

Year 6 pack 4

RE

<https://www.tere.org/syllabus-ks2/>

The Apostles Creed

I believe in God,
the Father Almighty,
Creator of heaven and earth,
and in Jesus Christ, His only Son, our Lord,
who was conceived by the Holy Spirit,
born of the Virgin Mary,
suffered under Pontius Pilate,
was crucified, died and was buried;
He descended into hell;
on the third day He rose again from the dead;
He ascended into heaven,
and is seated at the right hand of God the Father Almighty;
from there He will come to judge the living and the dead.
I believe in the Holy Spirit,
the Holy Catholic Church,
the communion of Saints,
the forgiveness of sins,
the resurrection of the body,
and life everlasting.

1. a) Learn the creed off by heart. b) When you know it ask someone to hear you say it.



Reflect
 The spread of COVID 19 is a time for everyone to live the great commandment which Jesus gave us:
 "A new commandment I give to you, that you love one another. Just as I have loved you, you also must love one another". (Jn 13:34)
 In a special way, it is a time for families to be together.

Task
 1. Write 10 ways in which you can live the New Commandment in your family and with relatives and friends. Use the words above to help you.
 2. There are two or three important words not mentioned.
 a) Suggest what you think they are.
 b) Explain how you would live them.

Look at this wordle . it has been created with Corona Virus in mind.

Can you create your own "wordle" of all the words you feel are connected to this hard time?

Complete the tasks, reflecting on the commandment

PE

PE with Joe. This is a 30minute work out with Joe 9am. If you miss the live workout all the workouts are you to catch up with when you are ready. Try and everyday as well as going outside once a day to



every day from on YouTube for complete this exercise.

MATHS

Algebra

One-Step Function Machines

Use this function machine to find the missing input and output values in the table.

Input	6	6.3	11	-4				
Output					20	12	165	0

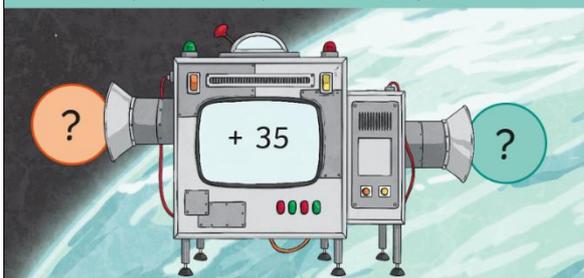
If I were to input the number 6 into the machine (which adds 27) what would my output be?

Can you create your own function machines in this same style?

Expressions

A mathematical **formula** expresses the relationship between two unknown **values**.

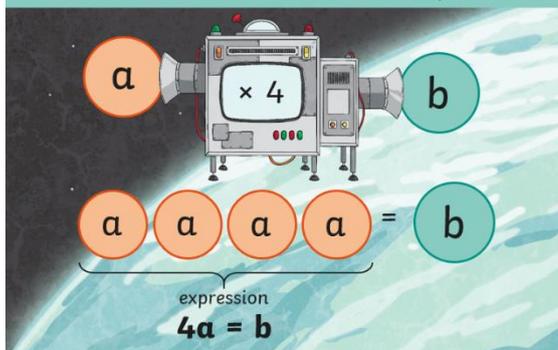
This function machine is an example of a formula, as the output value is dependent on the input value.



an unknown value, it is called a **variable**.

Use what you have already learnt in your Year 6 maths lessons and this idea of a one-step function to create expressions.

Here is a different function machine which uses multiplication. In algebra, the multiplication sign can get confused with the letter 'x' so it is not used when we write the expression.



FIVE MINUTE FRENZY

https://www.math-drills.com/multiplication/multiplication_five_minute_frenzy_left4_0212_001.php

Use this link to practise your times tables

In algebra, **letters** are used to represent unknown values.

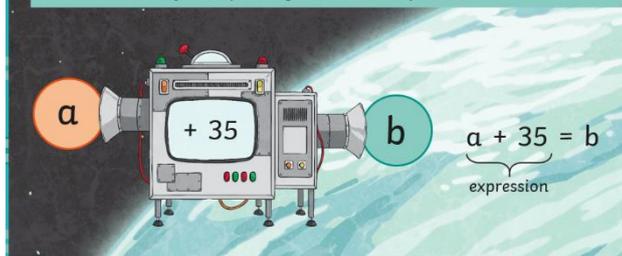
Any letter can be used to represent an unknown value.

When a letter is used in algebra to represent

Expressions

Any formula can be written down as a number sentence.

The groups of numbers and letters either side of the equals sign are called **expressions**.



BODMAS

Here are some multi-part expressions. Complete the underlined part of the expression first then use the answer to that to complete the expression.

