



Y6 Medium Term Plan Autumn 2

	Science	Humanities	<u>RE</u>	Computing
Theme	<p>Theme: EVOLUTION AND INHERITANCE</p> <p>Key skills:</p> <p>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>taking measurements, using a range of scientific equipment, with increasing accuracy and precision</p> <p>recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs</p> <p>using test results to make predictions to set up further comparative and fair tests</p> <p>reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations</p> <p>identifying scientific evidence that has been used to support or refute ideas or arguments.</p>	<p>Theme: ECONOMICS AND TRADE</p> <p>Key skills</p> <p>use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</p> <p>use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world</p> <p>use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.</p> <p>Key knowledge</p> <p>•Locate the world's countries, using maps to focus on Europe and South America, concentrating on their environmental regions, key human characteristics, countries, and major</p>	<p>Theme: Christianity</p> <p>**KEY QUESTION: Do Christmas celebrations and traditions help Christians understand who Jesus was and why he was born?*</p> <p>Key skills</p> <p>Interpretation Empathy Investigation Application Evaluation Expression Reflection</p> <p>Key knowledge</p> <p>To know that some celebrations celebrate things that have happened in the past and some celebrate things that are happening now (such as marriage, a new baby)</p> <p>non-Christians may have different ways of celebrating Christmas</p> <p>To recognise that not everyone does celebrate Christmas</p> <p>Some religious celebrations around</p>	<p>Unit 6.8 - Binary AND Unit 6.6 - Networks</p> <p>Key Skills</p> <ul style="list-style-type: none"> • Pupils can explain how all data in a computer is saved in the computer memory in a binary format. • Pupils can explain that binary uses only the integers 0 and 1. • Pupils can relate 0 to an 'off' switch and 1 to an 'on' switch. • Pupils can count up from 0 in binary. Some may need visual aids to help them. • Pupils can relate bits to computer storage. <p>Key Knowledge</p> <ul style="list-style-type: none"> • Pupils have an understanding of binary as a number system and its purpose and application in computing. • Recognising that digital systems represent all types of data using number codes that ultimately are patterns of 1s and 0s (called binary digits, which is why they are

	<p>Key knowledge:</p> <p>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>	<p>cities</p> <ul style="list-style-type: none"> • Understand geographical similarities and differences through the study of human geography of a region of the United Kingdom and a region within South America • Describe and understand key aspects of human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water 	<p>Christmas: advent, read the christmas story in the bible, go to church for midnight mass, pray, display a nativity scene, sing carols, donating or volunteering</p> <p>Some non-religious celebrations: christmas party, christmas cards, lots of present giving, decorating a christmas tree</p> <p>Christian's celebrate the arrival of Jesus as God's Son - The Incarnation. They are grateful because they believe Jesus brought to earth a message from God about how to live a good life. He performed miracles, helped people and offered forgiveness of sins. Christians believe that through his death and resurrection Jesus would grant all of humanity a fresh start and He was God "incarnate"(God made man).</p> <p>To understand that Incarnation means a person who embodies in the flesh a deity, spirit, or quality.</p> <p>To know that carols tell the story from the Gospel but Christmas songs, such as Rudolph, do not explain who Jesus was.</p> <p>Tell us about Jesus: go to church, nativity scenes, singing carols, some decorations (such as wreath, or a candy cane, a star), giving presents with a bow</p> <p>Do not tell us about Jesus: singing christmas songs, father christmas, giving presents, some decorations.</p>	<p>called digital systems)</p>
<p>Week 1</p>	<p>S.K.L.O: To explain the Scientific concept of inheritance</p> <p>W.S.L.O: To report and present findings within a table</p> <p>Key skills:</p> <p>recording data and results of increasing complexity using scientific</p>	<p>L.O:To discover how and why trade has evolved over time</p> <p>Key skills</p> <ul style="list-style-type: none"> •Pupils should continue to develop a chronologically secure knowledge and understanding of British, local and world history, establishing clear narratives within and across the periods they study. 	<p>**Engagement lesson**</p> <p>L.O:To reflect upon celebrations</p> <p>**KEY QUESTION: Do Christmas celebrations and traditions help Christians understand who Jesus was and why he was born?*</p>	<p>LO: To understand binary</p> <p>Key Skills:</p> <ul style="list-style-type: none"> • can explain how all data in a computer is saved in the computer memory in a binary format. • Pupils can explain that binary uses only the integers 0 and 1.

