



# Knowledge Jigsaw

## Year 6 Computing HT4



### What we already know

An algorithm is a **precise** set of **ordered steps**, which can be followed by a human or a **computer to do a task**.

A **block** that repeats the command inside it forever makes an **infinite loop**.

A **count-controlled** loop repeats a command a certain number of times.

A **condition** is a statement that can be either **true** or **false**. Programmers can use conditions to trigger **actions**.

Conditions must be phrased as a question with just two options, **yes** or **no**.

When you have written a program it is important to check it works and correct any errors. This is called **debugging**.

A programmer might want a set of actions to be carried out if a condition is met.

This is called **'selection'**.

The structure **if...then...** is used when giving these commands.

A **variable** can be set and changed throughout the running of a program.

To make a variable:

Click on the variables button on the left hand side and then choose 'make a variable'.



Name the new variable and press ok.

### Online safety – Online Bullying

It is important to capture bullying content and this can be done by screen grabbing and sharing someone's message.

A variable is a placeholder in the memory of a computer. It can hold **one value** at a time.

Each variable in a program is **named**.

If the value of a variable is changed, the new value replaces the previous value.

Each variable is named so that you know what they contain.

Variable names should be short and unique. They should contain underscores instead of spaces e.g. Home\_team.

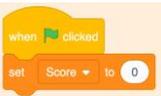
### Online safety – Online Bullying

Reporting harmful behaviour is important to stand up against unacceptable behaviours that harm yourself and others.

If you see something harmful online, it is important to tell an adult and report it immediately.

It is everyone's duty to challenge harmful behaviour.

The value of the variables need to be reset at the start of each game.



E.g.

A program can use the value of a variable to perform different tasks.

Operator blocks can be used to do this.

The program uses the value of the variable to determine the action taken.

E.g.



An **algorithm** is a precise sequence of instructions, or set of rules, for performing a task.

### Online safety – Managing Online Information

Some online information can be opinion. Some people may present 'opinions' as 'facts' in order to manipulate or persuade you.

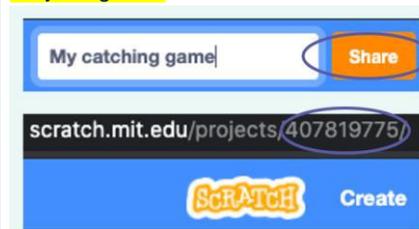
When naming a variable it is important to select a name that clearly identifies its role.

You need to test a set of code when you have written it to check it works. If it doesn't, you need to correct any errors. This is called **debugging**.

### Online safety – Managing Online Information

Persuasive design is designing a webpage so that it persuades users into what the company wants.

To share your project in Scratch, firstly give it a name in the box at the top and then click share. This will create a URL for your game.



### Online safety – Managing Online Information

Facts, statistics and other claims made online may not be true.

To check whether something online is true, consider whether the claim could be proven or backed up from other sources.

# Knowledge Jigsaw

## Year 6 Science HT4



### What we already know

MRS GREN is an acronym to help me to remember the necessary features of all living things. Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion & Nutrition.

A life cycle shows how things are born, how they grow and how they reproduce.

David Attenborough and Jane Goodall are key individuals who have helped develop people's understanding of the environment and animals' emotional intelligence.

#### Parts of a Plant

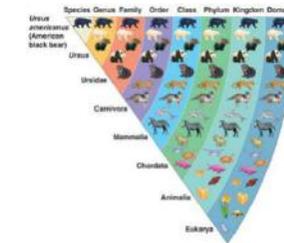
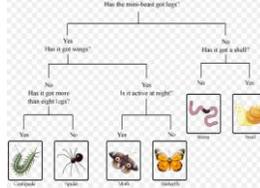
**Anther** – male part that makes pollen.

**Filament** – male part of the flower that holds up the anther.

**Stigma** – female part. It is sticky and can catch grains easily.

**Style** – female part. Pollen travels down the style to the ovary.

A classification key is a tool that uses yes and no questions to group living things based on their characteristics.



**Carl Linnaeus** developed a system to classify living things (plants and animals) so they could be easily identified.

We now categorise living things into **5 kingdoms: Animal, Plant, Protista, Fungi and Menera.**

**Menera and Protista are both single cell organisms – Protista are more complex**

### The Animal Kingdom

Animals can be categorised as vertebrates and invertebrates.

| Vertebrate – animals with a back bone | Invertebrate – animals without a backbone |
|---------------------------------------|---|
| Bird                                  | Worms                                     |
| Fish                                  | Arthropods                                |
| Mammal                                | Molluscs                                  |
| Reptile                               | Flatworm                                  |
| Amphibian                             | Echinodermata                             |

Classifying is when something is grouped or ordered into categories based on properties or criteria.

