Maths Week Ireland

Peter is a chef and uses maths on a regular basis. He has to make the correct amount of profit, so he uses maths to closely monitor his food cost, gross profit, staffing percentage and overheads. He also uses it for portion control and to ensure he orders enough food to cover his expected sales. Most importantly, he uses it to accurately scale up or down the recipe.

The table below illustrates the ingredients, their cost and quantities needed to bake **8 portions** of a sponge cake. Peter wants to bake a sponge cake for 128 customers. Fill in the missing quantities and cost for 128 portions. Count the cost for 8 and 128 portions. Use the space at the bottom of the page for calculations.

SPONGE CAKE (8 PORTIONS)			**SPONGE CAKE (128 PORTIONS)**	
Ingredients	**Quantity**	**Cost in €**	**Quantity**	**Cost in €**
Self– rising flour	200g	0.5		
Caster sugar	200g	0.8		
Eggs	6	2		
	Total cost:		**Total cost:**	

Maths Week Ireland

Patricia's dream is to be able to run comfortably the 5km distance. She asked Mark, the fitness instructor, to help her to achieve her goal. He wrote her an eight-week running programme that you can see below.

Can you answer a few questions that will help Patricia to understand her new running routine?

Q .1. How many days a week am I not doing any exercises? Answer:_____

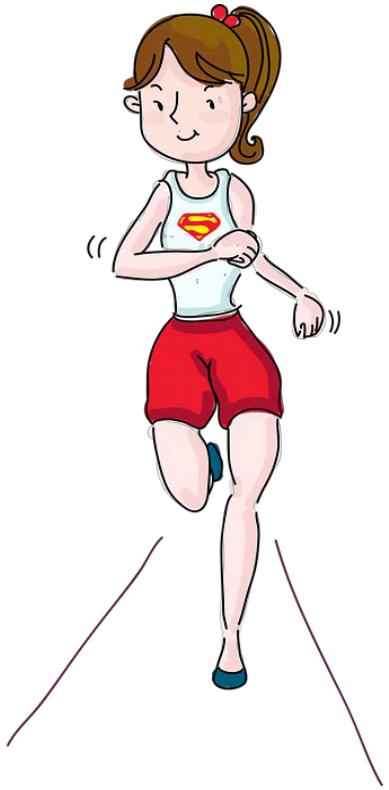
Q.2. Do I walk every Saturday? Answer:_____

Q.3. How many kilometres will I jog during the next 8 weeks? Answer:_____

Q. 4. When is my first run scheduled for and how far will I run that day? Answer:_____

Q.5. How many kilometres will I run in total before I go for my first 5km run? Answer:_____

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	Rest	1.5km (jog)	Rest	1.5km (jog)	Rest	30 minute (walk)	1.5km (jog)
2	Rest	1.5km (jog)	Rest	1.5km (jog)	Rest	30 minute (walk)	2 km (jog)
3	Rest	2 km (jog)	Rest	1.5km (run)	Rest	40 minute (walk)	1.5km (run)
4	Rest	2.5km (jog)	Rest	2.5 km (jog)	Rest	40 minute (walk)	2 km (run)
5	Rest	2.5km (run)	Rest	3 km (jog)	Rest	50 minute (walk)	3 km (run)
6	Rest	3.5km (jog)	Rest	3 km (run)	Rest	50 minute (walk)	3.5 km (run)
7	Rest	4 km (jog)	Rest	3.5km (run)	Rest	60 minute (walk)	4 km (run)
8	Rest	4.5km (jog)	Rest	4.5km (run)	Rest	Rest	5km run



Maths Week Ireland

Chris is a plumber, he owns his own plumbing business called "Magical Pipes". He is just about to bill one of his customers. As he is a little bit busy at the moment, maybe you can finish off the invoice for him?

Magical Pipes

PLUMBING INVOICE

Date:

Bill from:
Chris Cook
120 Main Street

Bill to:
Tom Trebor
7 Little Street

DESCRIPTION	QUANTITY	UNIT PRICE (€)	TOTAL
Copper Plumbing Pipe	4	13.5	
Compression Ring	2	1	
Pipe Insulation	4	1.5	
Compression Straight Connector	2.15	2	
Compression Brass 90 Degree Elbow	1.75	2	
Labour	5	30	
		Subtotal	
		Deposit	€20
		TOTAL	

Hair stylists use fractions to mix colour formulas for clients. In order to make each formula special, they mix colour tones together in 2 oz formulations to create unique looks.

Maria wants to get a warm, buttery blond colour.