	<p>diagrams and labels, classification keys, tables, and bar and line graphs</p> <p>Key knowledge:</p> <p>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>Things we inherit: eye colour hair colour skin colour lobed or lobeless ears ability to roll your tongue</p>	<ul style="list-style-type: none"> •They should note connections, contrasts and trends over time <p>Key knowledge</p> <ul style="list-style-type: none"> •Trade is the buying and selling of goods and services we want and need. <p>Trade involves the exchange of goods or services in return for other goods or services or money.</p> <p>To be able to understand and figure out the difference in trade from the Stone Age-17th century- Modern day.</p> <p>The Stone Age: Trade is carried out on a small scale, within small communities and over short distances. People are 'nomadic' and travelled the land in search of food and shelter. Communities are self-sufficient. The development of agriculture happened during this time as people began to settle in one location.</p> <p>The 17th Century There are significant advancements in the building of seaworthy boats. Trade occurs by boat, largely up and down rivers and across some oceans. Trade occurs along the Silk Route, which connected the Far and Middle East with Europe. A network of global trade emerges. The main goods traded are spices, tea, tobacco and sugar – only items that were imperishable. Slaves from Africa are traded in order to provide labour for the sugar plantations.</p> <p>The 21st Century: Improvements in transport, technology and communication have a significant impact. The three most traded items are oil, natural gas and coffee. Trade occurs on a global scale. Millions of exchanges take place every day. Trade is reliable as there is instant communication between buyers and sellers around the world. Perishable goods can be refrigerated on the journey.</p>	<p>Key skills</p> <p>Interpretation- people will interpret what celebration means differently Empathy - empathise that not all people will celebrate the same things.</p> <p>Key knowledge</p> <p>To know that some celebrations celebrate things that have happened in the past and some celebrate things that are happening now (such as marriage, a new baby)</p>	<ul style="list-style-type: none"> • Pupils can relate 0 to an 'off' switch and 1 to an 'on' switch • Recognising that digital systems represent all types of data using number codes that ultimately are patterns of 1s and 0s (called binary digits, which is why they are called digital systems). <p>Key Knowledge:</p> <ul style="list-style-type: none"> • Understand that binary represents numbers using 1s and 0s and these represent the on and off electrical states respectively in hardware and robotics.
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Week 2

S.K.L.O: To demonstrate understanding of the scientific meaning of adaptation

W.S.L.O: To identify scientific evidence

To begin the lesson you can carry out this simple example of adaptation and suitability. This experiment asks children to predict which 'beak' will be best for each 'food' type and test it simulating beak type with chopsticks, spoons, tweezers etc. This is a great way of showing children how beak shape is important for a species as if it had a beak which was incompatible with it's food source then it would eventually die out. It is important to point out that adaptation is a very gradual process which happens within a population rather than to an individual bird.

Key skills:

recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs

reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations

identifying scientific evidence that has been used to support or refute ideas or arguments.

Key knowledge:

identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution

LO: To explain the UK's trade links with other countries

Key skills

use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied

Key knowledge

•to understand and know key terms such as import and export

Import: bring goods or services into a country for sale

Export: send goods or services to another country for sale.

To know that we export and import from all over the world.

Countries rely and depend on each other due to lack or abundance of resources.

Our largest export is to Switzerland, then US and Germany

Main export is aircraft and spacecraft (*ask children why they think this is? Rolls Royce make aircraft engines- they are a British make.*)

Type of export	Amount of Money (Billions of pounds)
Aircrafts and space crafts	4.6
Petrol	12.4
Scientific instruments	4.8
Other oils	9.9
Alcoholic drinks	4.6
Cars	11.8
Communication technologies	5.6
Chemicals	5.3
Engines	9.6
Medicines	16.9

****Investigation lesson****

L.O: To discuss how Christmas is celebrated in the UK and around the world

Q- Why are some Christmas traditions followed, when they are not to do with the first Christmas?

Q-Do you think we should be able to have Christmas traditions that are non-Christian, when it is fundamentally a Christian belief?

