Wickham Church of England Primary School

Home Learning

1.5.2020

Year 6

Let me begin by saying how incredibly proud we are of each of you. It has been lovely to see some of the tasks you have been completing at home (both those that have been set and those that you have set for yourself) and even more wonderful to see that on top of this strange situation you have been helping out at home, doing your best and striving for excellence; we look forward to seeing even more examples of your efforts in the coming days. Remember, you can find all the home learning packs on our website. Click on Teaching and Learning/ Home Learning

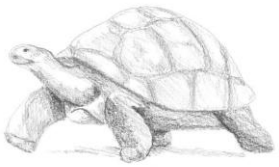
Reading: A Week on the Galapagos Islands

Monday 25th March:

Jenny Shaw, biologist, reporting for duty! I'm writing this on a small boat heading to the **archipelago** of the Galapagos Islands, due west of South America. My interest in the work of Charles Darwin lead me to study these islands. Darwin, who is a **renowned** biologist, also sailed to these islands in1835 and was puzzled by the unique wildlife he found there. Years earlier, after a failed attempt at a career in medicine, he was unexpectedly offered the job of a '**naturalist**' on board the 'Beagle', a small sailing vessel set for a voyage around the world. During the long and **arduous** journey, he spent five weeks on the Galapagos Islands, where Darwin studied and collected specimens which kept him thinking, studying and writing for the next fifty years. Darwin's new ideas –known as **Evolution** and Natural Selection – **revolutionised** the way people think about the natural world and it is still influencing scientists today –including me!

As soon as I learned about Darwin at school, I wanted to see some of the unique creatures which he studied. Not many people get to witness the natural splendour of these islands and their rare wildlife with their own eyes....and I longed to be one of the lucky few. So that is why I'm on my way to the Galapagos right now....and I'm feeling a bit sick because of the rough seas we've encountered....blergh!! I've been thinking, studying and writing about the species which live on these **mesmerizing** islands just like Darwin and now I'm actually going, I'm full of **anticipation** and excitement!! Writing a diary, making notes and sketches during –what I hope will be –an awe-inspiring expedition, will provide me with a lasting memory of a trip which I've always dreamed of.

Tuesday 26th March:

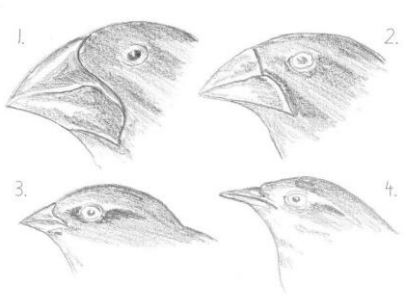


Sailing into the Galapagos Islands, I felt rather like Darwin; an **intrepid** explorer. I was dazzled by the sunlight on the water's surface and my eyes widened to take in the **hypnotising** vivid azure blue and emerald green colours. It was overwhelming and more beautiful than I ever expected. At first, we seemed to be the only living things around. However, as I surveyed the rocky crags, I noticed the rocks....weren't rocks.....but Galapagos Tortoises! These islands are actually named after these creatures and they have been known to live for more than 100 years! Strangely, they differ from tortoises on the mainland and I was amazed to see these variations for myself. Local people told Darwin that the tortoises were different on each separate island; they were much larger and had different shaped shells for example. Incredibly, the tortoises have adapted their shells over time to help them survive on their own individual island. The stunning tortoise I watched had a saddle-back shell. On other islands they have dome shaped shells. (I hope I get the privilege of observing them too:) Most species inherit features from both its mother and father. However we all have natural variations or differences, which make us different from our parents. Some variations are an advantage and make survival easier but some are a disadvantage and make an individual weaker. Long ago, some of these tortoises were lucky enough to be born with the natural variation of a saddle-back shell, making survival easier as they could reach food higher off the dry ground, which other tortoises could not reach. Darwin called this process 'natural selection'. This means, individuals with **traits** suited to their environment survive and weaker **specimens** die out. This is also known as survival of the fittest. Because the adults with the adapted shell were more likely to survive, they were also more likely to reproduce and pass on the positive variation. Now all adults on this island have the saddle-back shell and therefore pass this on to all of their young, allowing the species to be fit for survival on this island and so these wonderful tortoises live on. The **species** has evolved –gradually changed and adapted over time. The power of nature astounds me! Darwin was a genius! I thought about this natural miracle and watched them feeding and **foraging**, the remarkable shell allowing them to do so with ease and charm. As the daylight now **wanes**, I'm glad I've shared some of their secrets.