Here is an example: $3 \times \frac{(2+6)}{8} = 24$

1. $7 \times (8 - 3)$

6. $21 \div (4 + 3)$

11. $9 \times (3 + 3)$

2. $7 + 9 \times 2$

7. $10 - 9 \div 3$

12. $2^3 - (3 + 1)$

3. $10 \div (6 - 4)$

8. $7 + 6 \times 4$

13. $(10 + 5) \div 5$

Can you remember what BODMAS stands for?

B=

O=

D=

M=

M=

A=

S=

Calculate:

1. $(3 + 6) \times (8 - 5) =$

6. $8 \div (7 - 5) \times 6 =$

2. $7 + 8 \times 9 - 4 =$

7. $9 \times 3 + 18 \div 9 =$

3. $8 \times (6 + 3) + 5 =$

8. $(124 \div 2) \times 2^2 =$

4. $(19 - 7) + 8^2 + 9 =$

9. $23 - 3 \times (5 + 8) =$

5. $9 \times (5 + 6) + 4 =$

10. $8 + 7 \times (12 - 5) =$

Put brackets in the following to make the answers correct.

1. $6 \times 7 - 4 \times 8 = 10$

6. $8 \times 7 - 4 \div 6 = 4$

2. $8 \times 9 - 5 - 6 = 26$

7. $9 + 23 - 5 \times 5 = 7$

3. $24 - 17 \times 8 - 16 = 40$

8. $5 + 11 \div 7 - 3 = 4$

4. $14 + 6 \times 4 - 32 = 6$

9. $7 + 6 \times 12 - 7 = 37$

5. $9 \times 7 - 6 \times 3 = 27$

10. $15 + 9 \div 6 - 4 = 0$

Use these questions to either answer or to inspire you to create your own BODMAS questions

<https://www.thenational.academy/>

For your maths lessons in this pack we are going to use the National Academy materials use the link to find the page.

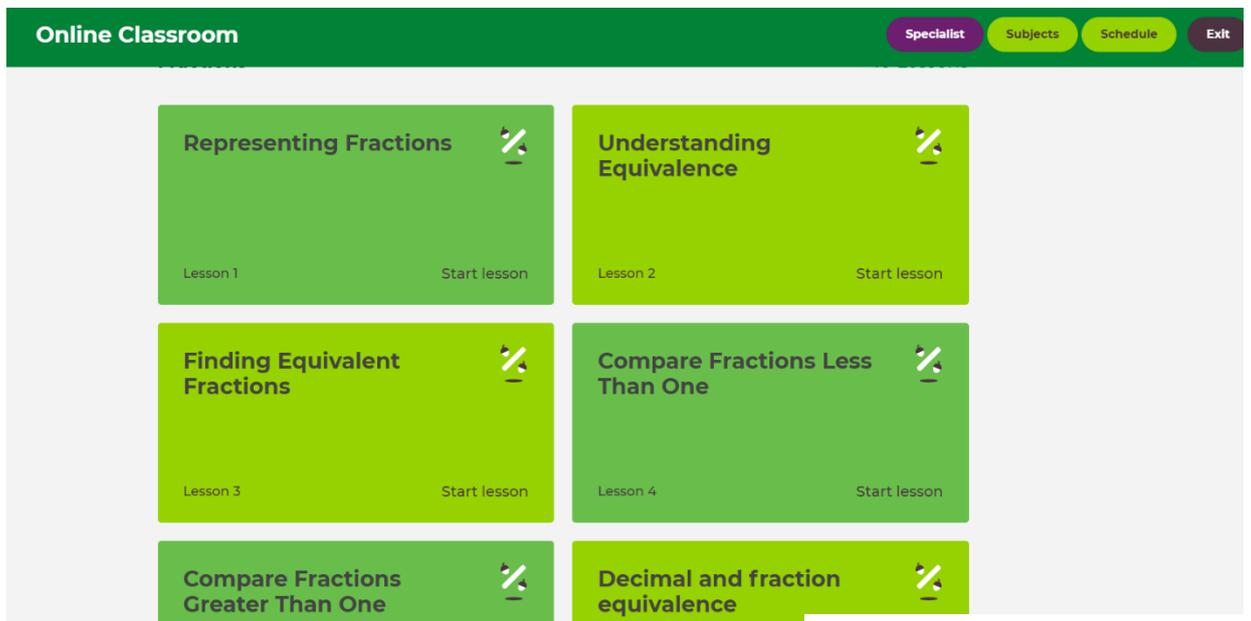
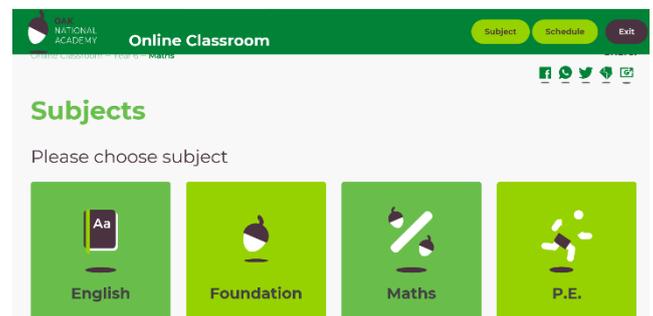
Click Classroom

Select Year 6

Then Subject and click on maths

Depending how far you got with your maths online lessons from the previous pack will determine where you start today. Some of you may have completed all the lessons on fractions whilst others may have needed more time to revise this subject. Wherever you are at, you can access these maths lessons and explore the next set.