****KEY QUESTION: Do Christmas celebrations and traditions help Christians understand who Jesus was and why he was born?***

Key skills

Investigation- how Christmas is celebrated in different countries

Reflection- reflect upon how they celebrate Christmas

Key knowledge

To know that Christians and non-Christians may have different ways of celebrating Christmas

To recognise that not everyone does celebrate Christmas

Some religious celebrations around Christmas: advent, read the christmas story in the bible, go to church for midnight mass, pray, display a nativity scene, sing carols, donating or volunteering

Some non-religious celebrations: christmas party, christmas cards, lots of present giving, decorating a christmas tree etc

LO: To count in binary

Key Skills:

- Pupils can count up from 0 in binary.
- Pupils can relate bits to computer storage

Key Knowledge:

- Recognising that the numbers 0, 1, 2 and 3 could be represented by the patterns of two binary digits of 00, 01, 10 and 11
- Representing whole numbers in binary, for example counting in binary from zero to 15, or writing a friend's age in binary.

<p>Week 3</p>	<p>S.K.L.O: To identify the key ideas of the theory of evolution.</p> <p>W.S.L.O: To identify scientific evidence that has been used to refute or support ideas.</p> <p>Key skills:</p> <p>identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Key knowledge:</p> <p>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>	<p>LO: To compare and contrast the UK to El Salvador</p> <p><i>(hide the El Salvador part at the beginning. Children to have maps and photos and try to figure this out themselves to develop more map work and understand of the world)</i></p> <p>Key skills</p> <p>use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</p> <p>Key knowledge</p> <ul style="list-style-type: none"> •Locate the world's countries, using maps to focus on Europe and South America, concentrating on their environmental regions, key human characteristics, countries, and major cities •Understand geographical similarities and differences through the study of human geography of a region of the United Kingdom and a region within South America • Describe and understand key aspects of human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water <p>To understand that El Salvador and the UK have some similarities such as rivers present in both, a large population in capital cities.</p> <p>And some differences such as UK has a larger population, different climates, El Salvador sits at a higher altitude</p>	<p>**Investigation lesson**</p> <p>L.O: To interpret what the key messages from the Christmas Story are</p> <p>**KEY QUESTION: Do Christmas celebrations and traditions help Christians understand who Jesus was and why he was born?*</p> <p>Key skills</p> <p>Interpretation- to interpret the key messages about the Christmas Story</p> <p>Reflection- To reflect upon the meaning of the Christmas Story.</p> <p>Key knowledge</p> <p>Christian's celebrate the arrival of Jesus as God's Son - The Incarnation. They are grateful because they believe Jesus brought to earth a message from God about how to live a good life. He performed miracles, helped people and offered forgiveness of sins. Christians believe that through his death and resurrection Jesus would grant all of humanity a fresh start and He was God "incarnate"(God made man).</p> <p>To understand that Incarnation means a person who embodies in the flesh a deity, spirit, or quality.</p>	<p>LO: To convert from decimal to binary</p> <p>Key Skills:</p> <ul style="list-style-type: none"> • Pupils can convert numbers to binary using the division by two method. • Pupils can check their own answers using the converter tool. <p>Key Knowledge:</p> <ul style="list-style-type: none"> • Understands that binary is a technological language • Understands the links between maths and binary
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<p>Week 4</p>	<p>S.K.L.O: To examine the evidence demonstrating how plants have evolved</p> <p>W.S.L.O: To use scientific diagrams</p> <p><i>**children to go through the fossil making process first. Identify and draw the steps into their books with information underneath.</i></p> <p><i>Then to use this knowledge to help them understand how plants have evolved by looking at different fossils and images of plants through the years to witness any similarities and differences. **</i></p> <p>Key skills:</p> <p>recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs</p> <p>identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Key knowledge:</p> <p>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <ol style="list-style-type: none"> 1. An animal, such as a dinosaur, dies and falls to the bottom of a riverbed. 2. The flesh of the animal rots away or is eaten by smaller creatures, leaving only the bones (skeleton) behind. 3. Mud and sand (sediment) cover the skeleton. 	