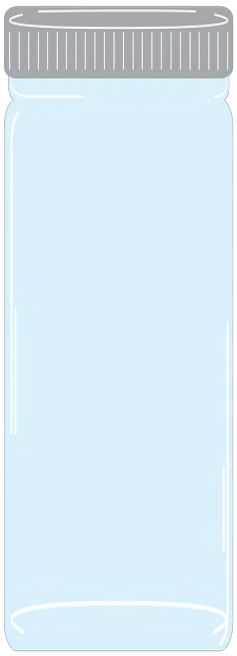
To get the desired shade the hairdresser has to mix 1 oz of dark golden blond, 1/2 oz of dark neutral blond, and 1/2 oz of light golden blond.

Task #1. Knowing that 1oz is 30 ml, convert the given quantities to millilitres.

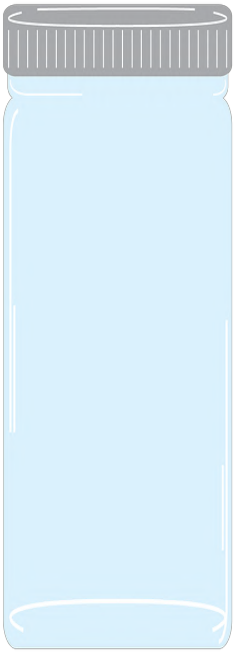
Oz	Millilitre
1	
2	
1/2	

Task #2.

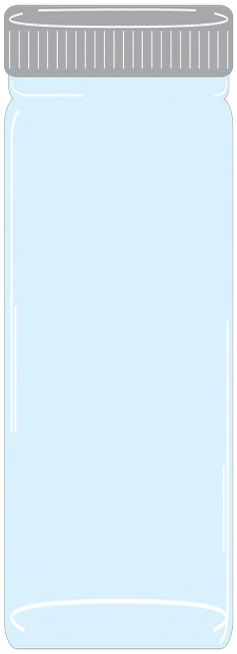
Each jar contains 60 ml of colour formula. Colour the amount that the hairdresser is going to use to colour Mary's hair.



Dark golden blond



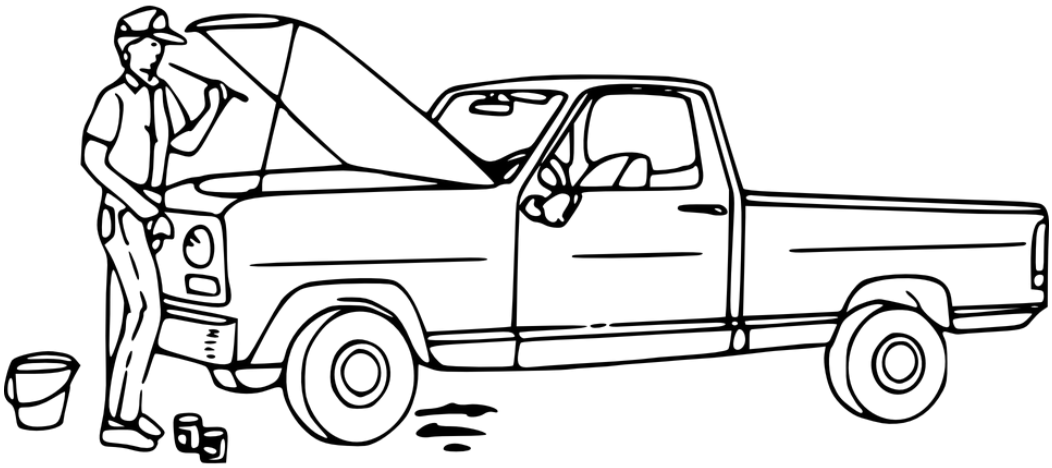
Dark neutral blond



Light golden blond

Maths Week Ireland

Fiona is a mechanic. On Monday Sinead brought her car to get the oil level checked in Fiona's garage. The dipstick read full, there was 4 litres of oil in it. Next Monday she came back as the oil was leaking. Fiona checked the oil again, and there was just a quarter of the oil left.



Question 1. How many litres of oil did she lose?

Calculations:

_____

Answer:_____

Question 2. How many litres/millilitres was the car losing per day?

Calculations:

_____

_____

Answer:_____

Maths Week Ireland

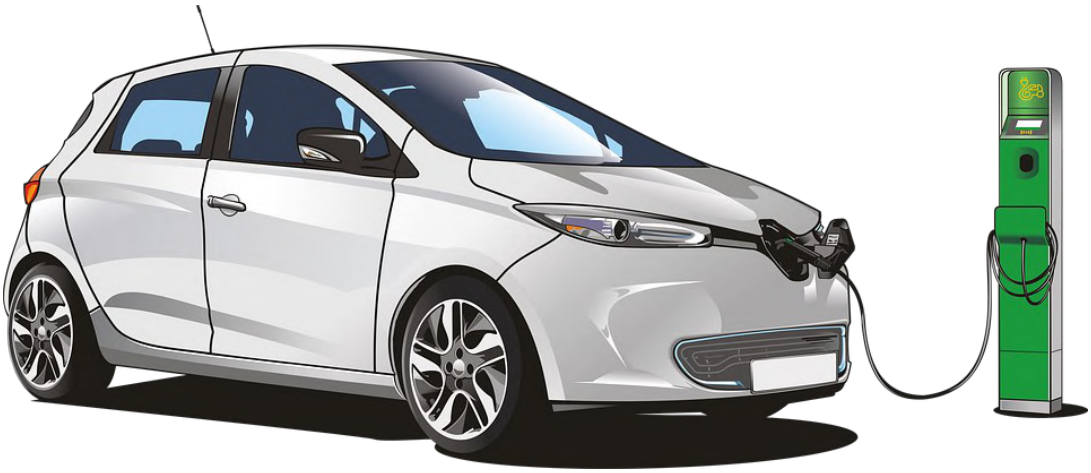
Hi, I'm Ethan and I am an engineer. I am a part of a team that designs electric cars. Have you heard about them?

Ethan's team has just designed an electric car called "Innocens" that comes with two battery options:

OPTION 1: The regular—"Innocens 100" - has a one-charge range of 200 km. This means you could travel 200 km on a single charge. The car costs €22,000.

Innocens 100

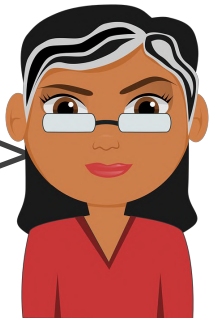
OPTION 2: The longer-range—" Innocens 200" - has a one-charge range of 250km. This means you could drive 250km without the need to recharge the car. This car is more expensive, it costs €26,000.



Innocens 200

Maths Week Ireland

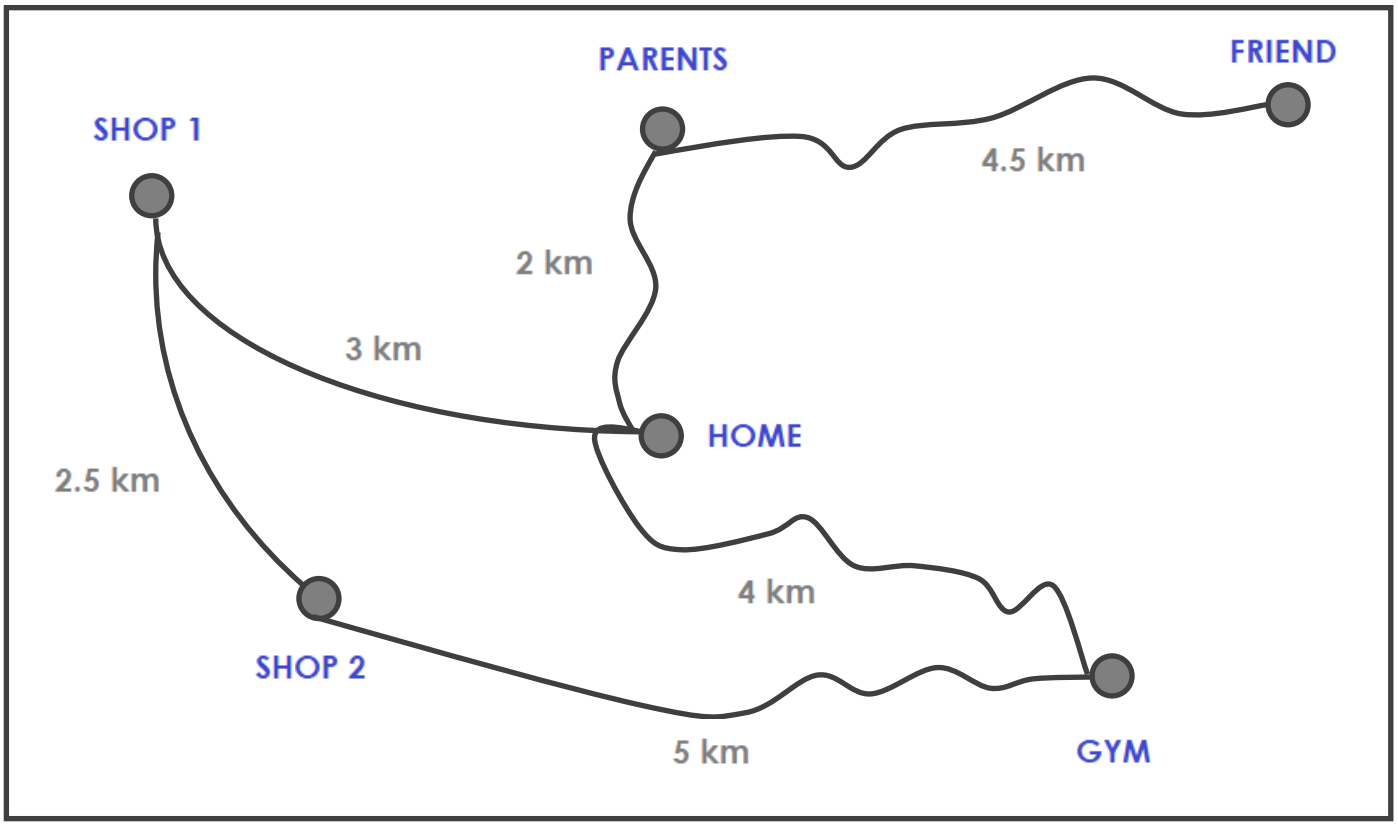
Hi, I'm Elisabeth. I want to buy the new "Innocens" vehicle, but I'm not sure which one. I work from home so I don't drive much. I don't want to charge the car more often than once a week and I don't want to spend too much money either…