If it gets too tricky for you, you can go back to the previous year and find the work, or if you want to practice some of your other maths skills



There are 10 lessons on fractions. Once you have completed these, move on to the missing angles and lengths section. Remember to take the introductory quiz first.

Introductory Quiz

This quiz will help you to check any previous learning on this topic, and re-cap anything you may have forgotten. Once you have completed this, click 'Close Quiz' and then 'Next Activity' below.

Start Quiz

More Maths

In the Home tools/Maths, find the multiplication calculator.
This allows you to practise your times tables at your speed and whichever times tables you need to be working on.
Once you have clicked on the calculator there are 2 options. Only do the Assessment one when you are ready to test yourself...Good luck. Play this one every day!

English

Modal verbs
Modal verbs express a degree of possibility of something happening

Use the modal verbs on the slide to create your own statements to show how likely something was.

You might want to produce this in question form e.g. which modal verb fits this sentence best ...

He is really good at swimming so he (must/should/would) practise a lot.

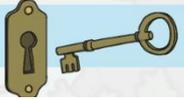
The answer is must

Modal verbs can be used to show how possible something is, or how likely it is to happen/have happened.

For example:

He's very late. He **could have missed** the train. 

It's snowing so it **must be** very cold outside. 

They **will lock** the windows when they go out. 

Modal verbs are auxiliary verbs which cannot usually work alone. They are used with a main verb.

These are **modal verbs**:

might	will	should	may	would
can	could	must	shall	ought to

1. Choose one of these modal verbs to complete each of these sentences.
You may only use each once so cross it off when you have used it!

can

might

will

should

would

can't

may

must

shouldn't

couldn't

- a) Pasha _____ complete her homework.
 b) He was so tired he _____ keep his eyes open.
 c) Tom is a great footballer. He _____ even play in goal!
 d) If she keeps trying hard, she _____ just have a chance.
 e) He is still learning. He _____ do his shoe laces up just yet.
 f) You _____ hurt people or steal things.
 g) When you have finished, you _____ leave the table.
 h) It has been ordered, so when they get there, they _____ find it waiting for them.
 i) The bitter cold makes it certain there _____ be icy roads tomorrow.
 j) I _____ happily swap places with a millionaire.

Modal verbs can also be used to show:

advice or obligation

Pupils **must** wear a uniform.

You **should** not smoke.



habits

I **will** often have cereal for my breakfast.

We **shall** always enjoy a walk in the park.



permission

May I leave a few minutes early?

Could we go to the post box on the way?

Please can we have an ice cream?



ability

I **can** drive a tractor.

My grandfather **could** draw very well.



Create sentences using the modal verbs to signify one of the ways they can be used and test your family or friends. Obviously, you have to know the answer.

<https://www.literacyshed.com/home.html>

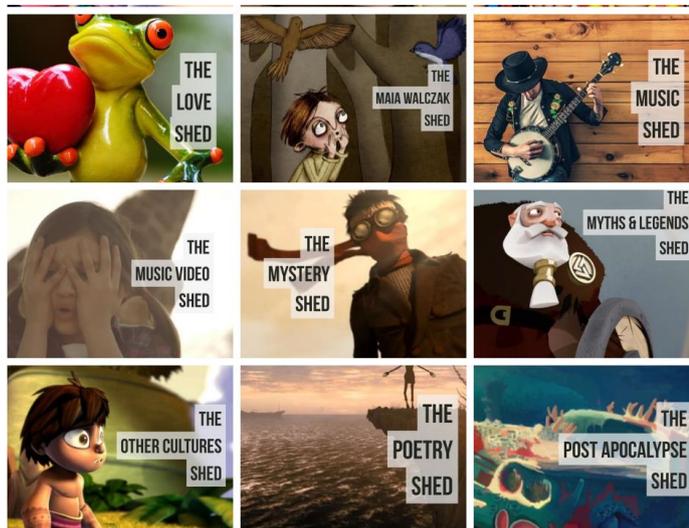
The literacy shed has lots of great stimuli for writing.

