INFOBYTES
Numbers 1-20
RA 12-13 yrs
LEVEL 7
SCHOOL SITE LICENCE: For use at the school of purchase only
InfoBytes - Level 7 - RA 12-13 yrs

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**What are StoryBytes and InfoBytes?**

These resources were originally developed to provide teachers with short pieces of text that could be completed in one guided reading session. They are especially formatted for our SharpReading approach to reading instruction but can be used in any way the teacher wishes.

Our SharpReading Guided Reading lessons for Stage 3-6 are aimed at habitualising deep processing skills, so four paragraphs usually take around 25 minutes, an ideal timeframe for a guided reading lesson. Follow-up activities provide independent responses for the students who have processed the text deeply. Visit our website for a more extensive explanation of the way you can use StoryBytes and InfoBytes.

**Why no illustrations?**

Our understanding of the developmental progression of the reader is that it generally takes about two years of instruction before the beginning reader develops true fluency with decoding strategies. During this time it is important for the text they are reading to include picture prompts which helps to scaffold the constructing of meaning.

However, once decoding strategies have been habitualised, (often at a reading age of around 7-8 yrs) the reader is now free to work on the skills required to construct meaning at a deep level. This is what we aim for in SharpReading Stages 3-6 and our research tells us that this process is aided by the absence of picture prompts.

**What do the levels mean?**

There is a lot of debate about the validity of ‘Reading Ages’. We maintain that, despite the controversy, they still provide a quick, understandable benchmark for measuring achievement. The levels referred to here coincide with the levels in our Informal Prose Inventory testing procedure and line up with PAT Levels (Progress Achievement Test - NZCER and ACER).

These levels assigned to the text allow for the quick identification of appropriate reading material once an instructional reading age (or level) has been identified.

**Why are there only some levels - the odd numbers?**

We have resisted the temptation to try and provide variations on these texts at all nine levels. We have found that using the 5 levels listed below provides a meaning progression for readers who are fluent decoders and are now developing the comprehension skills they need to process text deeply.

For more about our SharpReading approach to reading instruction visit our website [www.sharpreading.com](http://www.sharpreading.com). We specialise in teacher workshops or you can do the training online.

**Characteristics of the Levels**

- **Level 1 (RA 7-8 yrs):** Simple sentences with one or two ideas strung together. Concepts are clearly explained without the need for much inference.

- **Level 3 (RA 8.5-9 yrs):** The progression from Level 1 is that the content remains similar but the sentence structure becomes more varied thus slightly more challenging. There are still usually only two ideas in a sentence for the reader to hold onto but some changes in the vocabulary.

- **Level 5 (RA 10-11 yrs):** Text at this level reflects the ability of the reader to hold onto more complex ideas over longer sentences. Vocabulary is more challenging and meaning may be spread over several sentences. This level is the most often used for students with a 10+ reading age as it provides variety and interest in sentence construction while not overwhelming the student who is developing Stage 3 SharpReading skills - constructing meaning at a deep level.

- **Level 7 (RA 12-13):** This level bridges the text difficulty between Level 5 and Level 9. We have purposely extended the vocabulary that the reader is exposed to and the sentence length and complexity increases. This text will provide a challenge for the more able primary aged children without putting them into the cognitive overload that can occur with Level 9.

- **Level 9 (RA 14+ yrs):** Here we have attempted to provide very challenging text to test your most able readers. Text at this level includes complex sentence structures and high end vocabulary. However, just because a student can read text at this level, it doesn't mean they can process and understand it adequately. Guided reading should not be a just a vocabulary lesson so use this level with some caution.
Cats vs Dogs

Cats are definitely easier to manage than dogs when it comes to toileting. Whether it is beautiful sunshine or a howling storm outside, dogs require ‘walkies’ every day to do their business. You, as owner/servant, are obliged to follow behind with your sun-screen or umbrella, faithfully scooping the poop. Cats, on the other hand, are much more independent. They are happy to use a litter-box without fuss, or will slip quietly out a window or cat door to relieve themselves privately. They will even cover the evidence themselves in a responsible fashion.

