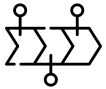
Knowledge Organiser Booklet Year 5

Spring 1

Name		Class	

Contents

Use your knowledge organisers to help you remember more.

	Test Yourself!	Only Connect! 	Memory Cards 	Order, Order! 	Phone a Friend! 	Picture it! 
1	Look at and study the definitions of the key vocabulary on your knowledge organiser.	Create a mind map, making connections and links with things that you remember without looking back.	Make your own information cards by writing questions about key vocabulary on one side of the card.	Using a simple line, sort information from your topic into chronological, sequential or hierarchical order.	Ask a friend or family member to have the knowledge organiser or memory cards in their hands.	Read over your knowledge organiser and the key vocabulary, remembering the definition.
2	Cover or hide the information on the knowledge organiser and write down everything that you remember.	Challenge yourself by covering or hiding the knowledge organiser, using what you can recall.	On the other side of the card, write the answer to your questions. You could add pictures to your cards.	Check these with a friend or family member, using data on your knowledge organiser, add more detail.	Get them to test you by asking different questions about the information on your knowledge organiser.	Using the information you remember, draw pictures or diagrams to represent words.
3	Check your notes! Correct your mistakes and add anything that you might have missed out.	Check what you have added to your mind map by using your knowledge organiser to correct any mistakes.	Ask a friend or family member to ask you the questions you created or to ask you new questions.	Challenge yourself by adding information you recall from previous topics which are related.	Write your own sentences using the key vocabulary to replace those on the knowledge organiser.	Showing your diagrams to friends or family, ask them to guess which word you have represented.

This is your Computing Knowledge Organiser for Spring I: Selection in Physical Computing

Tier 2 Vocabulary

connections

To join to something else.

Selecting which **sequences** make **connections** can make code more straight forward.

The **connections** made between students and teachers is incredibly important.

Making correct **connections** with parts will allow your code to run without any errors.

Key Vocabulary

infinite loop

A **sequence** that will continue endlessly.

A command that repeatedly runs a defined section of code indefinitely.

You might want to repeat some of the commands in your program, use the **infinite loop** feature to do so.

sequences

A series of related things or events and the order in which they follow each other.

Is the order in which the statements are executed.

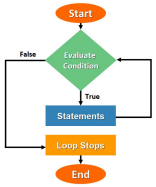
The **sequence** of a program is extremely important as it carries out instructions in correct order.

conditional loop

Similar to **infinite loop** , however something will intervene.

A command that repeatedly runs a defined section of code until a condition is met.

If you want your program to repeat to a certain point, insert a **conditional loop** to alter your sequences.



infinite repetition

The action of repeating something that has been said or written.

Part of a program where one or more commands are run multiple times in one **loop infinitely** .

If you want your sprite to move and flash at the same time, this would be an **infinite repetition** .

selection

The action or fact of choosing something or someone.

Part of a program where if a condition is met, then a set of commands is run.

The result of the **selection** determines which path which path the program takes next.

How this connects with previous learning

In Year 2, you started to learn about **sequences** and predicting outcomes. You learnt about commands and how to debug programs.

In Year 3, you learnt about the concept of **sequencing** and the order in which codes need to be placed.

In Year 4, you learnt about **repetition** and **loops** within a code.

How this connects with future learning

In summer 2, you will be learning how the 'If...Then...Else...' to select different outcomes depending on true or false.

In Year 6, you will be exploring variables in programming through games.

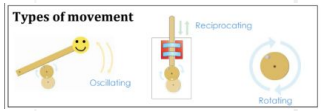
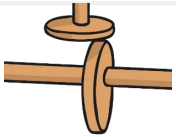
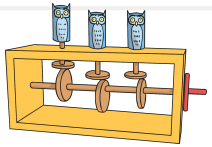
In Year 6, you will combine all your programming knowledge to create codes and run multiples programs.

Cams - Year 5 - Spring 1

DT Themes

mechanism	user	purpose
A device used to create movement in a product.	A person or thing that uses something.	The reason something is made or done.
In Year 4, we used a pneumatic **mechanism** to create movement.	In year 3, we made a moving greetings card. The **user** was a family member.	In Year 2, we made a toy vehicle for a small child. The **purpose** was to entertain the child.
Mechanisms have an input and an output.	We will be making moving displays. Our **user** will be a Year 4 child.	We will be deciding on a **purpose** for our moving displays.
We will be using a cam **mechanism** to create different types of movement.	The **user** guides our design criteria. This is because we want our finished product to be suitable for the user.	The **purpose** guides our design criteria. This is because we want our finished product to be fit or purpose.