There are different “sheds” depending on genre, you might remember Bjorn the Viking from your lessons in Year 5

The Sheds



on



Ideas:

You could choose to use one of the clips and retell the story in your own words

Challenge yourself to retell the whole story in only 50 words. It must make sense and you must include all the significant events

Create a playscript for one of the stories, remember to include stage directions in brackets

The literacy shed gives a fantastic opportunity to create character and setting descriptions.

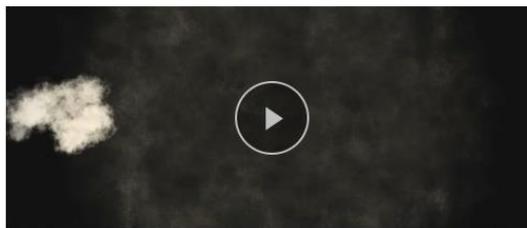
Use figurative language to help you describe.

Figurative language = similes, metaphors and personification

KING MIDAS

King Midas

I love this short version of the King Midas story. It has a modern twist. Midas rings the apartment buzzer at 'Olympus Towers'. Dionysus answers and grants Midas's request to turn everything to Gold. He laughs an evil laugh as Midas leaves - perhaps the children could discuss why this is.



Children could also discuss what they would wish/ask for.

The simple imagery lends itself to comic strip style writing, the images of both Midas and Dionysus are simple to replicate. The children could create a comic strip to retell the story.

The children could rewrite this myth and write a 'two weeks later' section. This could include him becoming rich but then starving to death.

[Compare with the skittles advert \(Click here to view on you tube\)](#)

The children can write a narrative about having 'The Midas Touch' deciding what everything turned to when they touched it and describing the consequences.

If you go on to the myths and legends shed and scroll down, you will find this clip that links with the topic of Greece.

Look at the activities attached to the clip ^^^^

Active and passive voice.

Using the Passive Voice to Affect the Presentation of a Sentence

In a passive sentence, the 'thing' that would normally be the object is turned into the subject by the passive use of the verb.

Passive sentences use an auxiliary verb followed by a past participle verb form.

Passive Verb Form

The car was driven by Tom.
The grapes were picked by the gardener.
The fox was chased by the yapping dog.
Fines are issued by the courts.
Photographs were taken by dad.
This path was laid in 1905.
Tina's book is being marked by Miss Gee.
The victim was bitten by a vampire.
Jack was given a warning by the referee.
The songs are performed by the school choir.

Active Verb Form

Tom drove the car.
The gardener picked the grapes.
The yapping dog chased the fox.
The courts issue fines.
Dad took photographs.
They laid this path in 1905.
Miss Gee is marking Tina's book.
A vampire bit the victim.
The referee gave Jack a warning.
The school choir performs the songs.

Sentences are made up of SUBJECT, VERB and OBJECT

What Are Active and Passive Voice?

Can you write definitions for 'active' and 'passive' voice?

Active Voice

In an active sentence, the **subject** performs the **action** (the verb) to the **object**.

Passive Voice

In a passive sentence, the thing that would normally be the **object** gets turned into the **subject** through the use of the passive form of the verb. They often include a prepositional phrase starting with 'by'.

2. The year 6 children run a tuck shop on Wednesday mornings.

3. Your cat took the last biscuit off the plate.

4. Mrs Tellman organised a theatre trip to watch Macbeth.

5. The handsome tiger gnawed aggressively at the bone.

6. John gave his old toys to the charity shop.

7. Freddie saw the latest Harry Potter film at the cinema.

8. Mr Mitchell spoke about the playground incident in assembly this morning.

9. The new vicar replaced Father Peter last year.

10. Sarah took the hamster to the vet.

Answer to number 1

=

The quivering X Factor contestant was glared at by Simon Cowell.

Create your own active sentences and rewrite them in the passive voice

History

Information link = <https://www.bbc.co.uk/bitesize/topics/z87tn39/articles/z36j7ty>

ANCIENT
GREECE

The Greeks loved sport and the Olympic Games were the **biggest** sporting event in the ancient calendar.

The Olympic Games began over 2,700 years ago in Olympia, in south west Greece. Every **four years**, around 50,000 people came from all over the Greek world to watch and take part. The ancient games were also a religious festival, held in honour of **Zeus**, the king of the gods.

There were no gold, silver and bronze medals. Winners were given a **wreath of leaves** and a **hero's welcome** back home. Athletes competed for the glory of their city and winners were seen as being touched by the gods.

A truce for the sacred games

Before the games began, messengers were sent out to announce a 'sacred truce' or a peace. This meant that any wars should be called off so that people could travel safely to Olympia.

The entire games were dedicated to Zeus. Visitors flocked to see the Temple of Zeus. Inside stood a huge gold and ivory statue of the king of the gods himself.