<p>LO: To understand how a country's physical geography can affect their trading</p> <p>Key skills</p> <p>use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</p> <p>to build their knowledge of the United Kingdom and the wider world</p> <p>Key knowledge</p> <ul style="list-style-type: none"> •Locate the world's countries, using maps to focus on Europe and South America, concentrating on their environmental regions, key human characteristics, countries, and major cities •Understand geographical similarities and differences through the study of human geography of a region of the United Kingdom and a region within South America • Describe and understand key aspects of human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water <p>To know that El Salvador export the following items to the UK: Coffee Cotton Sugar Shrimp (prawns) Fruit and nuts</p> <p>To know that their climate and landscape plays a part in what can be</p>	<p>L.O: To reflect upon which traditions help Christians understand who Jesus was.</p> <p>This part of the planning: Through class discussion, create a list of criteria or questions that would determine whether a tradition or celebration would help a Christian/vote on whether they feel it is meaningful to Christians or something which has evolved but does not support the understanding of Jesus.</p> <p>**KEY QUESTION: Do Christmas celebrations and traditions help Christians understand who Jesus was and why he was born?*</p> <p>Key skills</p> <p>Interpretation- interpreting the information given and deciding whether it tells us who Jesus is or not</p> <p>Investigation- researching and investigating the origin of a christmas tradition and its link to Jesus</p> <p>Evaluation- evaluating whether or not a tradition tells us who Jesus was</p> <p>Key knowledge</p> <p>To know that carols tell the story from the Gospel but Christmas songs, such as Rudolph, do not explain who Jesus was.</p> <p>Tell us about Jesus: go to church, nativity scenes, singing carols, some decorations (such as wreath, or a candy cane, a star), giving presents with a bow</p> <p>Do not tell us about Jesus: singing christmas songs, father christmas, giving presents, some decorations.</p>	<p>LO: To understand control using binary</p> <p>Key Skills:</p> <ul style="list-style-type: none"> • Pupils can make use of a variable set to 0 or 1 to control game states. <p>Key Knowledge:</p> <ul style="list-style-type: none"> • Representing the state of an object in a game as active or inactive using the respective binary values of 1 or 0
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	<p>4. Over many years, layers of soft mud and sand are pressed into hard rock.</p> <p>5. The bones slowly wash away by little trickles of ground water, leaving open spaces (natural molds) in the exact shape of the old dinosaur bones.</p> <p>6. After millions of years, tiny pieces of rock flowing in ground water fill the mold.</p> <p>7. Over time, the entire skeleton mold becomes solid rock.</p> <p>8. The rock surrounding the skeleton eventually rises to Earth's surface during earthquakes or the natural rising of mountains.</p> <p>9. Top rock layers wear away by rain and wind, revealing the fossils.</p> <p>10. Or, paleontologists (scientists who study fossils) dig deep down into Earth's surface to find these fossils</p>	grown there (links to previous lesson)		
<p>Week 5</p>	<p>S.K.L.O: To observe how human beings have evolved over time</p> <p>W.S.L.O: To report findings</p> <p>**https://www.stem.org.uk/elibrary/resource/27074**</p> <p><i>32 images of different skulls and drawings of them to show the evolution process. Children to create a class/table timeline of the images and then can discuss how evolution is gradual. Can look at the similarities and differences. FREE website, but will need to sign up to gain access to the images**</i></p> <p>Key skills:</p>	<p>LO: To explain the advantages and disadvantages of multinational companies within global trade</p> <p>Key skills use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</p> <p>use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.</p> <p>Key knowledge</p> <ul style="list-style-type: none"> Describe and understand key aspects of 	<p>**investigation lesson**</p> <p>L.O: To interview a Christian on their beliefs about the meaning of Christmas</p> <p>**KEY QUESTION: Do Christmas celebrations and traditions help Christians understand who Jesus was and why he was born?*</p> <p>Key skills</p> <p>Investigation- using own questions to find out how a Christian feels about Christmas</p> <p>Application- to apply what they have</p>	<p>Unit 6.6. Networks</p> <p>LO: To understand the difference between world wide web and the internet</p> <p>Key Skills:</p> <ul style="list-style-type: none"> Pupils can provide examples of the difference between the World Wide Web and the Internet <p>Key Knowledge:</p> <ul style="list-style-type: none"> Pupils know the difference between the World Wide Web and the internet. <p>The internet The internet is all the cables, fibre, routers, switches etc. that connects computers together, or networks of computers to one</p>