Tier 2

off-centre	cam	shaft	crank
Not exactly in the middle of a space or surface.	A mechanism that changes one sort of movement to another.	A rod that turns round continuously in order to transfer movement in the machine.	A device that moves things in a circle.
We explored the impact of **off-centre** support when making freestanding structures in Year 2.	You can make your own **cam** by making an additional hole on a wheel.	The cams are placed on the **shaft**.	A **crank** can be turned by hand.or by machine.
A cam can be made from an **off-centre** wheel	A **cam** mechanism can make rotary, oscillating or reciprocating movement.	A **shaft** can hold one or more cams.	The **crank** will turn the shaft.
			

Key Vocabulary

How this connects with previous learning

In Year 2, you used wheels and axles to make a toy vehicle.	In Year 3, you used levers and linkages to make a moving greeting card.	In Year 4, you used pneumatics to make a moving creature.

How this connects with future learning

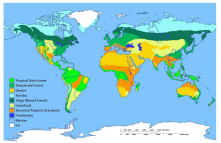
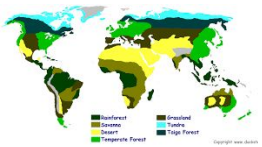
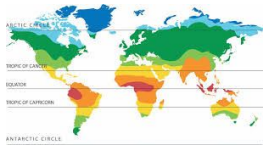
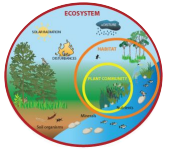
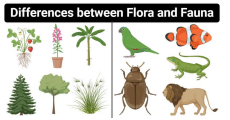
In Year 6, you will use a pulley system to make a moving scene.	In Year 6, you will use a complex electrical system to make an electrical board game.	In Secondary School, you will explore more advanced mechanical systems to enable changes in movement and force.

This is your Geography Knowledge Organiser for Spring I: Our Natural Planet

Tier 2 Vocabulary

physical	analyse
Relating to things in nature.	To examine something in detail.
In Year 4 you learnt about the **physical** features of the American continent	In Year 4 you **analysed** different sources of information to find out about volcanoes, earthquakes and tsunamis.
The different types of trees in an area are **physical** features and they help us to understand the **ecosystem**.	We can identify different **biomes** and **climate zones** because scientists and geographers have **analysed** data for many years.
Anything that you can experience with your five senses can be described as **physical.**	In order to understand what you are reading you must **analyse** the words.

Key Vocabulary

biomes	vegetation belt	climate zone	ecosystem	flora & fauna
A large naturally occurring community of flora and fauna occupying a major habitat	The plant life as a whole within a certain area.	Areas with distinct climates which might correspond to weather patterns	A natural community of interacting plants, animals and their physical environment.	Flora refers to all plant life and fauna refers to all animal life.
The world can be loosely categorised as having five main **biomes**- aquatic, grassland, forest, desert, and tundra.	Several factors impact **vegetation belts** including, climate, soil, the ability of soil to hold water, and the slope, or angle, of the land	The Köppen system divides **climates zones** based on rainfall and temperature: tropical, dry, temperate, continental climates, polar	An **ecosystem** can be as small as a pond or as large as an entire forest.	In order for **ecosystems** to be successful there should be a wide range of **flora and fauna.**
Scientist have divided the main five **biomes** into sub-categories e.g aquatic includes freshwater and marine **biomes.**	The Amazon Rainforest is a **vegetation belt** which features in several **biomes**- tropical rainforest, grassland & desert.	Some areas within a **climate zone** have a very localised climate and this is called a micro climate.	Human and natural factors influence how **ecosystems** develop and whether or not they thrive.	Sometimes one species of **flora and fauna** can dominate and this has to be carefully managed to protect the wider biodiversity of an area.
				

How this connects with previous learning

In Year 3 you examined how rivers shape the local ecosystems.	In Year 4 you learnt that tectonic plates had a huge impact on the structure of the earth.	In Year 5 you learnt that the world is divided by lines of latitude including the Equator and Arctic Circles.

How this connects with future learning

Knowing about the natural world will help you to understand global trade later in Year 5.	Widening your knowledge of flora and fauna links to your Year 5 science unit about life cycles.	Understanding that maps can be presented in varied ways to demonstrate different ideas will help in 'Map It' in Year 6

This is your PSHE Knowledge Organiser for Spring I: Health and Wellbeing

Key Vocabulary

assertive

Sometimes we may need to explain to others how their actions have made us feel so that they are aware when they have upset us. It is important to do this respectfully which is called being **assertive**.