On the question of animal odour, cats win yet again. Dogs seem to have a minimal instinct for cleanliness. No matter how often you give your Fido a bath, he retains that doggy whiff. And as soon as you have finished washing and brushing he will dash off to find yet another pile of garbage to roll in. On the other hand, cats have a well developed sense of personal hygiene, spending hours every day licking and preening themselves. This habit is practised by wild and domestic cats alike and helps the cat feel healthy and happy.

Think about the comparative noise levels of cats and dogs. For a cat, silence is golden. A cat will live harmoniously with you, in peace and quiet, letting you get on with practising your violin or writing your novel. It will purr when stroked and quietly meow when hungry. A dog will bark: at the wind, passers-by, the mailman, a butterfly. It doesn’t know that it is being a nuisance. Instead, it believes that it is doing its canine duty by warning you of danger when in reality it is driving you and your neighbours crazy!

Finally, cats have the distinction of being cheap and efficient pest exterminators. Dogs might bark at a mouse but when do they ever catch one? Rats, mice and even certain insects will not live in the same property as a hunting cat. Ok, so the occasional mangled, dead mouse dropped at your feet is unpleasant but it is proof of your cat’s hunting prowess and deep affection for you. Remember that rodents carry dangerous diseases and appreciate that your pet may have saved your life. Show your appreciation to your cat and be thankful you didn’t get a dog.

FOLLOW-UP ACTIVITIES

1. Select five tricky words from the InfoByte.
   For each word look up the meaning, write it down.
   Write your own sentence using the word to show that you really understand what it means.

2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.

3. Make a poster showing the information about cats and dogs presented in this InfoByte.

4. Write a letter to the author agreeing or disagreeing with his point of view.

5. Design an automatic pooper scooper for dogs that will get rid of the toilet problem mentioned.
   Use diagrams and labels to show your wonderful ideas.
Tattoos

Tattoos are very fashionable these days. It is not uncommon to see a tattooed arm, leg or even face as we go about our daily lives. This widespread craze for tattoos is a fairly recent phenomenon. In the not too distant past, it was sailors, bikers and gang members who sported tattoos, not those who held down respectable jobs. Now, the popularity of tattoos has exploded and they are worn by people from all walks of life. Tattoo parlours are numerous and television has whole shows dedicated to tattooing.

There are a variety of reasons that might lead one to get a tattoo. Some decorate their bodies with the name of a special person such as a boyfriend or girlfriend. Some show commitment to a cause or belief by having a symbol or words tattooed on their bodies. For others, it is a proud sign of cultural identity. Tattoos are sometimes used as permanent makeup for the eyes or lips while others see tattooing as an art form and want to adorn their entire bodies.

In the past, tattooing was an extremely painful and lengthy process which easily led to nasty infections. These days, it is usually done in sanitary conditions with a machine and is much less distressing. However, there is still some pain, bleeding and discomfort to be endured. A number of sharp needles pierce the skin, depositing small amounts of ink underneath it. The skin heals and the pattern of the ink remains, able to be seen through the thin layer of skin.

If the above description of the tattooing process hasn’t been enough to discourage you, here are three additional considerations. Firstly, today’s boyfriend or girlfriend may become ancient history but you will be stuck with that reminder of them forever. Secondly, no matter how infatuated you are with a particular tattoo design today, will these sentiments last? Thirdly, given the fickleness of fashion, there is the distinct possibility that tattooing may suddenly becomes unfashionable. It is not impossible to have tattoos removed, but the procedure is expensive and very painful. Committing yourself to a tattoo has significant consequences so don’t be reckless - think before you ink!

FOLLOW-UP ACTIVITIES

1. Select five tricky words from the InfoByte.
   For each word look up the meaning, write it down. Write your own sentence using the word to show that you really understand what it means.

2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.