### The Plant Kingdom

Plants can be classified into 4 main groups: **flowering, conifers, ferns and mosses.**

|                         |  |
|-------------------------|--|
| <b>Flowering plants</b> | Produce flowers which can develop fruits and seeds after being pollinated and fertilised.                                  |
| <b>Conifers</b>         | Seeds are housed inside woody protective structures called cones.  |
| <b>Ferns</b>            | Have neither seeds nor flowers, but reproduce via miniature cells called spores.   |
| <b>Mosses</b>           | Do not produce seeds or carry flowers. They reproduce by releasing spores. Mosses do not have true stems, leaves or roots. |

### The Plant Kingdom

Living things depend on plants for food to survive and production of oxygen to breathe.

There are many ways to classify plants based on characteristics

Some common classifications are:

- vascular (has stem) vs non-vascular (no stems) plants
- seed vs spore bearing
- into grasses, herbs, woody shrubs or trees.

Know that different types of graphs are best suited to presenting different types of information.

### The Fungi, Menera and Protista Kingdoms

A micro-organism is a very tiny living thing that can only be seen with a microscope.

**Kingdom Fungi** – yeast, mold and mushrooms. These are found everywhere. They cannot produce their own food like plants.

**Menera and Protista Kingdoms** - both single-cell organisms. These kingdoms consist of bacteria and viruses

Bacteria are found almost everywhere on Earth and are vital to the planet's ecosystems.

Some bacteria are good and some are harmful.

Viruses infect a host and multiply within the living cells of another organism.

Observing over time is when make systematic and careful observation to identify and measure changes over a period of time

To observe something in detail that is very small you can use a microscope.



Our Discovery Question:

**Is Christianity still a strong religion 2000 years after Jesus was on Earth?**

Knowledge

There are many Christian festivals, such as Mother's Day, Lent, Ash Wednesday, Easter, Shrove Tuesday, Advent, Christmas and Harvest.

Lent is the 40 days leading up to Holy Week commemorating Jesus' time fasting in the desert.

Shrove Tuesday is the start of Lent.

Ash Wednesday is the day when ashes from burnt palms from the previous years' Palm Sunday are placed on believers' foreheads.

There are many symbols associated with Christian festivals. Many Christians wear a cross necklace - this represents Jesus' death and resurrection. Easter eggs represent new life after Jesus' resurrection, bread and wine in communion to represent Jesus' body and blood.

There are countries where people are persecuted for being Christians and Christians have to suffer if they stand up for their beliefs.

Personal Reflection

I can discuss who has been influential in my life and how.

I can reflect on whose example I would like to emulate in my life and why.

I can express my feelings about the concept of unconditional love.



### What we already know

- I know the health risks of smoking and can tell you how tobacco affects the lungs, liver and heart.
- I know some of the risks with misusing alcohol.
- I know and can put into practice basic emergency aid procedures (including recovery position).
- I can describe the different roles food can play in people's lives.



### Taking responsibility for my health and well-being

- Agony aunt is a person (it doesn't have to be female) who gives advice.
- You have to take responsibility for your own health and well-being.
- Small changes can make a big difference.

### Drugs

- Drugs are a medicine or other substance which has a physiological effect when in the body.
- There are 4 types of drugs: unrestricted, restricted, prescribed and illegal.
- Illegal drugs and the restricted drugs are known to cause the body damage.
- The liver and heart are very vulnerable to drug misuse. The liver cleans toxins from the body and many drugs make the heart work faster than it needs to
- Prescribed drugs are safe when used correctly.



### Exploitation

- A gang is an organised group of criminals.
- Some gangs choose to exploit (use) children to do criminal/ illegal things.
- Exploit means to use someone or something for a personal benefit.
- Gangs often 'trap' people so that they cannot leave.

### Gangs

- The word gang can have different meanings.
- Gang can be used to describe a group of friends who just hang out together and have fun and are harmless.
- Gang is also used to describe groups of people who do illegal things.
- Drug and alcohol misuse make gangs riskier to belong to.



### Emotional and Mental Wellbeing

- Everyone can feel different depending on the day and the situation.
- Mental health and emotional health explain how we feel.
- If people are diagnosed with a mental illness it is not something to be ashamed or afraid of.
- It is very cruel to make fun of somebody with a mental illness, and this should never happen as it can make the person's illness worse.

