of the cards and read the number to me.

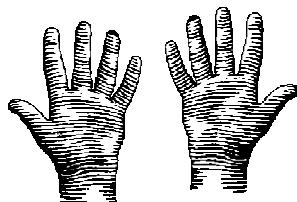
Point to number 10 on the number track.

Find page 8 in this picture book.

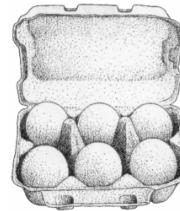
## Knowing and using number facts

- Observe number relationships and patterns in the environment and use these to derive facts

How many fingers are there on two hands?



How are the eggs arranged in the egg box?



How many eggs are there altogether in the box?

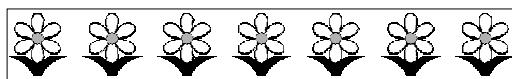
### • Find one more or one less than a number from 1 to 10

I am going to add one more cube to this set of these four cubes. How many cubes will there be then?

I am going to take away one of these five cubes. How many cubes will be left?

What number is one more than five? You can use the cubes to help you.

Take away one flower from this set of 7 flowers. How many flowers are there now?



I'm choosing a number for you from your set of cards.

Tell me the number that is one more than the number on your card.

Tell me the number that is one less than the number on your card.

## Framework review

- Select two groups of objects to make a given total of objects

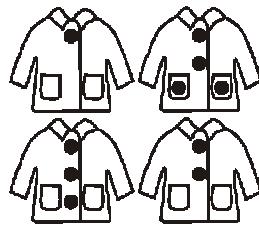
Show me five fingers. Use both hands.



Show me another way to do it.



[Make a set of jacket cards. Arrange them randomly on a table.]



Find two jackets that have four buttons altogether.  
Are there any other possibilities?

In how many different ways can we put five cakes on two plates?

## Calculating

- Begin to relate addition to combining two groups of objects and subtraction to ‘taking away’

There are four cups on the table.

Put two more cups on the table.

How many cups altogether are on the table now?

There are nine biscuits on this plate.

Take three of the biscuits to eat.

How many biscuits are left on the plate?

[Count 5 pennies into a purse and shut it.

Show 2 more pennies in your hand.]

How many pennies are there altogether?

We have four easels.

There are seven children who want to paint.

How many more easels do we need?

- In practical activities and discussion begin to use the vocabulary involved in adding and subtracting

One, two, three, ... What goes next?

Hop three spaces on this number track. Now hop two more. Where are you now?

Start with two. Hold it in your head. Count on to five.

I have two toys in a box.

I add four more toys to the box.

How many toys are there in the box now?

Find all the dominoes that have a total of six spots.

Count 5 small toys into this cloth bag. How many objects in the bag? Now count 2 more small toys into the bag. How many small toys in the bag now?

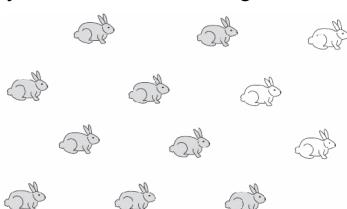
Show me 5 fingers on one hand. Show me 2 fingers on the other hand. How many fingers altogether?

I have hidden two cubes in this box. There are three cubes on the table. How many cubes are there altogether?

There are six toys in a box.

I take away three of the toys.

How many toys are left in the box?



How many grey rabbits are there?  
How many white rabbits are there?  
How many rabbits are there altogether?

What is the difference between the number of grey rabbits and the number of white rabbits?

Here are five toy cars.  
How many more cars are needed to make a set of eight cars?

John has four books.

Lisa has one book.

How many more books has John than Lisa?

## Framework review

- Count repeated groups of the same size

Count these pairs of socks.

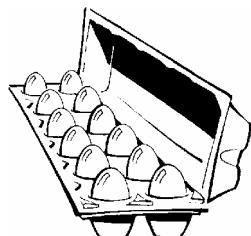
How many pairs are there?

How many socks are there altogether?



Count the pairs of animals on the Ark.

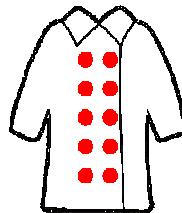
Count the eggs in this egg box.



How many buttons are there on this coat?

Count them in twos.

Count them in fives.

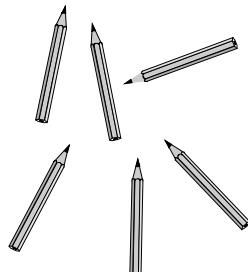


There are five paintbrushes in each jar.

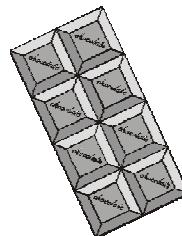
Count the paintbrushes.

- Share objects into equal groups and count how many in each group

Share these pencils equally between Asif and Ben.  
How many pencils will each of them get.



How many children can have two squares each of this chocolate?



