



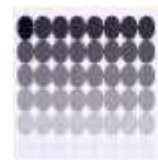
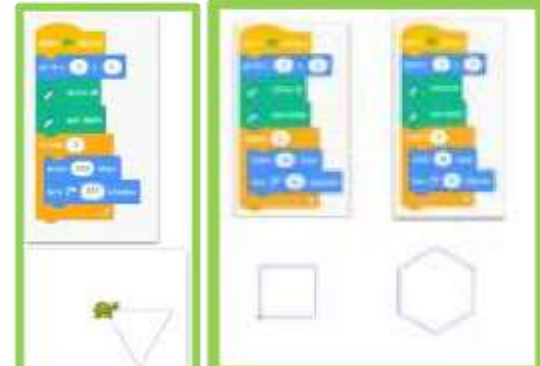






I have the right to share and find out information Article 13



# Knowledge Organiser – Year 4 Computing: We are Artists

<b>Key Knowledge</b> <b>Unit 4.5: We are artists</b> <small>Fusing geometry and art</small>	<b>Key vocabulary</b>		<b>Cultural Heritage</b>
<p><b>What is Inkscape?</b></p>  <p>Inkscape is a vector graphics (pictures made from lines instead of dots) drawing program.</p> <p>You will be using Scratch to create Islamic-style art.</p>  <p>Artists that you will research: Escher →   The Blue Mosque in Saint Petersburg, Russia</p> <p><b>Changing opacity in Inkscape</b> You can change the opacity of rows or columns using the blur and opacity tools in the 'Create Tiled Clones' menu.</p>  <p>You would use the repetition block to create a pattern using these sets of instructions</p> 	<p><b>Abstraction</b> a process of managing complexity by setting to the side irrelevant detail and concentrating on function rather than form</p> <p><b>Bitmap</b> an image represented by a large, rectangular grid of pixels, each having its own colour value, typically in the range 0 to 255 for each of red, blue and green</p> <p><b>Fractal</b> a self-similar repeating (or almost repeating) structure in which ever greater detail becomes apparent as the structure is examined more closely</p> <p><b>Pixel</b> picture element – one of the small, square dots that makes up a digital image</p> <p><b>Repetition</b> programming construct which allows a group of instructions to be repeated a number of times, or until a certain condition is met</p> <p><b>Sprite</b> a graphical character in a program that can be given its own sequence of instructions</p> <p><b>Tessellation</b> a regular pattern of one shape that fills a space without overlapping or leaving spaces between</p> <p><b>Transform</b> to change the shape of an image or part of an image</p> <p><b>Turtle</b> a small floor robot (or a representation of one on screen) that draws by moving forward and turning, under the control of a program, for example in Logo or Scratch's pen commands</p> <p><b>Vector graphics</b> a way of representing an image by specifying the lines, arcs and regions from which it is made</p>	<p><b>Islamic art and architecture.</b> Look at the famous mosque structures with the awe-inspiring dome designs. Look into the early stages of Islamic geometric art patterns which stemmed from the byzantine period.</p> <p><a href="#">Introduction to Islamic art</a></p> <p>-<a href="#">Dome of the Rock, Jerusalem</a></p>  <p>- <a href="#">Blue Mosque – Istanbul</a></p> 	

## Key Knowledge

<b>What is the difference between weather and climate?</b>	Climate is a country's normal weather over a long period of time. The climate changes very slowly over thousands of years. The weather changes from day to day and even hour to hour. It includes the outside temperature, strength of the wind and whether it is raining, sunny, hailing etc
<b>What is an anemometer?</b>	An anemometer is an instrument that measures wind speed. The anemometer has a spinning wheel. The stronger the wind blows the faster the wheel rotates. The anemometer counts the number of rotations, which is used to calculate wind speed.
<b>What does a meteorologist do?</b>	Meteorologists are scientists who study the earth's atmosphere that cause weather conditions. From this they predict what the weather is going to be for the next few days. They are often known as weather forecasters.

### Southern Hemisphere

The part of the Earth south of the equator is called the Southern Hemisphere. Only 20% of the world's population lives in the Southern Hemisphere. 90% of the planet's water is in the Southern Hemisphere.



### The Hemispheres

#### Northern Hemisphere

The part of the Earth north of the equator is called the Northern Hemisphere. 80% of the world's population lives in the Northern Hemisphere. 90% of land is in the Northern Hemisphere.