Wednesday 27thMarch

This morning I awoke to a beautiful, **melodious** bird song. Looking out of the window, I saw a small finch chirping tunefully. Surely a Galapagos finch. Darwin had made sketches of these unusual finches and I had studied them at university, fascinated by their evolution. Darwin had counted about 13 different types of finch living on the Galapagos Islands. All found only on these islands, and nowhere else in the world! Originally, they all had the same shaped beaks and probably came from the mainland. But now their heads –and particularly their beaks –were not all the same. Darwin realised that each finch's beak had gradually adapted to eat the different food available on their particular island. So finches on islands where large, hard-shelled nuts were **prevalent** developed **robust** beaks (far left), and finches on islands where insects or flowers were available developed delicate, pointy beaks (far right). Now I watched an insect-eater with its long, thin beak digging out the insects. Observing **intently**, I tried to sketch the finch just as Darwin had. I watched the result of evolution right in front of my eyes! A-maz-ing! Right now, I am in complete **awe** of the **intricate** beauty of our natural world.

Friday 29thMarch:

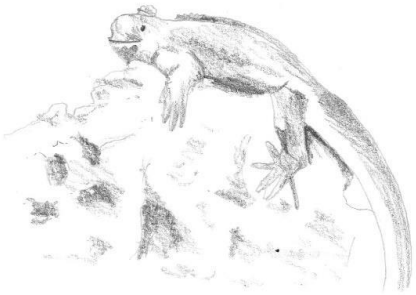


Today was different. I wanted to broaden my experiences so I joined with a team of **palaeontologists** to explore the species which may have lived here during prehistoric times. Was evolution apparent even so long ago? I was taken on an exhausting (and sweaty!) hike through the mountains to the site where, only recently, the fossilised remains of a dwarf elephant were discovered. A dwarf elephant...it sounded like something from a fantasy story! However, the team informed me that on small islands, large species can adapt and evolve smaller bodies so as the limited availability of food would be enough to **nourish** them. Wow, I'm astonished! Even millions of years ago, species were adapting and evolving so as they could try to survive! At some point though and for some reason this species became extinct. Maybe it just couldn't adapt enough. Now the delicate fossil in my hand was all that remained. Holding it carefully, I tried to imagine the animal which this fossil once was and its struggle for survival. Nature had **dictated** the fate of this species. Like detectives, the team here continue to research dwarf elephants and their fossils. I wonder what clues they will discover next!

Saturday 30thMarch:

I'm writing as I sit watching a marine iguana. Its short, blunt nose is well-adapted to feeding on sea algae. On one or two islands, marine iguanas have been seen feeding on land plants or grasshoppers, perhaps an adaptation because sea algae, at certain times of year and during certain types of weather, can be very scarce. Lately, scientists here have found that, when food is scarce, the adult marine iguanas will shrink in length and then regrow as food becomes plentiful again. They can switch between growing and shrinking repeatedly throughout their life. A perfect adaptation to the food cycles in Galapagos -nature at its best!

Sunday 31st March:



Well my time here is sadly coming to an end. I have marvelled at the incredible beauty of the natural world; observed rare species which only live on the Galapagos Islands; witnessed creatures which have adapted in magnificent ways, allowing animals to survive then reproduce meaning the adaptations can be passed on to future generations and how all this leads to evolution. Even more now, I admire and respect the variations and transformations of life in our world. Let's treasure it forever. Following in the footsteps of Charles Darwin has been a true honour.

Tasks:

1. Create a glossary of the red words – some of the words you will be able to work out their meanings using the skills we have taught you in class.