The main event at the Olympics was not a sporting event, but a sacrifice. On the third day of the games, 100 oxen were sacrificed and burnt on the Altar of Zeus.

This altar was not made from stone. Instead it was made from the leftover ash of all the sacrificed oxen. By around 200AD, the mound of ash stood six meters high!

Click on the athletes **below** to find out more about some of the sporting events at the ancient games.



<<<Use the link at the top of this section to interact with this clip

Women at Olympia

Only men, boys and unmarried girls were allowed to attend the Olympic Games.

Married women were barred.

If they were caught sneaking in, they could be thrown off the side of a mountain as punishment!

However, women could still own horses in the chariot races at the Olympics and unmarried women had their own festival at Olympia every four years.

This was called the Heraia and was held in honour of Hera, Zeus's wife. Winners were awarded crowns of sacred olive branches, the same as men. But in ancient Greece, only Spartan women were really interested in sport.

The Olympics

CHALLENGE: what has changed in today's society that makes this shocking? Perhaps you could create a debate or balanced argument for this situation.

The Olympics actually started in Ancient Greece. The different city states often fought but during the Olympics, peace was declared and everyone came together to enjoy the games.

The games began in 776BC in Olympia. It is believed that the games were a religious event to honour Zeus who was the king of the Gods

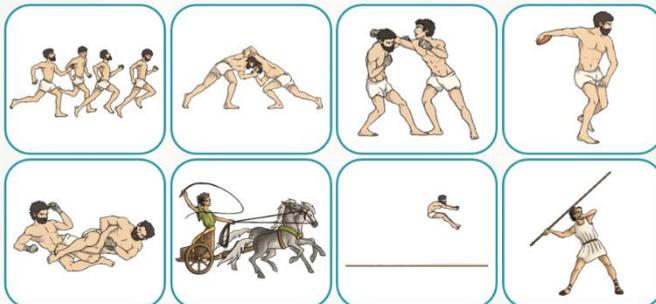


Married women were not allowed at the Olympic Games. However, one story tells of a mother so keen to see her son compete that she broke the no-women rule and got in disguised as a man.

What event?

What are each of these events?

Look at the pictures of different Greek vases on your tables. What event do you think each vase shows?

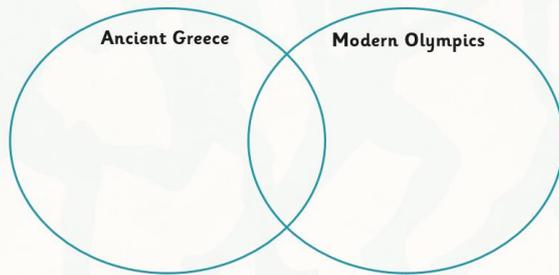


The Legacy



What events do athletes compete in the modern Olympics that originated from the original Greek Olympic Games?

Complete the Venn diagram showing ancient events, modern events and events that are in both!



<https://www.youtube.com/watch?v=VutjmxCoD4I>

<https://www.historyforkids.net/ancient-greek-olympics.html>

<https://www.youtube.com/watch?v=VdHHus8lgYA>

What Events and Awards Were Part of the Ancient Olympics?

At the beginning, the games were just short foot races designed to keep Greek men fit for the intensity of war.

The path for the foot races was about 700 feet long and straight.

It was also wide enough for twenty men to run side by side.

Only men who spoke Greek were allowed to take part in the races.

Men ran the races without any clothes on. Gradually, other events were added but there were no team sports like in the modern Olympics.

Over time other events were added.

Horse races, chariot races, boxing, and wrestling were all popular events in addition to the foot races.

There was also a special event that consisted of five different sports activities: wrestling, running, the long jump, disc throwing, and spear throwing.

The Modern Olympics

The modern Olympics were started in 1896 by a French educator and historian by the name of Pierre de Coubertin.

Pierre loved sports and felt that the world's countries would have more of an opportunity for peace if they gathered together to play sports. He designed the five colour rings that are used to represent the Olympic Games today. The rings stand for North and South America, Africa, Asia, Europe, and Australia. At the beginning of the games a flame is lit. The flame begins in Olympia and is passed from torch to torch until the location of the games is reached. The location changes every time the Olympic games are played. Today the Olympic games are the largest sporting event in the world. There are summer and winter games and over 30 sports are played. Men and women from all over the world compete to win the gold, bronze, and silver medals.

Greek Gods Stories



A Story About Zeus

Zeus was the god of the sky and ruler of the gods.

He was once travelling with his son, Hermes. Both men were disguised as ordinary men. On their travels, they stopped at many different houses asking for shelter and food, but they were refused every time.