### The Tropics

The **equator** is an imaginary line that divides the Earth in half. The equator is an equal distance between the North and South poles.



The **Tropic of Cancer** is an imaginary line in the Northern Hemisphere. It is the furthest north you can go and still have the sun directly overhead. This happens once a year in June. This day is called the solstice.

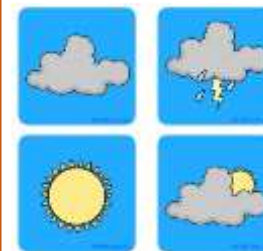
The **Tropic of Capricorn** is an imaginary line in the Southern Hemisphere. It is the opposite of the Tropic of Cancer. It is the furthest south you can go and still have the sun directly overhead. This happens once a year in December. This day is called the solstice.

## Key vocabulary

<b>monsoon</b>	A monsoon is a seasonal shift in wind direction. It can cause heavy rainfall during the summer and dry spells in the winter. The word monsoon comes from the Arabic word "mausim" meaning season. It was first used by Arabic navigators.
<b>drought</b>	Droughts occur when a long period of abnormally dry weather leads to a severe water shortage.
<b>Rain gauge</b>	Precipitation is measured using a rain gauge. This is a container that collects rain. The depth of the rain in millimetres can be read from the side of the container.
<b>Physical geography</b>	Physical geography is the study of the natural world and how it can change eg the course of a river, weather.
<b>Human geography</b>	Human geography is the study of how humans have had an impact on the natural world eg building of houses and roads, deforestation.

## Cultural Heritage

### Weather Symbols



Weather symbols are "pictures" or "signs" to help understand a type of weather eg windy, cloudy. Weather symbols are used as a quick and easy way to show the weather that is happening in a particular place on a weather forecast.

### Presenting the Weather



Weather Presenters such as Alex Beresford, Lucy Verasamy and Des Coleman use weather symbols when presenting the weather.

## Key Knowledge

### Climate Zones

The climate of a location is often linked to its location in the world. Places near the equator will have a hotter climate than places near the North and South Poles which will have a colder climate.

<b>Polar</b>	Very cold and dry all year round	Antarctica
<b>Temperate</b>	Cold winters and mild summers	UK
<b>Arid</b>	Dry and hot all year round	Sahara Desert
<b>Tropical</b>	Hot and wet all year round	Brazil
<b>Mediterranean</b>	Dry, hot summers and mild winters	Spain
<b>Mountainous</b>	Very cold, sometimes wet, all year	Himalayas



Article 28 I have the right to an education

## P.E Knowledge Organiser – Striking and Fielding– Year 4

### Key Knowledge

#### Fielder

When it is a teams turn to field the whole team at the same time become fielders. Fielders can use **any part of their body to field**, with hands being the **best option**. A fielder will need to use their skills to **prevent the batting side from scoring runs**. Remember the ball will move faster than you!



#### Batter



When a team is batting only **two members of that team are active**. This means that the rest of the team have to wait their turn. The batter 'on strike' may attempt to hit the ball to **score runs**, whilst the 'non striker' can not hit the ball, they may still need to run. Both of the active batters can out individually during a delivery, even the batter not on strike. In school/junior cricket players bat in pairs and if they are out then the team loses runs instead of not being allowed to bat any longer (as in adult cricket). All players usually bat.

#### Bowler - Underarm Bowl

Any of the team may bowl. Only **one player bowls at a time**. One of two ways to bowl the ball. It is not allowed in many grades of cricket unless agreed beforehand.

Underarm bowling is normally used for **beginners** and progresses into over-arm bowling.



#### Run(s)

Usually the team with the **most runs** wins. Runs are scored in many ways: by **running**, **hitting boundaries** or **extras**.

**Running:** during a delivery, when the two batters change ends without being out. Do this once (single), twice (two) etc.

**Boundaries:** running is not necessary if the ball hits the marked boundary. If the ball does this having made contact with the ground, **four runs** are scored. If the ball does not bounce before hitting or going over the boundary, **six runs** are added.

**Extras:** runs that are not scored by the batter or added to the batters individual score and only added to the teams total. Examples of extras are **wides**, **no-balls**, **byes**, **leg byes** and **penalty runs**.