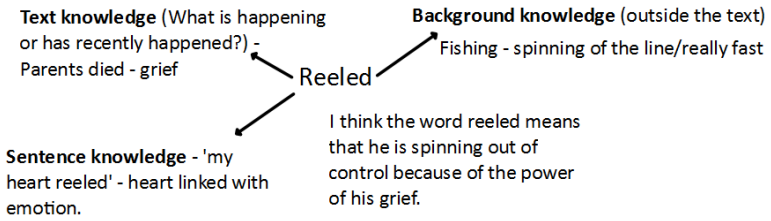
   For example you can look at how the word is constructed (prefix, root word and suffix) How does this link to the meaning?

   The suffix ous means full of

   Melodious

   The root word melody links to music or a tune

   Or



2. Which two features of the text tell you it is a diary?
   What caption would be suitable for the picture of the birds (remember to think about the purpose of a caption)?
3. How is Jenny similar to Darwin?
   Explain fully (PEE paragraph) why Jenny visited the Galapagos islands.
   Give two reasons that Jenny sketched the finches.
4. Why does Jenny use the phrase 'Let's treasure it forever!'?
   Why does Jenny use the word 'intricate' to describe the beauty of the natural world?
   'Nature had dictated the fate of this species.' What does this phrase mean?

Writing:

Pick a scientist of your choice Mary Anning 1799-1847 - Charles Darwin 1809-1882 - Alfred Wallace 1823-1913 (they all had thoughts about evolution).

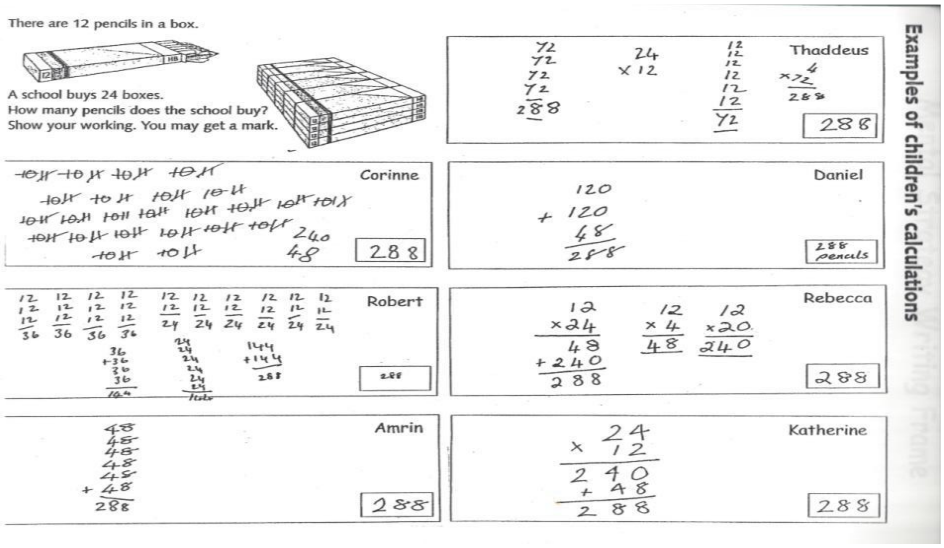
Choose a piece of writing to complete or challenge yourself and do two. You could:

Write a biography about your chosen Scientist; write a series of diary entries from important parts of their life; write a graphic novel which tells the tale of the person's life (This is not the easy option - remember to add in narrative as well as speech to ensure your reader understands where the character is, who they are with etc. *If you would really like to this but don't know where to start send me an email and I will send you a guide.*)

You may want to consider:

a) When they were born?
b) Where they were born?
c) Their family and where they grew up ?
d) Significant life events?
e) Why are they famous?
f) What did they discover?
g) Why is their work important?

Maths: Choosing an efficient strategy to solve a calculation



With any calculation, there are usually several ways that you could work it out. We often choose a written method, but this is not always the most efficient way. “Efficient” means you are quick and accurate. Making good choices that are best for you is important. The following will help you to reflect on different strategies and make good choices – based on the numbers involved and the type of calculation required.