Being assertive means being confident, clear, honest and sticking to the message we want to give.

It is useful to use 'I' statements so that the other person doesn't feel they are being blamed or attacked e.g., 'I don't want to play football today because I hate that I always have to go in goal'.

calories

We each need to consume a variety of nutritious foods, containing the different substances that we need to keep ourselves healthy; the body needs food for energy, to grow and to heal and repair itself following injury or illness; we feel good if our bodies are healthy.

Calories, the short name for kilocalories (Kcal), are the unit that we use to measure the amount of energy certain foods give us. We all need a different amount of energy. Our age, size and how active we are can affect the calories we need.

failure

Failure means to be unsuccessful in achieving a goal.

Finding things hard and failing can feel uncomfortable but failing is part of learning. Failing helps you identify your strengths and what to work on to improve.

Remember, "If you don't succeed, try, try and try again."

goal

A **goal** is something you want to achieve.

Having goals can help us achieve things and we will sometimes need to break these down in steps and work on the steps one by one.

You might want to write down your goals and the steps you need to get there to help you make decisions about your life, what you want to achieve and how you will get there.

protect

Protect means to keep someone safe from harm.

UV rays from the sun can damage our skin if we don't protect ourselves by using sun cream, a hat and sunglasses.

If you are worried about your health, talk to an adult you trust or your doctor. If you are worried that you are not safe, talk to one of your safe adults. You can also contact Childline: www.childline.org or 0800 1111

responsibility

Responsibility means being in charge of our own actions.

As we get older, we take on more responsibility for our physical and mental health.

We should establish good habits for sleeping; try to have a balance of different types of food in each meal or across a day; be physically active and connect with others.

How this connects with previous learning

In Year 3, we explored the different aspects of our identities. We learnt how to break down barriers by identifying small, achievable goals.

In Year 4, we explored growth mindsets and understood that mistakes are useful. We identified how to take responsibility for our own happiness.

How this connects with future learning

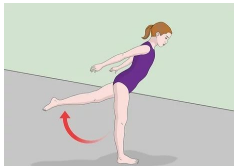
In Year 6, we will explore the potential impact of technology on physical and mental health. We will explore strategies to identify and respond to difficult situations.

In Year 6, we will understand ways that we help prevent ourselves and others becoming ill. We will explain how vaccination works and some of the benefits.

In KS3, we will learn that being healthy means having a positive state of physical, mental and social well-being.

This is your Physical Education Knowledge Organiser for Spring I: Gymnastics

Key Vocabulary

symmetry	sequences	aesthetics	counterbalance	asymmetry	combinations
The balanced arrangement of body positions, movements, or skills on both sides of the body.	A series of connected movements, skills, or elements performed consecutively without interruption.	The visual appeal, beauty, and artistic qualities of a gymnast's performance.	A technique or action used to maintain or restore balance by shifting the body's weight in the opposite direction.	The lack of balance or symmetry between different parts of the body or the execution of movements.	A series of connected movements or skills performed consecutively without interruption.
The gymnast displayed impeccable **symmetry** in her routine, with perfectly aligned body positions and movements on both sides.	The gymnast executed a flawless series of complex **sequences** , seamlessly transitioning from one skill to another with grace and precision.	The rhythmic gymnast captivated the audience with her routine, combining technical precision with artistic **aesthetics** to create a visually stunning performance	In their acrobatic routine, the two gymnasts achieved a stunning **counterbalance** pose.	Despite a minor slip-up, the gymnast quickly regained her balance and corrected the **asymmetry** in her body alignment.	The gymnast flawlessly connected a series of difficult skills in her routine, showcasing her expertise in linking **combinations** of jumps and turns.
					

How this connects with previous learning

In year 3 we learnt how to show increasing flexibility in shapes and balances.

In year 4 we learnt how to perform in time with a partner and group.

How this connects with future learning

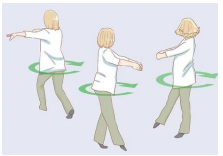
In year 6 you will learn how to experience flight on and off a high apparatus.

In year 6 you will learn how to compose and practice actions and relate to music.

In year 7 you will learn how to show a desire to improve competency across a range of gymnastics actions.