3. Make a poster encouraging people to get a tattoo OR warning about the problems.

4. Write a poem describing what it is like getting a tattoo.

5. Design your own tattoo; a message or a clever design. Use diagrams and labels to show your wonderful ideas.
The Truth about Pirates

The world of fiction provides us with many stories about pirates. Through books, television and movies we have met the blundering but likeable cartoon character Captain Pugwash, the evil Captain Hook has caused many sleepless nights and that naughty Jack Sparrow was always a bit of a mystery. Dress-up parties will often include pirates waving cutlasses and sporting fake beards, peg legs and eye patches. But what is the truth about these colourful characters from the past? Do the pirates of fiction reflect what really happened all those years ago?

Piracy was widespread from 1650 to 1720. In reality, pirates were desperate criminals. They were people who were prepared to rob and murder in order to survive. In those days life was very difficult, honest work was hard to find and those who turned to piracy were tempted by the thought of easy riches. In fact, it was a hard and dangerous life which often led to early death or terrible injuries. In between the violent clashes with their victims, pirates spent many boring months on board ship. To drown their sorrows and help them endure the weevil-infested food, they filled their days by drinking rum.

The increase in the use of shipping for trade between countries meant an increase in opportunities for pirates. They prized the gold and silver ‘treasures’ being shipped from South America most of all but would target any merchant ship. Pretending to be friendly, they would sail alongside. Only then would they reveal their pirate flag and their evil intentions. Warning shots were fired to create fear so that their victims would not put up a fight. Co-operation would result in being boarded, having everything of value stolen and maybe being allowed to sail on. Resistance would result in ruthless violence.

By 1720, piracy had become so prevalent that governments were forced to step in. Warships, loaded with weapons, were sent to the areas where pirates frequently attacked. Their mission was to hunt down and either destroy these lawbreakers or bring them to justice. Terrible sea battles took place and many well-known pirates, such as Blackbeard, were killed while fighting. Others were captured, taken back for trial and executed swiftly. Their bodies were put on public display, dangling in iron cages, as a warning to all. This ended the golden age of piracy.

FOLLOW-UP ACTIVITIES

1. Select five tricky words from the InfoByte. For each word look up the meaning, write it down. Write your own sentence using the word to show that you really understand what it means.

2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.

3. Draw a picture of a ferocious pirate that would scare anyone into surrendering without a fight.

4. Write a short story, a poem or a rap about a day in the life of a pirate.

5. Design a pirate ship that would overcome two of the main problems of olden day pirating - boredom and terrible food. Use diagrams and labels to show your wonderful ideas.
A Bright Idea

Alfred Moser’s simple invention is lighting up third-world countries around the world. In 2002, this Brazilian mechanic, frustrated by increasingly frequent power cuts in his windowless workshop, set about coming up with a lighting alternative. His very clever solution brought together plastic bottles, water and a little bleach. Now, his answer to power-cuts and expensive electricity is used in millions of residences and workshops in poor communities all over the world.

To construct this device find a clean, two-litre plastic soft drink bottle and fill it with water. Add two bottle caps of bleach from the laundry to prevent the growth of algae and germs inside the bottle. Next, in the roof of the building where you are wanting to install the light, cut a round hole with a diameter the same size as the bottle. Squeeze the capped bottle into the hole leaving half inside the room and half poking out. A sealant should be applied around the bottle to waterproof the roof and prevent leakages when it rains.

The science of light waves explains how this solar light bulb works. When rays of sunlight hit the exposed portion of the water bottle, they are bent or refracted as they pass into the water. As they leave through the rounded bottom of the container, they are bent again. As a result light waves are scattered throughout the otherwise darkened room below. The amount of light can be equal to a 40-60 watt electric bulb depending upon the strength of the sun outside. While the lamp only functions during the day, a solar panel and a storage battery could be added for use at night.

What a great invention this has been for the millions of people in impoverished communities all around the world. These people often have no windows or electricity in their small, cramped huts. Neither candles nor kerosene lamps are very effective and can actually be dangerous. Kerosene fumes are toxic and candles may cause accidental fires which spread quickly in crowded slums. Not only is Moser’s invention cheap and easy to construct but it recycles plastic bottles, produces no pollution and is safe. He really did have a brilliant ‘light bulb’ moment!