The first image is an example of a problem, followed by several different approaches chosen by different people. Look at each one carefully and work out each person’s strategy and why it worked. Think also about how you would have solved it. Then think about which is the most efficient strategy – and why.

Use the framework to help you explore different strategies to arithmetic questions.

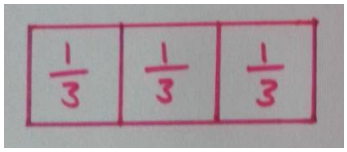
Framework for choosing the most efficient strategy
The calculation: **12 x 24**
My estimate of the answer: Greater than 240 (because 10 x 24 would be 240)
Three strategies I could use: **Double 12 x 12** 12 x 12 = 144. Double 144 is 288. **(10 x 24) + (2 x 24)** 10 x 24 = 240, 2 x 24 is 48, 240 + 48 is 288. 24 **x 12** 48 240 288
Answer to the calculation: 288
The most efficient strategy was: **“Double 12 x 12 because I knew this times table fact and I could double 144 easily in my head.”**

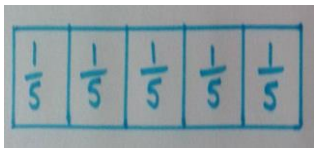
Questions for making efficient strategy choices.

345 − 60 =	2.7 + 3.014 =
167 × 4 =	9 − 3.45 =
45% of 460 =	1 ½ x 57 =
46 + 304 =	879 x 3
4 − 1.15 =	60 ÷ 15 =
10 − 5.4 =	0.5 × 28 =
3.9 × 30 =	99% of 200 =
1.5 x 40	24 × 3 =
472 − 9 =	1.52 × 6 =
95% of 240 =	18 x 5

Task 2:

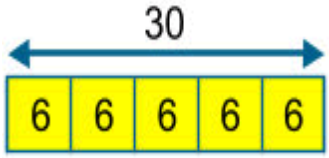
The bar model is useful for all sorts of problems involving fractions. To start with, remember to think of the bar as a whole divided into equal pieces. To work out the number of equal pieces that the bar is divided into, you need to look at the denominator (bottom number of the fraction). For example, to represent thirds (1/3), I divide the bar into three equal pieces, to represent fifths (1/5) I divide the bar into five equal pieces.





It is important, when you are comparing fractions to keep the size of the whole bar the same.

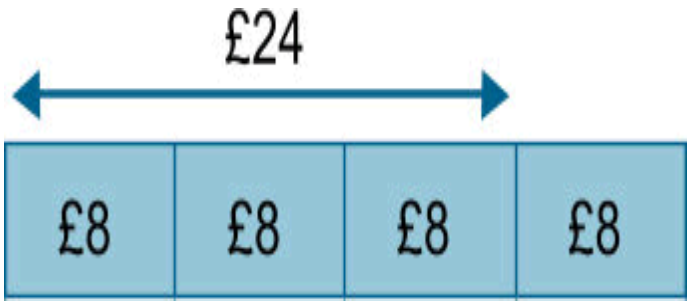
Find 1/5 of 30



The same image can be used to find 2/5 or 3/5 of 30 etc. If 1/5 of 30 equals 6, 2/5 would equal 12 and 3/5 would equal 18…

Finding the original cost of an item that has been reduced in a sale is a problem that can often be tricky to solve. Look below to see how the use of the bar model can make these types of problems much easier to visualise and to solve.

A computer game is £24 in the sale. This is one quarter off its original price. How much did it cost before the sale? (This means that £24 is ¾ of the original price).

