Mackenzie's Class
In Mackenzie's class there are 23 students. 14 students have brown hair. 2 times as many students have blonde hair as have red hair. How many students have each colour hair? Draw a diagram to show what you know.

There are 9 students left. You know that two times as many have blonde hair as have red hair. Make a table to try different numbers and see which pair fits the problem.

Planting Grapes
Murat has decided to plant grapes in the garden behind his house. His neighbour Volkan has grown grapes successfully for a long time and has given Murat advice about how to plant vines. Volkan told him to plant them three meters apart in rows that are three metres apart. He also told him to leave at least three metres between each vine and the edge of the garden. Murat has measured the size of his garden and learned that it's a rectangle with sides of 25 metres and 35 metres. How many vines should Murat buy?

Drilling Holes
Four holes are drilled in a straight line in a rectangular steel plate. The distance between hole 1 and hole 4 is 35mm. The distance between hole 2 and hole 3 is twice the distance between hole 1 and hole 2. The distance between hole 3 and hole 4 is the same as the distance between hole 2 and hole 3. What is the distance, in millimetres, between the centre of hole 1 and the centre of hole 3?

Wrapping Presents
Anita is wrapping presents for her friends. She has made 10 rings for 10 friends using brightly coloured polymer clay. She has bought 10 little jewellery boxes and now she is shopping for wrapping paper and ribbon. She estimates that she needs a rectangle of paper 20cm by 15cm to wrap each box. She finds lovely silver wrapping paper that is sold in 60cm x 60cm sheets. Since the paper is expensive, she does not want to buy too much. How many sheets should she buy?

Circling the Earth
The diameter of the earth is 12756 km, and the circumference of the earth is 40075 km. If 15 metre poles were erected all the way around the equator and a wire were stretched from the top of one pole to the top of the next pole, all the way around the equator, how long would the wire be?

Playhouse
The children built a log playhouse in a square shape. They used eight vertical posts on each side of the house. How many posts did they use altogether?
Circular Path
Mrs Roberts is an enthusiastic gardener. She has made a small pond in which she will keep fish and grow water plants. The pond has a circular plastic liner, 3 metres in diameter. Around the pond she will make a cement path, one meter wide. To be certain that the path is strong and will not crack, she wants the cement to be 20cm deep. A contractor will come to her house and make the path for $100 per cubic metre of cement. How much will the path cost?

Climbing Snail
A snail is climbing up a drainpipe. Each day the snail climbs 8.5 metres. Every night it rains, however, and when it rains the snail slips back down 1 metre. How many days will it take the snail to reach the top of the drainpipe, which is 45 metres high?

Only One Litre
Handan wants to make soup. The recipe says she should use one litre of water, but she does not have a one litre container. She has a five litre container and a three litre container. How can she use these two containers to measure one litre of water?

The Back Patio
Mr Baxter is making a pattern on the patio behind his house. It occupies an area of 3 x 3 metres, and he is using lovely terracotta tiles that are 1 square metre. However, he discovers that one of these tiles is broken, and he decides to place nine smaller tiles in the middle of the square to replace the broken tile. He likes this idea very much, and he decides to replace the middle small tile with nine even smaller tiles. What is the size of the smallest tiles in the middle of his pattern?

Cut the Dowel
A thick dowel stick has to be cut into eight pieces. Each cut takes you 30 seconds. How long will it take to cut the dowel stick into pieces?

Frog Down Below
A frog fell down an abandoned well which was 21 metres deep. He found it difficult to jump up the mud coated walls. He started his long jump up the well at 6:00 a.m. It took him 15 minutes to jump three metres because the walls were so slippery. At the end of every 15 minute period he rested for five minutes while he sadly slipped down one metre. He continued on at the same rate. At what time did he finally reach the top of the well?

Cubby by the River
Jane built a square cubby house on one side of the river. She used eight vertical tree branches for each side. How many branches did she use altogether?

Brett’s Tower
Brett built a tower using four different coloured milk cartons. The red carton was below the green carton. The blue carton was above the yellow carton which was above the green carton. Which carton is on top?

Cut the Pipe
Giovanni has to saw a pipe into seven pieces. If it takes him four minutes to make one cut, how long will it take to cut into seven pieces?
Spider Climb
A spider is climbing up a 30 metre building. Each day it climbs five metres and slides back one metre. How many days will it take to reach the top?

Lego Creations
Jacob is building a Lego figure. It takes him one and a half seconds to join two pieces. How long will it take him to join nine pieces into one long strip?

Happy Birthday Jeremy
Jeremy’s birthday cake was baked in the shape of a cube and was covered on every side with delicious pink icing. If it was cut into 27 cubes, how many pieces would have icing on no, one, two or three sides?