FOLLOW-UP ACTIVITIES

1. Select five tricky words from the InfoByte.
   For each word look up the meaning, write it down. Write your own sentence using the word to show that you really understand what it means.
2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a diagram with labels showing how the Moser light works.
4. Make an advertisement for the Moser light so that more people will know about it.
5. Design something else that you could do with plastic drink bottles. Use diagrams and labels to show your wonderful ideas.
What to do with all that ...

Getting rid of wastes from the body is a natural, everyday function that every living thing must attend to. Because it *is* natural, nature has its own perfect way of dealing with body waste. When urine and faeces go onto the ground, microscopic organisms from the soil break it down and return the useful nutrients back to the soil. Early humans, who moved about as hunters and gatherers, urinated and defecated on the ground like all other animals. After they had travelled on, nature went to work and there was no problem for anyone.

However, as the number of people increased and there was a move to living in large permanent cities, the increasing amount of human waste that accumulated became a problem. A common solution was to dig a large pit called a cesspool, underneath each house and allow the wastes to collect there. Needless to say, the stench drifting up through the floorboards was disgusting. There are horrific stories of people falling through rotten floorboards and drowning. When these pits were not regularly emptied they would overflow and flood the streets.

In London, the first really big city, buildings and basements were frequently overcrowded and there was little provision for toilets. This meant that people often relieved themselves in alleyways, streets or wherever they could. Some used chamber pots but the contents were then thrown out into the streets below. When it rained, the streets became rivers of filthy waste which flushed into the Thames River, the source of the city’s drinking water. As a result, thousands died of deadly diseases such as typhoid.

Modern cities have advanced methods of dealing with human waste. All buildings have flush toilets connected to enormous sewage pipes running beneath the ground. They carry the waste to a special treatment plant which separates and deals with the liquids. These are only released once they are safe for the environment. The solids are collected and treated so that they can be used as fertiliser. However, about 60% of the world’s cities do not have these facilities and are still struggling with the problem of what to do with human waste.

**FOLLOW-UP ACTIVITIES**

1. Select five tricky words from the InfoByte.
   - For each word look up the meaning, write it down.
   - Write your own sentence using the word to show that you really understand what it means.
2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a diagram with labels showing how the sewage system in modern cities works.
4. Write a poem or a rap about the disgusting smell in old London.
5. Design an alternative method for getting rid of human waste in overcrowded cities. Use diagrams and labels to explain your great ideas.
Stay Away from Me

All living things are part of the natural hierarchy which is the food chain. Hunger drives all creatures to search for food but at the same time they must avoid being caught by something bigger and hungrier. They have found various ways and means to escape being caught and eaten by another predator. Some of them have developed body parts such as hard shells and spikes that discourage others from trying to eat them. Others survive by using poisons, being able to run fast or by sticking with the herd. Here are three examples of the unusual ways some animals escape death.

The Texas Horned Lizard has a very disconcerting method for defending itself. If attacked, it has the ability to rapidly build up the blood pressure within its eye sockets and then squirt blood out of its eyes. It aims this apparently unpleasant-tasting liquid straight into the mouth or eyes of its enemy. The attacker, even if it has the lizard in its mouth, will release it to wipe away the blood. While it is occupied doing that, the lizard has the opportunity to escape.

Have you ever heard of ‘playing dead’? It is a trick made famous by the opossum which falls over and lies as if dead when danger threatens. Actually, this extreme strategy is no trick. When its life is in danger, an opossum becomes so stressed that it collapses into a kind of coma. It remains like that for hours, giving off a foul odour which reinforces the idea that it is dead. Most predators prefer fresh meat and therefore avoid the unconscious and unappetising opossum.

The third weird survival method is used by a certain kind of termite. In a very unselfish way, older termites die to protect the termite nest. They are no longer useful as workers, but all their lives they have been building up poisonous crystals in a small pouch on their backs. If an enemy approaches, the old termite becomes like a suicide bomber, activating the ‘backpack’ which explodes. The enemy is sprayed with poisons, becomes paralysed and dies – but unfortunately, the termite dies too!

FOLLOW-UP ACTIVITIES

1. Select five tricky words from the InfoByte.
   For each word look up the meaning, write it down.
   Write your own sentence using the word to show that you really understand what it means.