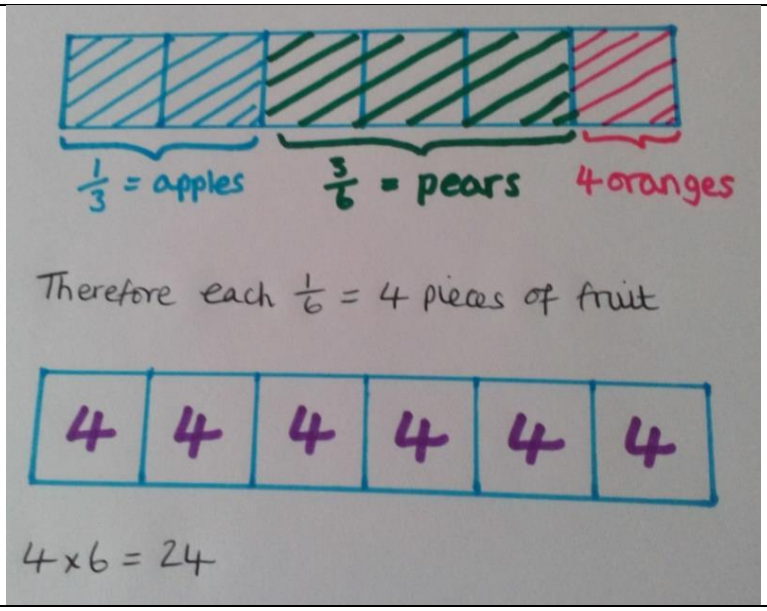


The bar represents the original cost. It is divided into quarters to show the reduced cost of £24.

£24 ÷ 3 = £8, giving the value of three sections of the bar. The final section of the bar must also be £8, since it represents the same proportion as each of the other sections.
£8 × 4 = £32

A framework for using a bar model to solve a problem involving Fractions (worked example)

Problem to solve:	A fruit bowl holds a range of different fruit, 1/3 of the fruit are apples, 3/6 of the fruit are pears and the rest are oranges. If there are 4 oranges, how many pieces of fruit are there in the bowl altogether?
Bar model:	You need to use your knowledge of equivalent fractions here… The fruit bowl represents the whole bar. 3/6 of the fruit are pears, that is the same as ½ . 1/3 of the fruit are apples, that is the same as 2/6. There are 6/6 in one whole. Therefore 1/6 of the fruit are oranges. 4 pieces of fruit represents 1/6 of the fruit bowl. This can be shown in the bar model below:

	
Answer in context of the problem:	There are 24 pieces of fruit in the bowl altogether. There are 4 oranges, 8 apples and 12 pears.

Problems to have a go at:

1.	I win some money in a raffle and, feeling generous, I give 1/2 to charity. 1/2 of what's left I give to my Mum to pay back a loan and I share the remainder equally between my sister and myself. I get £30. How much did I win?
2.	In a large box of Smarties, 3/8 of the Smarties are red and 1/6 are green. The rest are yellow. What fraction of the box are yellow Smarties?
3.	Matt thinks of a number. 5/8 of his number is 25. What is his number?
4.	In a pie eating competition, Luke eats 2 and 3/4 of his pies while Matt eats 20/8 of his pies. Who won the competition?
5.	2/9 of a sum of money is £1.08. What is the total amount of money?
6.	Would you rather have 3/5 of £10 or 70% of £10? Explain your thinking.
7.	My local shop had a sale and was offering a 30% discount on cameras. I bought a new camera and paid £140. How much money did I save?

Science:

Living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

Some characteristics are inherited (come from our parents) through our 'genes' (a sort of 'code' for example: eye colour, tongue rolling and attached or unattached ear lobes) while other characteristics come from the life choices we make and the way that we live, such as where we live and the food we eat or exercise we take (these are called environmental characteristics – identifying these help clarify what is inherited and what is not for example: language, religion).

Option 1 : Collect photos of your family – you could do this with just your parents and yourself or you can look at your siblings, grandparents, aunties and uncles. ***Comparisons would be best made using photos of relatives at the same age that you are.***

Using the pictures create a list of traits that are similar. Where are the differences? For example, my mother and I have the same shape nose, whereas my eye colour is inherited from my father.

Option 2 : Look at breeding/cross breeding of dogs. What qualities or traits to breeds look for? Why? Why do people cross breed dogs?

Create a double page spread and consider the following questions.

What does evolution mean?
What does inheritance mean?
Can you explain how these words have different meanings in different contexts? What characteristics could a child inherit from their parents?