### Rights of a child



Article 15



Article 33



Article 40



**What we already know**

Sport and hobbies and accessories  
 The verbs avoir, jouer  
 Adjectives  
 Animals  
 Numbers up to 60  
 Toussaint  
 Jean de la Fontaine  
 Weather  
 Some adjectival agreement  
 Ask and answer questions about someone's identity  
 Use adjectives to describe a planet  
 Ice cream flavours and ordering  
 Time and Daily routine  
 Rooms and furniture in the house  
 Piet Mondrian  
 Prepositions  
 Sports and adjectives to describe them

**Rides at the Fun Fair**



|           |            |                  |                     |
|-----------|------------|------------------|---------------------|
| Le manège | les bûches | la maison hantée | Le taboggon spirale |
|-----------|------------|------------------|---------------------|



|                |            |                      |                  |
|----------------|------------|----------------------|------------------|
| La grande roue | Les tasses | Les montagnes russes | Le bateau pirate |
|----------------|------------|----------------------|------------------|

To know that the sound spelling of eau is oh  
 To know that the sound spelling of an is on

**Treats at the funfair**



|          |                 |          |
|----------|-----------------|----------|
| La glace | La barbe à papa | La crêpe |
|----------|-----------------|----------|



|             |            |            |
|-------------|------------|------------|
| Des bonbons | Le popcorn | Des frites |
|-------------|------------|------------|

To know the sound spelling of ç is s

**Adjectives for the funfair**

|                        |                         |
|------------------------|-------------------------|
| C'est lent             | It's slow               |
| C'est rapide           | It's fast               |
| C'est haut             | It's high               |
| Ça mouille             | It's wet                |
| Ça tourne en rond      | It goes round and round |
| Ça monte et ça descend | It goes up and down     |
| Ça fait peur           | It's scary              |

To know that the sound spelling of c'est is say

**Favourite things**

- Mon animal préféré est ...
- Ma couleur préférée est ...
- Mon fruit préféré est ...
- Mon équipe préférée est ...
- Mon livre préféré est ...
- Mon légume préféré est ...
- Mon sport préféré est ...

To say or write my in French you replace the article with the following

- Le – mon
- La – ma
- Les – mes

**Le Poisson D'avril**



In France it is tradition that on the first of April, people play a prank. They stick a fish on someone's back and then wait until that person realizes that they have a fish on their back. When this happens, people shout, "Poisson D'avril!"



What we already know

We know that a portrait is a representation of a person and that a self-portrait is a portrait of the artist by the artist.

When drawing a portrait, we understand how to use facial proportions.

We know that Leonardo da Vinci was fascinated by the human form and that he created line and tone in his portraits using a range of techniques; hatching, cross-hatching, stippling and sfumato.

We know how to use these techniques in our own portrait drawings.

We know that Alberto Giacometti used line creatively in his portraits.

We know how to draw in continuous line.

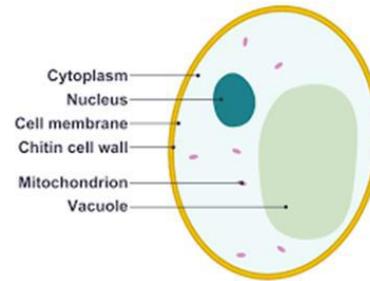
We know how to create a mono-print.

We know that when we make a mono-print, we create an impression of a drawing.

Cells

Know that cells are the basic building blocks of all living things.

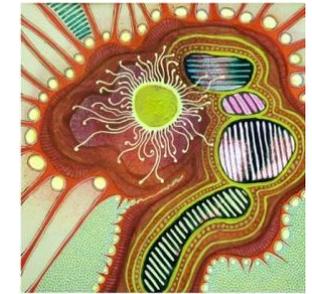
Be able to identify the key features of a cell; nucleus, cell wall, cell membrane, etc.



Artists

To look at artists who have taken inspiration from cells.

To learn about how the American artist, Lea Anderson, uses line, shape, texture and colour to create her cell-inspired, mixed-media artwork.



Shape and Colour

Know how to accurately recreate the shape of cells, working from images.

Know that shape is a flat area surrounded by an edge or an outline.

Know that colours can be harmonious or contrasting.

Know that tone is how light or dark a colour appears.

Know that blending is the technique used to smoothly merge one colour into another.

Know how to blend oil pastels to create new tones.



Line and Texture

Know that texture is the way the surface of something feels to the touch.

Know that 'sgraffito' is Italian for 'to scratch'.