2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.

3. Draw diagrams with labels to show that you understand how these defence systems work.

4. Write a poem or a rap about “Stay away from me”.

5. You are an insect or a mammal. Design new ways of getting rid of predators that want you to be their dinner.
   Use diagrams and labels to explain your great ideas.
Unsinkable

In the month of April 1912, a ship called the Titanic set off on her maiden sea voyage across the Atlantic Ocean. At the time, this was the best equipped vessel and the largest moving object ever built. She was designed to be a floating luxury hotel, as long as three football fields and over twenty-five storeys high. The hull was divided into sixteen separate watertight sections, each of which could be automatically sealed off in an emergency. Because of this clever design, many people considered this ship to be unsinkable.

On Day Three of her voyage across the Atlantic Ocean, warning messages came in from other ships in the area that huge icebergs had been sighted. However, no attempt was made to alter the set course or even to slow down. At 11.40 at night, a lookout spotted a massive iceberg straight ahead. Evasive action was taken but because of the enormous size and the momentum of the ship, it was ineffective. The Titanic sideswiped the iceberg with disastrous results. Five of the sixteen watertight compartments were sliced open below the waterline on one side of the ship. Water rushed into the bow and she began to tilt downwards.

By 1.20 a.m., it was obvious that the ‘unsinkable’ ship would sink. Tragically, many third-class passengers, asleep in their cabins on the lower deck levels, were trapped and drowned as the water levels rose relentlessly. With no training for an emergency like this, panic spread like wildfire amongst the crew and passengers. There were not even sufficient lifeboats for the numbers on board. The protocol of ‘women and children first’ was followed but in the confusion, many lifeboats were launched half empty.

At 2.20 a.m., two hours and forty minutes after impact with the iceberg, the rate of sinking suddenly accelerated. As the forward deck of the ship went under, the ocean now poured in through every possible opening - hatches, doors, passageways. As the bow filled with water and sunk into the ocean, the stern rose until it was almost vertical. Hundreds of terrified people clung on desperately as it hung there for a moment before suddenly sliding down into the murky depths. Over 1,500 passengers and crew died in the icy waters that night, resulting in what is still one of the worst maritime disasters ever.

FOLLOW-UP ACTIVITIES

1. Select five tricky words from the InfoByte.
   For each word look up the meaning, write it down.
   Write your own sentence using the word to show that you really understand what it means.
2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a diagram with labels showing how the Titanic sunk.
4. Write a poem or a rap about the sinking of the Titanic.
5. Design a luxury ship that is ABSOLUTELY unsinkable.
   Use diagrams and labels to explain your interesting ideas.
What a Spectacle

“Does anyone know what I have done with my glasses?” If you are dependant on glasses to see clearly you will know the panicky feeling associated with these words. If your vision is less than perfect, life without your glasses can be a very frightening and exasperating experience. What may surprise you is that the glasses we wear today are a relatively recent invention. How did those who had difficulty with their eyesight cope before glasses were developed?

Before the 1700s, life was very difficult for those with severe vision problems. They lived in an out-of-focus world, experiencing life in a similar way to those who were fully blind. However, for those with minor eyesight problems, it mattered less than those with similar problems today. These days, everyone needs good eyesight for reading but back then reading was not a common skill. There were very few books and not many educated people to read them. Craftsmen certainly needed good eyesight for their detailed work but there were many jobs which could be done perfectly well without 20/20 vision.

When the printing press was invented around 1440 AD, the resulting spread of the written word and the increase of literacy amongst the population led to the invention of glasses. Older readers, whose eyesight was weakening, wanted to be able to continue enjoying books. The first effective reading aids were curved pieces of glass, which when placed over the page, magnified the text. Sometime during the 1700s, somebody had the brilliant idea of attaching these primitive lens together with rivets so that they could be lifted off the page. The result - the creation of the first pair of glasses.