Zeus and his son came to a house belonging to a very poor, elderly couple. Baucis and her husband, Philemon, offered the visitors a meal and somewhere to rest for the night. As refreshment, the couple offered the men their only jug of wine. Later that evening, Baucis noticed that the jug had been refilled so she turned to her husband and told him that the men must be gods.

Zeus punished those who had refused them food and shelter by causing a terrible flood. All the homes in the valley were destroyed, except for the hut belonging to Baucis and Philemon. To repay their kindness, Zeus transformed their little hut into a temple, where they lived out their lives as priestess and priest. As Baucis and Philemon were such a devoted couple, Zeus agreed to ensure that they would never be parted. When they died, they turned into oak and linden trees. The branches of the trees were entwined.



A Story About Athena and Poseidon

Athena was the strong and wise daughter of Zeus. When she was born, she was dressed in armour and carried a shield and sword.

Poseidon was the god of the seas. He had a beard, long hair, drove a golden chariot and carried a trident. Athena and Poseidon were rivals.

The people of a new city wanted a god to look after them and both Athena and Poseidon wanted this important role.

To try and impress the citizens, Poseidon gave the city a gift. When he struck his trident into the ground, water gushed out. The water became a river, which flowed to the sea. Poseidon told the people to build ships so that they could sail to the sea, enabling them to travel anywhere and become prosperous and powerful people. The citizens were impressed and began to think that Poseidon would be a good protector, then Athena told them to taste the water. The people were disgusted by the taste of the saltwater and began to change their minds about Poseidon.

Next, Athena gave the people of the city her gift. She struck the ground with her spear and a tree began to grow. Athena told the citizens that it was an olive tree which had many uses. Firstly, the wood could be used for building and heating, the olives growing on the tree could be eaten and thirdly, the oil from the olives could be used when cooking. The people preferred

Athena's gift and they chose her to protect the city. The citizens decided to name the city after her, calling it Athens. Poseidon wasn't happy about the decision, so he caused a terrible flood.

With the help of Athena, the city became strong and prosperous. Today, it is the capital city of Greece.



A Story About Hermes and Apollo

Zeus was Hermes' father. Hermes was born in a cave and hours later, decided he would make himself a toy. He found a tortoise shell, tied strings across it and plucked them to make the very first music. Hermes had created the first musical instrument, the lyre.

His beautiful playing made his mother sleepy. Whilst she was sleeping, he left the cave and went out to explore the world he had been born into.

Hermes came across a herd of cattle which belonged to Apollo, one of the gods. Hermes liked the animals so much that he decided to steal them. He found a hiding place for the cattle, then returned to the cave, climbing back into his mother's arms as if nothing had happened.

Apollo was furious to see his cattle had been stolen so he began searching for the thief. He found Hermes eventually, but was shocked to find that he was only a baby. Apollo wanted his cattle back, so Hermes began playing the lyre. Apollo was completely enchanted by the music and let Hermes keep the cattle, in exchange for the instrument. From this moment onwards, Apollo carried the lyre with him.

Throughout his life, Hermes continued to be mischievous. He wore a winged hat and sandals which meant he could travel quickly. This helped him to send messages between the gods and the mortals.



Stories about Ares

Ares was the god of war. He carried a shield and wore armour.

Ares wasn't loyal in battle and during the Trojan War, he promised his mother that he would help the Greeks. However, Ares was in love with Aphrodite and she easily persuaded him to help the Trojans instead.

He never fought with fellow gods, so he challenged a Greek mortal named Diomedes. Diomedes wounded Ares and even though the wound wasn't serious, he ran crying to his father, Zeus. His father bandaged the wound for him, but he wasn't proud of his so-called warrior son.



A Story About Artemis

Artemis was Apollo's twin sister. She was goddess of hunting and the moon. She hunted in the forests with a bow and arrow. Artemis was also smart, and a very good fighter.

The river god, Alpheus, fell in love with Artemis and chased her through the forest. Artemis covered her face in mud, as did her nymphs (female followers). Alpheus couldn't tell Artemis apart from the nymphs, so he gave up his search for her.



A Story About Hestia

Hestia was the oldest of the gods of Olympus. She was also very beautiful. The other gods had duties, but for some time, nobody knew what Hestia could be responsible for.

Apollo and Poseidon once announced to Zeus that they both loved Hestia, and that he must choose the best husband for her. Zeus didn't want the gods fighting between themselves, so he knew this had to be resolved. He didn't have to worry though, because Hestia solved the problem herself. She told both men that she would never

marry. As a token of appreciation, Zeus gave Hestia a key to Olympus and put her in charge of making sure the gods had everything they needed, such as food and clothing. Zeus also made Hestia the goddess of the home and family.

Hestia wanted a quiet, happy and peaceful life, so when Zeus' half-son Dionysus went to Olympus demanding a throne, Hestia was more than happy to give hers up for him. Being the goddess of the home, she was too busy to sit down anyway!