Room Arrangements
In the Year Four classroom the desks are organised in equal rows. Jane sits in the desk that is fourth from the front and third from the back. There are four desks on the right but only one to the left of Jane’s desk. How many desks are in the room?

Mrs Williams’ Travel
Mrs Williams became terribly lost on the way to an important meeting. She stopped and asked a farmer the way. He told her that some of the roads were flooded and she would have to travel a long way round to get to her meeting. The farmer told Mrs Williams to drive for four kilometres north, then to continue on for five kilometres in a westerly direction. She was then to travel south for two kilometres and then turn to the east for one kilometre and finally to travel north for one kilometre. She would then arrive safely at her meeting. So she could remember the way, Mrs Williams drew a map on one centimetre grid paper. Help her draw the map on the grid paper.

Angela’s Project
For her woodwork project, Angela has to hammer five nails into a piece of wood. The nails must be in a straight line and 0.75 centimetres apart. What is the distance from the first nail to the last?

The Vegetable Patch
Mrs Harriman decided to enclose an area of her garden to use as a vegetable patch. She had to make sure that the rectangular area was fenced on all sides so that the sheep would not wander in and munch on her vegetables. She used 26 posts to make the entire fence but used five more posts on the longer sides than the shorter sides. How many posts are on each side?

Annual Camp
On a camp, the students are lining up to collect their breakfast. There are 50 students in front of Ned. Ned is hungry so he decides to move towards the front of the line. Each time one person is given their tray, Ned slips past two students. How many students will be given their breakfast before Ned?

The Weekly Newsletter
Two hundred and twenty seven students were standing at assembly. Every tenth student was chosen to collect a newsletter. How many were chosen?
Building Homes
Five families are building project homes in an isolated area. Roads will have to be built to connect each house with all the other houses. How many roads have to be built?

How Does Your Garden Grow?
A gardener is asked to plant ten trees in five rows, with each row containing four trees. How did he do this?

Treasure Hunt
Ten objects must be buried in the garden for a treasure hunt. To make this easier the garden has been divided into an imaginary grid, five squares across by five squares down. To make the treasure hard to find it is important to hide the objects in different areas. You must make sure that no more than two objects lie in a line in any direction.

Snail Travel
A snail finds itself at the bottom of a deep well. The well is 1530 centimetres deep. Each day the snail struggles up 180 centimetres and then stops to rest. While it is resting the snail slides down 30 centimetres. How long before it reaches the top of the well?

The Great Marathon
The streets around the school have been closed off for the annual school marathon. During the marathon, the students must stay on the road and pass through all the Check points. Which is the quickest route they could choose without travelling through any part of the route more than once?

Eric’s Garden
Eric’s back garden is 10 metres by 14 metres in size. Each day Eric rides his tricycle down the three metre long path leading from the back door of his house to the garden and around the very edge of the garden four times. Then he rides back up the path where he leaves his tricycle. How far does he ride each day?

The Morning News
A morning news show is 30 minutes long. The weather is 1 minute longer than the sports. The commercials are 1 minute longer than 3 times the sports. The news is 1 minute longer than 4 times the sports. How many minutes long is the news portion of the show?

Knock Out
There are eight netball teams representing schools in the local area. The teams are playing in a netball competition to decide on the district champion. It is a Knock Out Competition, which means that once a team is beaten they leave the competition. How many games will be played during the entire competition?

Card Party
Ann is organising a card party and invites two of her friends to play. They each invite two other children. How many people will be playing cards?

Kim’s friends
Kim has four close friends – Karina, Rachel, Janine and Tricia. She is going to the pictures on Saturday but her mother says she can only invite two of her friends. How many choices does Kim have?
Shoes and Socks
Lilly’s dad is trying to decide what shoes and socks to wear on the first day of his new job. He has a pair of black shoes and a pair of brown shoes. He has five pairs of socks – blue, black, brown, green and grey. Lilly’s Dad wants to wear matching socks – and matching shoes. How many different combinations of shoes and socks are possible?

The Lings’ Grand Kids
Mr and Mrs Ling have four children. Each of their four children has two children of their own. How many grandchildren do the Lings have?

Handball Competition
At lunchtime Sita organises a Knockout Handball Competition with three of her friends, Julie, Penny and Wei. How many games are played in the competition?

David’s Rabbits
David had two rabbits, a male and a female. David’s rabbits then had four female baby rabbits. Each of these babies grew up and gave birth to five rabbits. How many rabbits did David have in the end?

New Baby Boy
Christina and Alex have a new baby boy but they can’t decide what to name him. There are three names they like, Joe, Paul and George, but they only want to give the baby two names. What different choices do they have?