This is your Physical Education Knowledge Organiser for Spring I: Dance

Key Vocabulary

locomotion	steps	dance style	pivot step	compose	action
The movement or traveling of the body through space. It encompasses various forms of movement, such as walking, running, jumping, sliding.	The individual movements or actions performed by dancers as part of a choreographed routine or dance sequence.	A distinctive genre of dance that has its own unique movements, vocabulary, technique, aesthetics, and mood.	A specific movement where a dancer rotates or pivots on one foot while the other foot remains in contact with the floor or lightly brushes the floor.	The act of creating or choreographing a dance piece.	A specific movement or physical gesture performed by a dancer.
The choreographer used **locomotion** to create a seamless transition between dance phrases.	The dancer executed intricate **steps** with precision and grace, showcasing their technical skill.	The **dance style** of the performance was a fusion of hip-hop and ballet, blending urban and classical elements.	The **pivot step** added a dynamic and dramatic element to the jazz routine, creating a visually captivating effect.	The soloist's improvisation added an element of creativity to the **composed** sections of the dance.	The dancer added a jump and showed travelling within their routine which used different **actions** .
					

How this connects with previous learning

In year 3 you learnt how to modify actions independently using different directions and shapes

In year 4 you learnt how to use compositional ideas in a sequence.

How this connects with future learning

In year 6 you will learn how to how to perform in increasingly complex sequences.

In year 6 you will learn how to demonstrate accuracy, consistency and clarity in your movements

In year 7 you will be able to put a routine together with fluidity.

This is your Religious Education Knowledge Organiser for Spring I: Celebrations & Festivals

Tier 2 Vocabulary

observe

To notice or see.

In Year 3 you learnt about how world religions **observe** special ceremonies such as baptisms and Bar mitzvah.

In Year 4 you will learn how different religions **observe** important celebrations and festivals on the religious calendar.

In this unit we will ask you to use your **observation** skills to learn how people celebrate and recognise special occasions, people and events.

Key Vocabulary

festival

A religious festival is a time of special importance for believers of all faiths. Religious festivals are commonly celebrated annually.

Festivals are a time in each religions calendar when a special story, event or people are remembered and celebrated.

Religious celebrations bring faith communities together to celebrate these shared beliefs and values. They are often a time of great celebration and help believers to remember important beliefs in their religion.

Easter

Easter is the most important festival in the Christian calendar. It celebrates **Jesus** rising from the dead, three days after he was executed.

Christians believe that the events surrounding Jesus' death and **resurrection** took place during the last week of his life in Jerusalem. In the Christian calendar, this week is known as 'Holy Week'.

For Christians **Good Friday** is the most solemn day of the year. It is when they remember Jesus' death on the cross. Christians believe that on this day Jesus showed the greatest possible goodness by dying for the sake of humanity.

Diwali

Diwali means festival of light and celebrates the victory of light over darkness. The five day festival is celebrated by millions of Hindus and Sikhs.

For many people this five day festival honours **Lakshmi** , the goddess of wealth. Lamps are lit and windows and doors are left open to help Lakshmi find her way into people's homes.

Other ways that Hindus celebrate the festival include:
-Lighting small oil lamps called diyas.
-Spring cleaning the home
-Wearing new clothes
- Exchanging gifts, often sweets and dried fruits, and preparing festive food
-Decorating buildings with fancy lights
-Huge fireworks displays

Eid

The Muslim festival of Eid is celebrated at the end of Ramadan - the month of fasting. Eid is celebrated on the first day of the 10th month of the Islamic calendar.

Eid marks the end of a month of fasting from dawn to sunset.
Like the beginning of Ramadan, Eid begins with the first sighting of the new moon.

'Eid' means **'celebration'** – it a feast or a festival. **'Eid-ul-Fitr'** means **'Festival of Fast Breaking'** . During Eid families eat food together, presents are exchanged and everyone is dressed in their best clothes.

Pesach

Passover (or **Pesach** in Hebrew) is an important festival in the Jewish year. Passover marks the exit of the Jewish people from Egypt, where they were enslaved, as told in the Old Testament. This is known as the Exodus.

On the evening before Pesach starts, Jews have a special service called a **Seder** (Order). This takes place over a meal with family and friends at home.

The Seder is a Jewish meal that has been eaten for thousands of years during the Pesach or Passover festival.
During the Seder meal Jewish families will sing, read the Passover story and eat some symbolic foods arranged on a traditional Seder plate.

How this connects with previous learning

In Year 3 you learnt how Hindus express their faith through the rituals of puja, aarti and bhajans. Rituals are an important part of daily worship and celebration.