A Story About Demeter

Erysichthon was a very arrogant, selfish and greedy man. In Thessaly, there was a huge oak tree dedicated to Demeter, the goddess of agriculture. The tree was decorated by the local people and many used it as a place to make vows to the goddess.

Erysichthon ordered that his slaves cut the tree down in order to make a banqueting table. None of his slaves felt they could do such a thing, so Erysichthon did it himself.

During the first hit, Demeter appeared to him as a priest, requesting that he stop what he was doing, but Erysichthon continued regardless. Next, Demeter appeared to him in her goddess form. She sent away the slaves and punished Erysichthon with a curse. The curse was that Erysichthon's hunger would never be satisfied.

If you were going to be the god or goddess of something what would it be? What would your characteristics be? Who would you be related to? What is the story to your background? What would you look like? What clothes would you wear?

Create your own story. This could be about the god/goddess you have decided to be or you can adapt one of the stories in the pack. Think of an alternative ending, change the characters or the plot. Or you can research a different story involving one of the Greek gods.

History
Greeks
Week one of the National Oak Academy
Year 7
History

Lesson 4 - English 

Introduction to Greek Myths

Click to start lesson

Lesson 4 - English 

Greek Myths: The Myth of Pandora

Click to start lesson

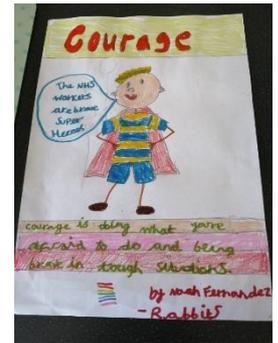
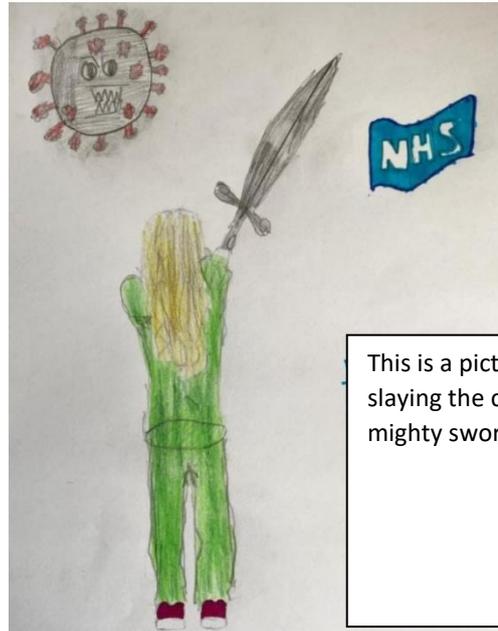
These are lessons made for Year 7, they are interesting lessons about the word myth, and gives you lots of information about Ancient Greece, and why they used these stories. It might be a bit of a challenge, but I want you to work through these lessons as they set the scene for all the Greek myths we look at. Don't worry about some of the amazing vocabulary it will stand you in good stead for next year. The lessons are easy to follow, and you can pause and rewind as much as you like.

ART

Poster for the NHS and key workers.

First of all, consider who those key workers are. There are lots of people who have been bravely working over the last couple of months to keep us going. How many can you name?

Food for thought: What does 'NHS workers' mean? Because remember it isn't just the wonderful doctors and fabulous nurses, it is the physiotherapists, the radiologists, the midwives, the health care assistants, the paramedics, the porters, the cleaners, the admin staff, the people maintaining the hospital and many, many more



This is a picture of an NHS worker slaying the corona virus with a mighty sword!

You may have already done a poster to show your support for the NHS, I know lots of people have been putting them in their windows and they are brightening up the streets for sure.

But I would like you to consider the bravery of key workers and what they are sacrificing to keep us going.

I would like you to create a picture that shows the strength, care, kindness, courage and compassion of our frontline workers.

Science

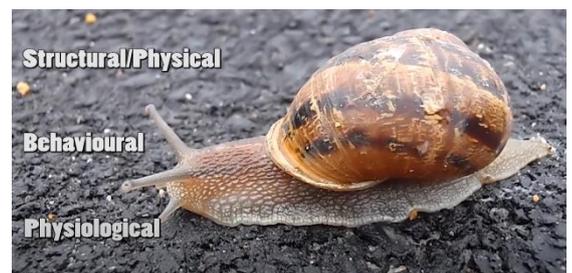
<https://www.youtube.com/watch?v=vnmPdHmRv9o>

use the above link to help you decide what the difference between physical, behavioural and physiological adaptations are.

Adaptation

Success criteria

- I know that mutations are adaptations
- I can identify adaptive traits



When you see a fish swimming in its habitat, it is noticeable that it is suited to it.