### Key vocabulary

Word	Definition
<b>Batter</b>	The player who is attempting to hit the ball bowled to score runs or prevent the loss of a wicket.
<b>Bowler</b>	The player who is delivering the ball towards the stumps defended by the batter. This player is on the fielding team.
<b>Fielder</b>	The rest of the fielding team use their fielding skills to limit the amount of runs scored by the batting side.
<b>Bowl</b>	Is the action of propelling the ball towards the wicket defended by the batter
<b>Underarm Bowl</b>	Combining a underarm throw and releasing the ball. The bowler's hand does not rise above the level of the waist and the ball ideally bounces once before the popping crease or batter.
<b>Run(s)</b>	The scoring method in cricket to (help) decide the result of a match.
<b>Out/Dismissed</b>	When a batters' period of batting is ended by the opposing team
<b>Stumps</b>	There are two sets in a game at either end of the pitch made up of three stumps and two bails on top of the stumps.
<b>Wide</b>	A ball that is too far away from the stumps or batter and deemed unable to hit.
<b>No Ball</b>	Multiple ways to get a no-ball: too many bounces, too high without bouncing and the bowler over stepping are examples.
<b>Over</b>	When 6 legal deliveries are bowled by the bowler

### Cultural Heritage

#### Ben Stokes:



An English all rounder who was awarded the Sir Garfield Sobers trophy for 2019 (player of the year).

#### Shane Warne:



Retired Australian bowler. The greatest leg spinner of all time with over 1000 international wickets.

#### Sachin Tendulkar:



Retired Indian batsman and former captain of the Indian national team. He has scored the most international runs (34357) and the most international centuries (100).

#### Jofra Archer:



Jofra is a Barbadian born English fast bowler. Having played locally in Sussex he was signed by Sussex CCC and made a name globally playing short form cricket in Australia and India. In 2019 he qualified to play for England and won the Cricket World Cup and played in the Ashes, playing a starring role in both.

**Skills I will Develop:**

- I can hold the cricket bat correctly.
- I can throw the ball accurately.
- I can return the ball accurately.
- I can choose which type of fielding technique to use.
- I can develop an overarm technique to throw the ball.
- I can score 'runs' by running in between the wickets in a game situation.
- I can work as a team to improve my score.


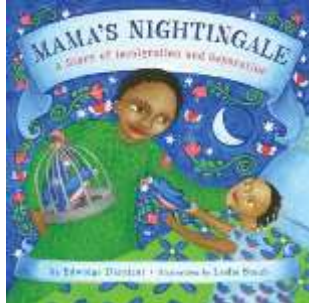
**School Games Values:**

I will be respectful.  
I will be passionate about my learning.  
I will have self-belief.  
I will be honest.  
I will show determination.  
I will work as a team to develop my teamwork skills.