Put half of these ten animals in the ark. How many of the animals are in the ark?

## Understanding shape

- Use familiar objects and common shapes to create and recreate patterns and build models

Copy this pattern.



Let's say together the shapes in your pattern.

*blue cube, green cone, blue cube, green cone, ...*

Find the next two shapes in the pattern.

Look at this pattern with me.

*big square, small square, big square, small square, ...*

What are the next two shapes in the pattern?

I have given you four cones.

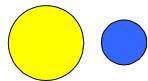
Put all your cones in order of size.

## Framework review

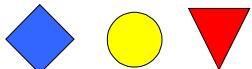
- **Use language such as ‘circle’ or ‘bigger’ to describe the shape and size of solids and flat shapes**

Look at this set of flat shapes.  
Put all the circles inside this hoop.

Point to the smaller circle.

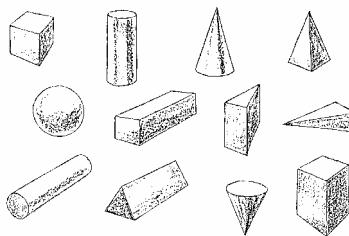


Which of these shapes is a square?



Pack this set of solid shapes into this box. Try to fit them all in. Tell me why this shape won’t fit in the box.

Look at this set of solid shapes.



Pick up:

- a shape with two faces that are triangles;
- a shape with six faces that are all squares;
- a shape with two faces that are circles;
- a shape with three faces that are rectangles.

## • Use everyday words to describe position

Put your animal in the middle of the table.

Now put the pig behind the sheep.

Put the cow in front of the horse.

Stand behind the table. Now walk in a straight line to the front of the room.

Who is sitting next to, beside, in front of Ranjit?

Are the felt pens on top of, under or next to the books?

Go forwards three steps. Now go backwards two steps.

Slide the book across the table.

Roll the ball as far as you can.

Turn on the spot.

Here are pictures of a ball, a horse, and a boat.

Put the ball above the horse.

Put the boat to the left of the ball.

Stand in front of, behind, beside, opposite a partner. Stand between two other children.

Follow my instructions to get through this obstacle course. Go over the mat, through the tunnel, climb to the top of the bars, ...

Turn to your right and face the window.

Make half a turn on the spot.

Which of these shapes will roll in a straight line?  
Which will roll in a curved line?

Follow my instructions to get through the maze.  
Move forwards, turn left, go straight on, turn the corner, ...

## Measuring

**• Use language such as 'greater', 'smaller', 'heavier' or 'lighter' to compare quantities**

Find, pick out or make objects that are taller, shorter, wider, thinner or heavier, lighter, ... than a given one, for example:

- a ribbon in the 'ribbon shop' that is wider than this one;
- a shell that is lighter than this one;
- a bucket that holds more than this one.

Which tree in the picture is the tallest? Which is the shortest?



Guess first, then check:

- how far up the wall you can reach;
- how far you can throw the bean bag;
- how far you can jump from this line;
- if this teddy is too tall for this bed;
- if the banana will balance the orange;
- how full this bottle will be when I pour in this jug of water;
- if all the water in the bowl will go into the bucket, or whether there is too much.

**• Use everyday language related to time; order and sequence familiar events and measure short periods of time**

Which do you put on first, your shoes or your socks?

What will we be doing later this afternoon?

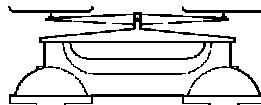
At what time of the year do the leaves fall off the trees?

What is your bedtime?

I am giving each of you six paper strips. Find two strips in your set which are the same length. Show them to me.

Now find a strip in your set which is longer than this one.

Have a look at the boxes on the table. Choose any two boxes. Use the balance to find out which the lighter box.



I'll put this box on one side of the balance (scales). Find a box which is heavier than this one. Now find a box which is lighter than this one.

How many cubes will balance the parcel on the scales?

How many glasses will fill the jug?

How many jumbo bricks do you need to make a tower that is as tall as you are?

These cards tell a story of how some children built a snowman. Put the cards in order.

Find and show me the card which shows Mary eating her school lunch.

Find me a card which shows what Mary does before school lunch.

Find me a card which shows what Mary does after school lunch.

Look at these pictures.

Point to a picture which shows something that you think happened in the morning.

Point to a picture which shows something that you think happened in the afternoon.

Point to a picture which shows something that you think happened in the evening.

## Handling data

- Sort familiar objects to identify their similarities and differences

Sort the cubes for me. Put all the cubes that are the same colour together.

- Count how many objects share a particular property, presenting results using pictures, drawings or numerals

Look at this set of coloured cubes. Count all the red cubes for me.

Now draw the red cubes that you have counted.

How many green cubes are there? Pick up that number from this set of number cards. Put it with the green cubes.

How many blue cubes are there? Pick up that number from the set of number cards. Put it with the blue cubes.

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