Can you think of two ways that fish are suited to living in the water?

Examples: It has gills to breathe in oxygen in the water.

It has fins that allow it to move through water easily.

It has a special bladder called a swim bladder which allows it to remain buoyant.

So it's easy to think that the fish has adapted (changed) – to suit its habitat or environment. But this is incorrect! No living thing changes deliberately to adapt to an environment. Think about it - if you wanted to change and live in the sea would you be able to choose to grow fins? If you were in the water long enough would you start to develop gills? The answer for both is no!
Even though it may seem hard to believe, this fish has developed all of these features accidentally, not intentionally or deliberately.

The adaptations, each of which have occurred over time (which is called evolution) make it easier for the fish to live in water and survive.

We only see the fish as it is now and not the other fish who started off similar to it but whose adaptations made it harder, rather than easier, to live in the water. These fish have become extinct as a result.

The successful adaptations allowed the fish to survive in the water better. Hence the fact that this fish is still alive now.

Adaptation is not a part of a living thing, it is a process. The parts, such as gills, are called the 'adaptive traits'.

So how do these random, accidental adaptations occur? The usual cause is random mutations. We need to go back to our DNA.

Each cell has a copy of the DNA. Random mutations occur when the cell becomes damaged and fails to repair itself completely. Sometimes this failure affects the DNA in the cell.

In this situation, the DNA stays slightly different. When the cell with the mutated DNA replicates, it will do so with the mutation.

Mutations are not in themselves good or bad. Some mutations have no effect at all! However, other mutations can cause us to lose or gain functions.

One example of this is the ability of humans to drink milk after infancy.

All other mammals stop drinking milk after they are weaned. As they develop they become lactose intolerant (the body stops being able to digest milk).

A mutation in humans has allowed us to carry on drinking milk even after we are weaned as babies. Further mutation means we can drink the milk of other mammals – such as cows, sheep and goats. Again no other mammal does this!

Adaptive traits enable a living thing to survive better in its habitat or environment. As it lives longer, it means that it has a greater chance of reproducing and so the adaptive trait gets passed on.

Your task is to identify adaptive traits in living things.

<https://www.youtube.com/watch?v=a85IHqFhyw4>

<https://www.youtube.com/watch?v=60z63mce2Xc> warning this one is about poop and has interesting but gross facts!

Guidance

Adaptation and Adaptive Traits

It is important that the children understand that adaptation is a process, not a part of a living thing. These are the adaptive traits.

Furthermore, misconceptions could arise with children mistaking behavioural traits with adaptive ones. So, while the spikes of a hedgehog are adaptive traits, curling up if sensing it is in danger is a behavioural trait.

Behavioural Traits

Behavioural traits can also be referred to as acquired traits – i.e. those traits that we learn. Some living things have far more acquired traits than others, for example animals more than plants.

Plants do not have brains or neural tissues but nevertheless they have a sophisticated calcium-based signalling network in their cells similar to an animal's memory processes. Therefore, it is possible for plants to learn behaviour. A good example of this is the Mimosa plant, which can learn through repetition when to close its leaves and when not to depending on the likelihood of a damaging consequence.

Favourable and Unfavourable Adaptive Traits

It is essential that children understand that we are at a point in time where the vast majority of species have evolved so that they seem entirely suited to their habitat or environment. However, as will be explored in Lessons 4 and 5, those living things where either no mutations or mutations that were unfavourable to surviving and reproducing, have become extinct. If they had lived at a different point in the past, they would have seen a greater variety of the same species than now.

Accidental Adaptations

It is also important to reinforce in this, and future lessons, that adaptation is accidental (not deliberately caused). A good example would be to highlight marine mammals such as whales and dolphins, who have never developed gills despite living entirely in the water. As they have lungs, they have to surface in order to breathe. In other ways they are 'fish-like' in terms of adaptive traits such as fins and tails.

Additionally, mutations in genes can occur due to the environment affecting the living things cell structure and DNA. Again, this is not deliberate and any adaptive traits that are the result of this are entirely accidental.

Theories of Adaptation and Evolution

Over the last 200 years the narrative relating to life on earth and how it has developed has changed significantly due to scientific breakthroughs.

It is important that children understand that we are still making discoveries in this area and that explanations put forward as little as 20 or 30 years ago have changed profoundly (for example the idea of genes as solitary structures controlling a specific aspect of development, instead we know now that genes interact and affect one another in many yet unknown ways).

<https://www.youtube.com/watch?v=xDSFIRunlrU>

<https://www.youtube.com/watch?v=FRX2JtKFUzk>

What adaptation do you think would benefit humans? It can be weird and wonderful (think Xmen) or a sensible suggestion to help planet earth 😊

<https://www.youtube.com/watch?v=S6iiuFj5hzo>