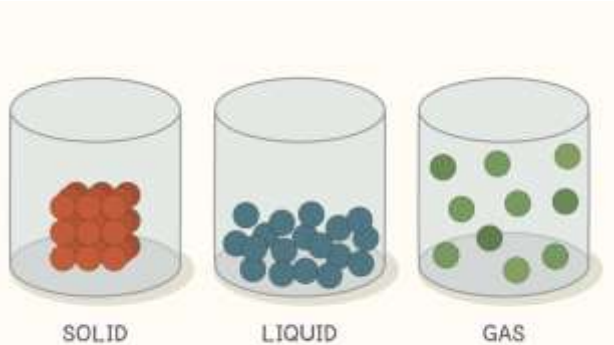




## Knowledge Organiser – R.E Year 4

**Article 14 I have the right to have my own thoughts and beliefs and to choose my religion, with help from my parents**

Key Knowledge	Key Vocabulary	Cultural Heritage
<p style="text-align: center;"><b>Unit 7 - Being Merciful and Forgiving</b> Religious Traditions: Christianity</p> <p><b>1. How big is you love?</b></p> <ul style="list-style-type: none"> <li>○ To say sorry when we mean it is often very hard.</li> <li>○ Some situations are easy to forgive in, some are hard and in some situations it depends.</li> <li>○ Does forgiveness change for each person? e.g. <i>Is it easier to forgive your mum or a shop assistant?</i></li> <li>○ There are lots of nice things we can do to help us say sorry e.g. <i>make a card or give flowers.</i></li> <li>○ There is a connection between love and forgiveness.</li> </ul> <p><b>2. What does the Bible teach about forgiveness?</b></p> <ul style="list-style-type: none"> <li>○ The Bible teaches forgiveness. All things can be used by God for good purposes.</li> <li>○ In the story of Joseph and his brothers, Joseph saw God's plans and purposes in what was intended as a wicked act. The Bible teaches to forgive, even though sometimes it is hard.</li> </ul> <p><b>3. What does the Bible teach about forgiveness?</b></p> <ul style="list-style-type: none"> <li>○ The two robbers who were crucified near Jesus deserved their punishment, yet Jesus did not. Jesus forgave one of them who asked for forgiveness (<i>Luke 23:13-25 and 30-43</i>)</li> <li>○ The Bible teaches that Jesus' death made it possible for people to be forgiven by God; and Jesus' death opened up the way for people to be friends with God.</li> </ul>	<p style="text-align: center;"><b>Unit 8 - Being Regardful of Suffering</b> Religious Traditions: Islam and Christianity</p> <p><b>1. What hurts you?</b> <i>What causes you physical pain? Emotional pain?</i></p> <ul style="list-style-type: none"> <li>○ We often feel empathy for those who are suffering.</li> <li>○ How can we respond to other's hurt?</li> </ul> <p><b>2. How do Muslims respond to the suffering of others?</b></p> <ul style="list-style-type: none"> <li>○ Islam teaches Muslims to care for others.</li> <li>○ <i>How would Muslims help people who might be hungry because they have no money to buy food or thirsty because there is no clean water to drink?</i></li> <li>○ For example, by giving money to Islamic Relief and/ or working with them as a volunteer.</li> <li>○ Abu Rabi reported that prophet Mohammad (pbuh) said: <i>the one who visits the sick is like the one who is in the fruit garden of paradise until he returns"</i> (Hadith)</li> </ul> <p><b>3. What hurts God? How does God respond to human suffering?</b></p> <ul style="list-style-type: none"> <li>○ There were various responses to the crucifixion of Jesus (<i>Mary mother of Jesus – very sad; Jewish leaders - triumphant; Roman Soldiers - indifferent; Disciples - lost</i>).</li> <li>○ The reaction of God included the three-hour darkness, which showed God's distress during the crucifixion.</li> </ul>	<p style="text-align: center;"><b>Islamic Relief</b> Muslim charity that helps the needy</p>  <p style="text-align: center;"><b>Mama's Nightingale</b> <i>A story of immigration and separation</i> by Edwidge Danticat</p> 