Here is Elisabeth's **daily** driving schedule:

Morning: HOME—SHOP 1 — SHOP 2 — GYM — HOME

Evening: HOME — PARENTS — FRIEND — HOME



Remember, Elisabeth only wants to charge her car once a week. Will the cheaper car, the *Innocens 100*, suit her or will she need to buy the *Innocens 200*?

Calculations: _____

_____

Answer: _____

Data Analyst Activity

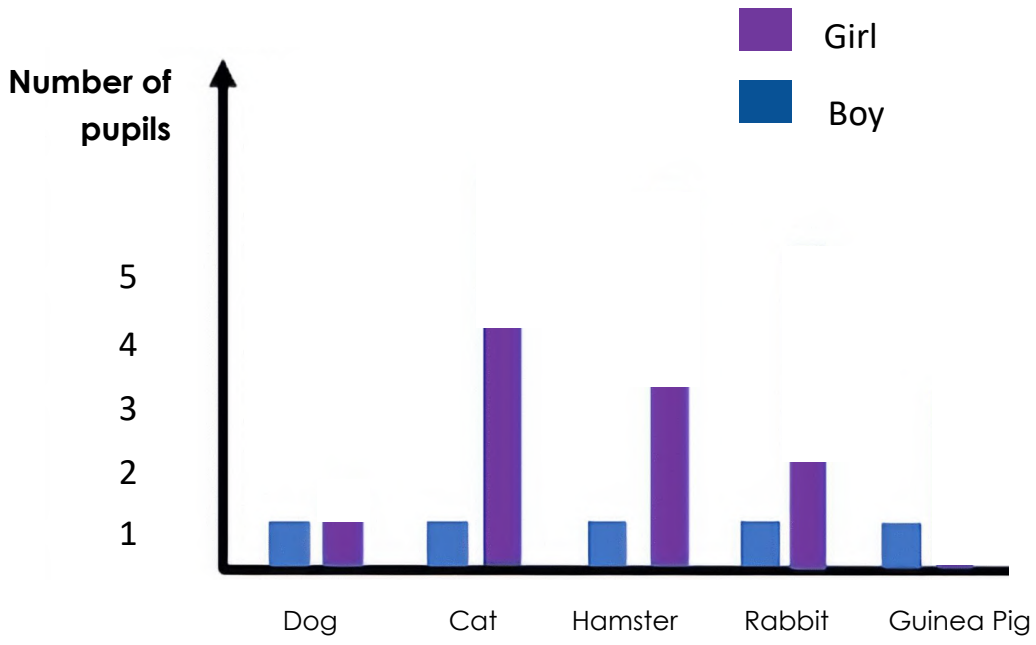
Print out the Interest Survey sheet (page 2) Hand them out. Allow few minutes to fill them in and then collect them.

Together, organise collected data.

You can use pictograms, multiple bar charts or pie charts. Analyse them together. Ask the pupils how would they improve the survey? What would they change? What was the purpose of it? Is every question equally needed?

You can divide them into groups and let them create their own surveys for topics that they are interested in.

EXAMPLE



FAVOURITE TYPE OF PET

Maths Week Ireland

Interest Survey

GENDER: Male ☐ Female ☐ Other ☐

1. What is your favourite type of pet:

Dog ☐ Cat ☐ Hamster ☐ Rabbit ☐ Guinea Pig ☐ Other ☐

2. What is your favourite type of book:

Fantasy ☐ Fiction ☐ Mystery ☐ Comics ☐ Non-Fiction ☐ Other ☐

3. What is your favourite physical activity:

Hurling/ Camogie ☐ Rugby ☐ Cycling ☐ Football ☐ Swimming ☐ Other ☐

4. What is your favourite kind of music:

Rock ☐ Rap ☐ Reggae ☐ Pop ☐ Classical ☐ Other ☐

5. What do you do in your spare time?

Playing video games ☐ Playing outdoors ☐ Watching TV ☐ Reading ☐ Socialising ☐ Other ☐