	<p>reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations</p> <p>identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Key knowledge:</p> <p>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p> <p>To understand that evolution is gradual.</p> <p>There are similarities between things as they evolve, there are also differences and these will mainly be a for a reason.</p>	<p>human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water</p> <p>Multinational Corporations or Companies are corporate organizations that operate in more than one country other than home country.</p> <p>A Multinational Corporation is usually a large corporation incorporated in one country which produces or sells goods or services in various countries.</p> <p>MNCs may gain from their global presence in a variety of ways. These companies operate worldwide and hence are also known as global enterprises.</p> <p>Advantages: can reach their market easier if theyre in more than one country Provide inflow of capital to the countries reduce government aid dependencies in the developing world. allow countries to purchase imports. Provide local jobs Improve and provide infrastructure Enforce minimum quality standards</p> <p>Disadvantages: can dominate a market, making it harder for new smaller companies to get in Higher environmental costs Import their skilled labour May support "sweatshop" labour Remove jobs from home country</p>	<p>learnt about Christmas meanings to help form their own questions</p> <p>Evaluation- to evaluate upon the answers given to them.</p> <p>Key knowledge</p> <p>To use the knowledge learnt in previous lessons to create their own questions to ask Christians.</p>	<p>another.</p> <p>The World Wide Web The World Wide Web is about connections between documents. The World Wide Web is just one of the services which uses the internet to be able to communicate.</p>
<p>Week 6</p>	<p>S.K.L.O: To explain how human intervention affects evolution</p> <p>W.S.L.O: To use scientific evidence</p> <p><i>**looking at cross breeding, selective breeding, cloning, animals growing human parts for research or operations and could even do GM</i></p>	<p>LO: To understand the importance of Fair Trade</p> <p><i>**at the end of the lesson, or as an add on, children can make a fair trade recipe. Such as a smoothie.**</i></p> <p>Key skills</p>	<p>**evaluation lesson**</p> <p>L.O: To reflect upon the key question</p> <p>**KEY QUESTION: Do Christmas celebrations and traditions help Christians understand who Jesus</p>	<p>LO: To understand a local network</p> <p>Key Skills:</p> <ul style="list-style-type: none"> • To find out how we access the internet in school. • Pupils know about their school network. • Pupils can explain the differences between more

	<p><i>foods**</i></p> <p><i>Q- do they agree or disagree with humans interfering with the process?</i></p> <p>Key skills: reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations</p> <p>identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Key knowledge:</p> <p>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>Selective breeding: selective breeding include cows that can produce more milk, sheep with thicker coats of wool, wheat that produces more grain and different colouring in flowers. There is no evolutionary advantage to the living thing from the selective breeding process. If there had been, these characteristics would have occurred through the natural selection process.</p> <p>Cross breeding: Cross breeding is a process through which two parents from the same species are bred in order to combine particular characteristics from each parent. The process is very similar to the selective breeding process, except the offspring must have the selected characteristics from both parents.</p>	<p>use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</p> <p>use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.</p> <p>Key knowledge</p> <ul style="list-style-type: none"> •Locate the world's countries, using maps to focus on Europe and South America, concentrating on their environmental regions, key human characteristics, countries, and major cities •Understand geographical similarities and differences through the study of human geography of a region of the United Kingdom and a region within South America • Describe and understand key aspects of human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water <p>Fairtrade is about better prices, decent working conditions, local sustainability, and fair terms of trade for farmers and workers in the developing world.</p> <p>Popular fair trade brands are: maltesers, green and blacks chocolate, lots of waitrose items.</p> <p>To recognise the importance of the fair trade logo and what this means.</p>	<p>was and why he was born?*</p> <p>Key skills</p> <p>Application- applying all knowledge learnt and own ideas to derive at a conclusion</p> <p>Evaluation- to evaluate my own ideas against the key question</p> <p>Expression- to express my own ideas against the key question</p> <p>Reflection- to reflect upon my own ideas in regards to the key question</p> <p>Key knowledge</p> <p>Reflecting upon all knowledge learnt over this half term.</p>	<p>than two network types such as: LAN, WAN, WLAN and SAN.</p> <p>Key Knowledge:</p> <ul style="list-style-type: none"> • Pupils know the differences between more than two network types such as: LAN, WAN, WLAN and SAN.
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	<p>Cloning: Cloning is the process of producing individuals with identical or virtually identical DNA, either naturally or artificially. In nature, many organisms produce clones through asexual reproduction</p> <p>Genetically modified (GM) foods are foods derived from organisms whose genetic material (DNA) has been modified in a way that does not occur naturally, e.g. through the introduction of a gene from a different organism</p>			
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