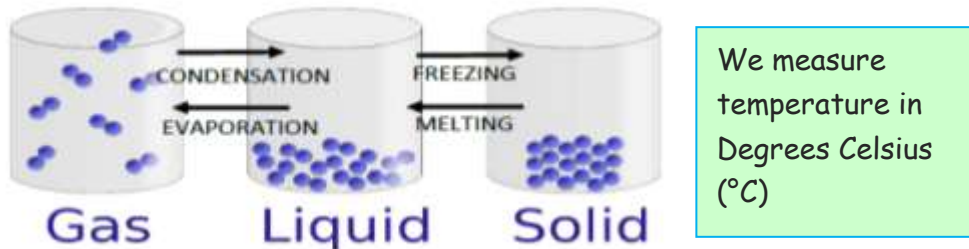
Key Knowledge	Key Vocabulary		Cultural Heritage																						
<p><b>Solids, Liquids and Gases</b></p> <ul style="list-style-type: none"> <li><b>What is a solid?</b> When materials hold their shape. Their particles are closely packed and form a regular pattern. Their shape is fixed and they will always take up the same amount of space. Examples - ice, wood, glass, diamond</li> <li><b>What is a liquid?</b> When materials hold the shape of the containers they are in and so can change shape. Their particles are close together but can move over each other. Examples - water, milk, lemonade, orange juice</li> <li><b>What is a gas?</b> Gases can escape from open containers. They often cannot be seen. They have particles which can spread it and move in all directions. Examples - hydrogen, oxygen, carbon-dioxide</li> </ul> <div style="display: flex; align-items: center; justify-content: space-around;">  <div style="border: 1px solid black; background-color: #e0ffe0; padding: 10px; text-align: center;"> <p>The particles for solids, liquids and gases.</p> </div> </div>	<table border="1"> <thead> <tr> <th data-bbox="1137 437 1456 464">Word</th> <th data-bbox="1456 437 1783 464">Definition</th> </tr> </thead> <tbody> <tr> <td data-bbox="1137 464 1456 595">States of Matter</td> <td data-bbox="1456 464 1783 595">Materials can be one of 3 states - solid, liquid or gas. Some materials can change state to another and then change back again.</td> </tr> <tr> <td data-bbox="1137 595 1456 780">Solids</td> <td data-bbox="1456 595 1783 780">These are materials that keep their shape unless a force is applied to them. They can be hard, soft or even squashy. They take up the same amount of space no matter what has happened to them.</td> </tr> <tr> <td data-bbox="1137 780 1456 911">Liquids</td> <td data-bbox="1456 780 1783 911">Liquids take the shape of their container. They can change shape but not the amount of space they take up. They can flow or be poured.</td> </tr> <tr> <td data-bbox="1137 911 1456 1018">Gases</td> <td data-bbox="1456 911 1783 1018">Gases can spread out to fill the container or room that they are in. They do not have any fixed shape but do have a mass.</td> </tr> <tr> <td data-bbox="1137 1018 1456 1125">Water Vapour</td> <td data-bbox="1456 1018 1783 1125">This is water that takes the form of a gas. When water is boiled it evaporates into a water vapour.</td> </tr> <tr> <td data-bbox="1137 1125 1456 1177">Melt</td> <td data-bbox="1456 1125 1783 1177">This is when a solid changes state to a liquid.</td> </tr> <tr> <td data-bbox="1137 1177 1456 1230">Freeze</td> <td data-bbox="1456 1177 1783 1230">Liquid turns to a solid during the freezing process.</td> </tr> <tr> <td data-bbox="1137 1230 1456 1283">Evaporate</td> <td data-bbox="1456 1230 1783 1283">Turn a liquid into a gas.</td> </tr> <tr> <td data-bbox="1137 1283 1456 1335">Condense</td> <td data-bbox="1456 1283 1783 1335">Turn a gas into a liquid.</td> </tr> <tr> <td data-bbox="1137 1335 1456 1442">Precipitation</td> <td data-bbox="1456 1335 1783 1442">Liquid or solid particles that fall from a cloud as rain, sleet, hail or snow.</td> </tr> </tbody> </table>	Word	Definition	States of Matter	Materials can be one of 3 states - solid, liquid or gas. Some materials can change state to another and then change back again.	Solids	These are materials that keep their shape unless a force is applied to them. They can be hard, soft or even squashy. They take up the same amount of space no matter what has happened to them.	Liquids	Liquids take the shape of their container. They can change shape but not the amount of space they take up. They can flow or be poured.	Gases	Gases can spread out to fill the container or room that they are in. They do not have any fixed shape but do have a mass.	Water Vapour	This is water that takes the form of a gas. When water is boiled it evaporates into a water vapour.	Melt	This is when a solid changes state to a liquid.	Freeze	Liquid turns to a solid during the freezing process.	Evaporate	Turn a liquid into a gas.	Condense	Turn a gas into a liquid.	Precipitation	Liquid or solid particles that fall from a cloud as rain, sleet, hail or snow.		<p><b>Liquids - Drinks -</b></p> <p><b>India -</b> Mango lassi is made from yogurt, milk and mango pulp, and may contain added sugar.</p>  <p><b>Egypt -</b> Lemonade - Lemons, water and sugar. This was first documented in Egyptian writings around 1,500 years ago.</p> 
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## Heating and Cooling Materials -

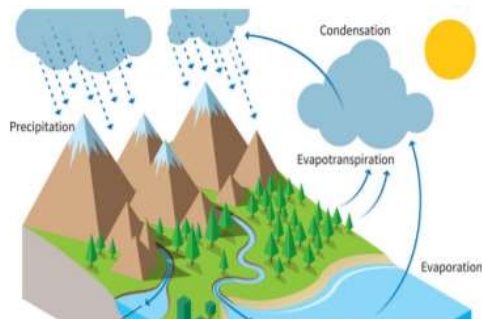
- Some materials change state when they are heated or cooled.
- When water and other liquids reach a certain temperature, they change state into a solid or a gas. The temperatures that these changes happen at are called the boiling, melting or freezing point.

### Example - Water -

- Warming solid ice makes it melt into liquid water.
- Adding more heat makes it evaporate, at  $100^{\circ}\text{C}$ , into steam (a gas).
- When it is cooled it condenses back into liquid water.
- If it is cooled to  $0^{\circ}\text{C}$  it freezes and forms a solid.



## The Water Cycle -



1. Water from lakes, puddles, rivers and seas is **evaporated** by the sun's heat, turning it into **water vapour**.
2. This **water vapour** rises, then cools down to form water droplets in clouds (**condensation**).
3. When the droplets get too heavy, they fall back to the earth as rain, sleet, hail or snow (**precipitation**).