In Year 4 you learnt about a special Sikh ceremony called taking Amrit. This is a way for Sikhs to show commitment to God and celebrate being part of the Khalsa.

How this connects with future learning

In Year 6 you will be learning about how places of worship are used for personal and religious celebration and reflection.

In Year 6 you will be considering the similarities and differences between beliefs and behaviours in different faiths.

In Year 6 you will learning about religious celebration in religious art and architecture,

This is your Science Knowledge Organiser for Spring I: Forces

Scientific Enquiry

researching

Researching means using secondary sources to find information. We will **research** the work of Galileo Galilei and Isaac Newton.

comparative & fair testing

Comparative testing means testing objects to rank them. **Fair tests** are enquiries that observe or measure the impact of changing one variable when all others are kept the same. We will investigate and explain: the effect of friction in a range of contexts such as trainers and bathmats; the effects of air resistance in a range of contexts such as such as parachutes, spinners and sails on boats; the effects of water resistance such as by dropping shapes through water and pulling shapes along the surface of water.

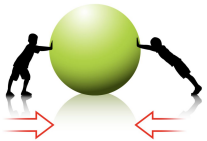
Working Scientifically

Asking scientific questions
Planning an enquiry
Observing closely
Taking measurements
Gathering and **recording** results
Presenting results
Interpreting results
Concluding (drawing conclusions)
Predicting
Evaluating an enquiry

Subject Specific Vocabulary

force

A **force** causes an object to start moving, stop moving, speed up, slow down or change direction.



Some **forces** are contact forces such as air resistance, water resistance and friction. Some **forces** are non contact forces such as magnetism.

gravity

Gravity is a force that acts at a distance. Everything is pulled to the Earth by **gravity**. It is acting on us all the time, otherwise we would float away.
Gravity causes unsupported objects to fall towards Earth.

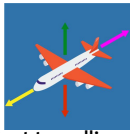
There are different levels of **gravity** on the Moon and other planets.

The scientists Galileo Galilei and Sir Isaac Newton helped to develop the theory of **gravitation.**

air and water resistance

Air and **water resistance** are contact forces that act between moving surfaces. The object may be moving through the air/water or the air/water may be moving over a stationary object.

An object travelling through the air will feel the effects of **air resistance.**



An object travelling through water will feel the effects of **water resistance.**

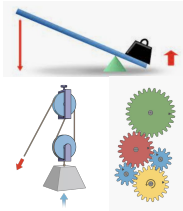
friction

Friction is a contact force. It is the resistance that one surface or object encounters when moving over another.

Different surfaces will exert a different amount of **friction** on an object. A smooth surface, such as a table will exert less **friction** than a rough surface, such as a carpet.

mechanisms

A **mechanism** is a device that allows a small force to be increased to a larger force. The payback is that it requires a greater movement. The small force moves a long distance and the resulting large force moves a small distance, e.g. a crowbar or bottle top remover.



Pulleys, levers and gears are all **mechanisms** or simple machines.

Things you learnt in previous topics

In Year 3 you compared how things moved on different surfaces. You noticed that some forces need contact between two objects. You compared and grouped together everyday materials on the basis of whether they are attracted to a magnet, and identified some magnetic materials. You described magnets as having two poles and predicted whether two magnets will attract or repel each other, depending on which poles are facing.

How this connects with future learning

In KS3, you will describe forces as pushes or pulls. You will use arrows in diagrams and explain moment as the turning effect of a force. You will associate forces with deforming objects; stretching and squashing; with rubbing and friction between surfaces, with pushing things out of the way; resistance to motion of air and water. You will measure forces in Newtons and know measurements of stretch or compression as force is changed.

This is your Science Knowledge Organiser for Spring I: Earth & Space

Scientific Enquiry

researching

Researching means using secondary sources to find information. We will find out how ideas about the solar system have developed, understanding how the geocentric model of the solar system was replaced by the heliocentric model by considering the work of the scientists Ptolemy, Alhazen and Copernicus. We will use research to create a model or role play to show the movement of the Earth around the Sun, the Moon around the Earth and why day and night occur. We will research and explain why we have time zones.

pattern seeking

Pattern seeking means looking for links between variables. We will observe and record how shadows caused by the Sun change through the day identifying any patterns.