Know that 'sgraffito' is a technique used by artists – when they scratch through the surface of something, using an implement, to reveal what's underneath, e.g. in painting or pottery.

Know how to use the 'sgraffito' technique using acrylic paint and oil pastel.



Mixed-Media

Know that 'mixed-media' is when more than one medium or material is used to create a single artwork. Know how to use more than one material to create our own cell-inspired outcomes.



# Knowledge Jigsaw

## Year 6 PE Tennis HT4



### What we already know

The ready position  
Parts of the racket  
Forehand shot  
Backhand shot  
Rallying  
Scoring  
Area of the tennis court  
Underarm serve  
A serve can be used to start a mini-rally.  
Volleying  
Backhand return  
Forehand return  
Backhand groundstroke  
Forehand groundstroke  
Variety in a rally is important.

**A forehand strike is when you strike the ball from your dominant side.**

As the ball approaches, move your feet to get in line with it.

Start in the ready position.

Move from the ready position to slightly sideways on to the feeder. Make sure your racket isn't tight into your body so move your feet to give yourself space to play the shot in a balanced way. Swing the racket from low to high. Make contact with the ball when the racket face is facing your target. Hit the ball in front of your body.



**It is important to develop placement of the ball using a forehand groundstroke.**

Prepare early, move from a ready position to a balanced stance, giving yourself room to play the shot. Racket moves from low to high. Make contact with the ball in front of you and when your racket face is pointing towards your target. Brush over the top, turning the strings to face down.

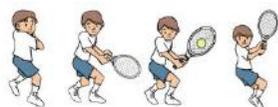
Move quickly from the ready position to a balanced stance before playing the ball. Brush over the top of the ball.



**Gripping the racket correctly is important in tennis**

**A backhand strike is when you strike the ball from your non-dominant side.**

From the ready position, move the racket backwards and turn sideways to the ball. The racket is swung forwards using two hands from a low position to finish high with both arms over the opposite shoulder. Make contact with the ball when the racket face is facing your partner/opponent. Place your strongest hand at the bottom of the racket and your other hand above, using two hands.



**It is important to develop placement of the ball using a backhand groundstroke.**

Prepare early, move from a ready position to a balanced stance, giving yourself room to play the shot. Dominant hand at the bottom, non-dominant at the top. Racket moves from low to high. Make contact with the ball in front of you and when your racket face is pointing towards your target. Brush over the top, turning the strings to face down.

**A volley is used to return the ball quickly.**

### **Forehand Volley**

Start in the ready position with the racket in front of you. Hold the racket in one hand at the bottom of the handle. Hit the ball in front of your body with a punchy action, try not to use a big swing. Hit downwards over the net.



### **Backhand Volley**

Start in the ready position with the racket in front of you. Hold the racket in one hand at the bottom of the handle. Hit the ball in front of the body with a punchy action, try not to use a big swing. Hit downwards over the net.



# Knowledge Jigsaw

## Year 6 PE HT4 Cricket



### What we already know

Two-handed pick up throw,

Deep catching

When creating a barrier, move your feet to get in line with the ball and scoop the ball with two hands.

Short barrier

Long barrier

When bowling underarm step forward with your opposite foot to your bowling arm and keep looking at the target. The ball needs to bounce before it gets to the wickets.

The parts of the bat have different names

Overarm – long distance

Underarm – short distance

When throwing, step forward with the opposite foot to your throwing arm.

Accuracy over power is foremost when throwing the ball.

Stance: throwing arm furthest away and opposite foot forwards, this will allow for balance therefore increasing accuracy.

Action: keep the elbow of the throwing arm above the shoulder, pull the ball through fast, step with front foot to increase power needed for throwing over distance, finish with throwing hand pointing at the target.

When catching, bring the ball into your body when catching to cushion the ball.

As the ball is coming towards the body, create a 'W' hand position and cushion the ball into the chest



When batting the ball, grip the bat with the dominant hand at the bottom and keep the elbow high

Grip the bat and follow through with the strike



The parts of the bat have different names.

When batting, it is important to strike the ball into space and away from the fielders.

Grip the bat with the dominant hand at the bottom and keep the elbow high



When catching, bring the ball into your body when catching to cushion the ball.

Close catching:

Catcher be ready to move to the ball, hands cupped with little fingers together in front of the body. Close hands around the ball and pull into the body.



Deep catching:

Catcher have thumbs together and track the ball, moving your feet underneath it. Cup the ball, wrapping your fingers around it and bring it in to the body.