School Lunch
Angela’s father is making her a sandwich to take to school for lunch. She is allowed to have two things on her sandwich and she can choose from cheese, tomato, lettuce and ham. How many choices does she have?

The Tennis Tournament
There are eight players in a Tennis Tournament. In every round the winners of each tennis game progress to the next round, but the loser is knocked out of the tournament. This continues until there is an overall winner of the tournament. How many games must be played to find the overall winner?

Peace Ceremony
Five students from different countries meet to plan an international peace ceremony. Each student shakes the hand of each other student. How many handshakes are there altogether?

Ice Cream
Maria is buying an ice cream cone. There are five different flavours of ice cream for her to choose from … chocolate, strawberry, banana, mango and hazelnut, but she can only fit two flavours on her cone. What different choices does she have?

Jaani’s Pet Mice
Jaani has four white mice, two males and two females. Each of the two couples has three female baby mice. Then each of these females has four babies. One night Jaani’s little sister Aisha leaves the mice cage open and eight escape. How many mice does Jaani have left?
Number Plates
There are four letters available to make up a car number plate, W, X, Y and Z. The number plate must have only three letters, but they can be placed in any order. How many different number plates can you make?

The Chess Competition
The local Youth Club is organising a chess competition. Each player must play each other player in the competition. How many games will there be for the whole competition if there are six chess players?

Lucy’s Dolls
Lucy has four dolls in different national costumes, which she wants to arrange on a shelf in her bedroom. She has a doll from Spain, a doll from China, one from Indonesia and one from Mexico. Help Lucy arrange her dolls by working out all the different ways she can arrange them. How many different ways are there?

A New Flag
A class enters a competition to design a new flag. They are given a choice of five colours: blue, red, green, orange and yellow. The flag must have three bands of colour, but the colours can be in any order. How many different flags can the class design?

The Election
A Chairman and Vice Chairman are to be elected from seven candidates. How many different results are possible?

The School Concert
A group of students are learning a long poem to perform at the school concert. Each week they are taught a certain number of verses. The first week they are taught one verse and by the end of the second week they know three verses. At the end of the third week the students can recite six verses and at the end of the fourth week they know ten. How many verses would they be able to recite after 12 weeks?

Fund Raising
We are running a fund raising concert in our School Hall. The first member of the audience comes in on her own, then a group of three friends come in together. Each time a group of people arrives there are two more than in the previous group. How many people will arrive in the twentieth group?

Making Change
How many different ways can you change a $1 coin into 50c, 20c and 10c coins?

Gym Visits
Susan and Marilyn both go the gym each week. Susan goes every three days but Marilyn goes every fourth day. If they both attend on Monday when will they next be at a class together?

Roller Coaster Ride
There were 18 people seated on the roller coaster ride. For every two seats there was one empty. How many empty seats were there?
Apple Picking
Arlene has a holiday job picking apples. Her employer is happy to pay her one cent or the first tree she picks, two cents for the second, four cents for the third and eight cents for the fourth. How much will she receive for the eighth tree she picks and how much will she earn altogether for the eight trees?

Hen Houses
A farmer has three different hen houses. One hen house contains red hens, the second black hens and the third white hens. Every day the red hens lay five eggs, the black hens lay eight eggs and the white hens lay three eggs. How many days will it take for the hens to lay a total of 80 eggs?

Farm Animals
There are 18 animals on the farm. Some are chickens and others are sheep. If you can count 50 legs how many chickens and how many sheep are there?

Simone’s Garden
Simone had three peach and three plum trees in her garden. For every eight ripe peaches she picked, she picked three ripe plums. When the trees were bare she had 64 peaches. How many pieces of fruit did she collect altogether?

Ball Bounce
Each time a bouncy ball bounces, it bounces to half the height from which it falls. If Jack drops a ball from a building and it rises to a height of 24 metres, how high will it bounce on the fifth bounce?

Biscuit Decorating
Nicole is baking 100 biscuits for the School Fete. She becomes bored with decorating the biscuits so she decides to vary the decoration. She tops every third biscuit with a nut, ices every fourth and places a cherry on every fifth. When she has finished all 100, how many biscuits will have all three decorations?

The Rowing Competition
Jessica is rowing along the coast to Sunshine Cove. Each day she rows less because she gets more tired. On the first day she covers 38 kilometres, on the second day 35 kilometres, on the third day 32 kilometres and on the fourth day 29 kilometres. How many days will it take her to cover the distance of 203 kilometres to Sunshine Cove.

The Bike Shop
A bike shop was selling bicycles and tricycles. In the shop there were 25 wheels. How many bicycles and how many tricycles were there?