Working Scientifically

Asking scientific questions
Planning an enquiry
Observing closely
Taking measurements
Gathering and **recording** results
Presenting results
Interpreting results
Concluding (drawing conclusions)
Predicting
Evaluating an enquiry

Subject Specific Vocabulary

Earth

The planet we live on is called **Earth.** It travels in a slightly flattened path, called an **orbit**, around the sun.

Earth takes 365 ¼ days to complete its orbit around the Sun.

rotate

Rotate means to spin or turn around an axis which may be visible or invisible.

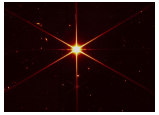
The Earth **rotates** on its axis every 24 hours. As Earth rotates half faces the Sun (day) and half faces away from the Sun (night). As the Earth **rotates,** the Sun appears to move across the sky.

the Sun

The **Sun** is a star. It is at the centre of our Solar System. The **Sun** is a great spinning ball of hot, glowing gas.

star

A **star** is a celestial body. A giant sphere of hot gas. The **Sun** is a type of star.



moon

A **moon** is a celestial body (a naturally occurring object in space) that orbits a planet. Earth has one **moon** which orbits the Earth taking about 28 days to complete its orbit. Jupiter has four large moons and several smaller ones.

orbit

The **orbit** is the path that an object, such as a planet, travels around a particular point in space such as the Sun. Orbits are determined by gravity.

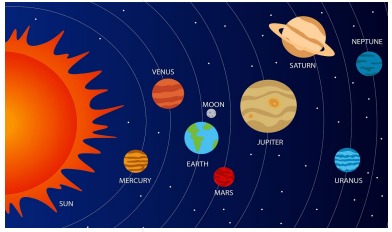
spherical

A **spherical** shape is a round, three-dimensional shape.

The Sun, Earth and Moon are approximately **spherical.**

solar system

There are 8 planets in our **Solar System** including Earth. These travel around the Sun in fixed orbits. The planets in our **Solar System** are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. (Create a mnemonic like this to help you remember them: **M**y **V**ery **E**xcellent **M**other **J**ust **S**erved **U**s **N**achos!)



Things you learnt in previous topics

In Year I, you observed changes across the four seasons. In Year I, you also observed and described weather associated with the seasons and how day length varies.

How this connects with future learning

In Secondary School, you will measure the force of gravity. You will learn that on Earth g=10 N/kg and this is different on other planets and stars. You will learn about gravity forces between the Earth and the Moon and between the Earth and the Sun. You will learn about the Sun as a star, other stars in our galaxy and other galaxies. You will learn about why we have seasons and the Earth's tilt; why day length differs at different times of year, in different hemispheres.

This is your Spanish Knowledge Organiser for Spring.

Frutas y verduras
Fruits and vegetables

	manzana
	naranja
	pera
	plátano
	sandía
	fresa
	tomate
	brócoli
	ensalada

Productos animales
Animal products

 pescado	 * carne *	 pollo
 jamón	 queso	 huevo

Bebidas
Drinks

 ** agua **	
 zumo	

Otros
Others

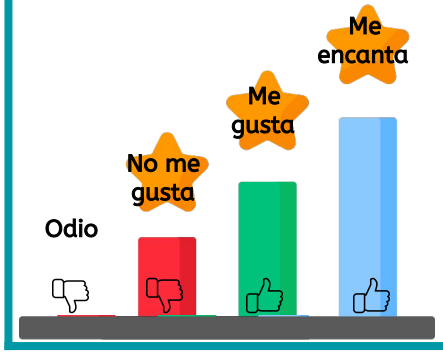
 pasta	 arroz
 pan	 yogur


beber


comer

Vebos
Verbs

com**o**	→	*I eat*
com**es**	→	*You eat*
com**e**	→	*He/She eats*



Me gusta + el / la + ...

Me gustan + los / las + ...

Me encanta l**a** past**a** y el arroz.	I love pasta and rice.
No me gusta n las naranj**as**.	I don't like orange**s**.
Odio l**as** naranj**as**.	I hate orange**s**.
Me gusta l**a** past**a**.	I like pasta.
Como un**a** hamburgues**a** con queso.	I eat a cheese burger.
Bebes un zumo de naranj**a**.	You drink an orange juice.

Comida basura
Junk food

	hamburgues**a**
	patat**as** frit**as**
	bocadillo
	pizz**a**
	sushi
	chocolate
	gallet**a**
	helado
	tart**a**

new wave federation

To help you remember and recall key information, you can make your own additional notes here.

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At New Wave Federation, we demonstrate...

new wave federation

- Collaboration
- Creativity
- Focus
- Kindness
- Responsibility