Now that basic lenses had been created, the challenge was to find a way of keeping them on the wearer’s face. With everyone’s unique head size and nose shape, a “one size fits all” solution was never going to work. Different methods were tried - ribbons around the head, weights to hold the spectacles steady - but none were satisfactory. After a long period of gradual development, we now have it all; glasses that improve our vision, are comfortable to wear as well as being fashionable.

FOLLOW-UP ACTIVITIES

1. Select five tricky words from the InfoByte.
   For each word look up the meaning, write it down.
   Write your own sentence using the word to show that you really understand what it means.
2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a diagram with labels to show you understand how people used pieces of glass to help them read.
4. Write a poem or a rap about the history of spectacles.
5. Design a new way of attaching glasses to a persons head.
   Use diagrams and labels to explain your great ideas.
King of the Beasts

The male lion is generally considered to be the king of the beasts, but it seems that this is just a human perception. In reality, if we just consider size and strength, the lion comes in second to the tiger. And for ferociousness the tiger wins hands down. Indeed there are other lifestyle factors that cause us to hold this lordly view of the lion. Let us examine the variety of ways in which lions remind us of our own human kings.

Kings, of course, are dignified, majestic and powerful. A male lion appears to be just like that with his beautiful flowing mane and that magnificent roar which can be heard for miles, declaring his presence and dominance over all who hear. Like valiant, fearless kings, lions are not at all in awe of other animals and stride confidently about their habitat without bothering to hide. As kings please themselves about how they spend their leisure time, so to does the lion, sleeping or resting for up to 20 hours a day.

Human kings are responsible for looking after their people by maintaining law and order. They defend their territory and protect their subjects from enemy attacks. In return, the people pay taxes and pledge their allegiance to their king. The male lion seems to operate very much like this in his pride. He keeps order and protects the pride from outsiders while the female lions do the hunting and supply the food. This strong social organisation found among lions differs from the lives of all the other big cats who tend to live alone.

Human rulers know that there are always going to be challengers who will attempt to overthrow them. Similarly, male lions must be prepared to fight off fierce attacks. Young males, forced out of their own pride at a certain age, wander the grasslands looking for the chance to take over a pride. A strong male lion may successfully defend his position for years, but inevitably, he will become weaker with age. One day, a young strong male will be victorious and a new king of the beasts will take charge of the pride.

FOLLOW-UP ACTIVITIES

1. Select five tricky words from the InfoByte.
   For each word look up the meaning, write it down.
   Write your own sentence using the word to show that you really understand what it means.
2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a diagram with labels comparing the life of a human king and the life of a male lion.
4. Write a poem or a rap about the magnificent “King of the Beasts”.
5. Design some adaptations for the leader of the pride so that as he grows older he can still fight off the younger lions and retain his place as king. Use diagrams and labels to explain your great ideas.
Pompeii

Two thousand years ago, the great Roman Empire was hit by the worst ever natural disaster to strike the ancient world. In less than 24 hours the city of Pompeii was destroyed and at least 5,000 of its estimated 20,000 population, were killed. Their killer was the nearby volcano Mount Vesuvius. For hundreds of years pressure had been building up beneath the surface. The region had a history of earthquakes but no one was prepared for the devastation that was about to be unleashed.

Mount Vesuvius erupted on August 24, 79 AD at 1 pm, sending an enormous cloud of volcanic gas, boiling rock and ash into the atmosphere. It roared upwards to a height of 15–20 kilometres. This amazing display of the power of nature brought the city of Pompeii to a standstill. When the huge vertical column had reached its limit, it began to spread out across the sky over Pompeii. It blocked out the sun so that the city was plunged into darkness. Then, as the hot lava cooled and formed pumice, it became a hard rain of rocks, tumbling down on the city.

As the reality sank in, fear and panic gripped the people. Some attempted to escape by fleeing from the city while others took shelter in buildings. They could not know that millions of tons of rock and ash would fall. Roofs collapsed under the enormous weight and doorways were blocked burying them alive. Then came the final blow. The volcanic column collapsed and at explosive speed, a glowing cloud of scorching gas and ash hurtled down the side of the Vesuvius to envelope the hapless city in a deathly blanket.

Those who had survived the initial blast all perished as they were suffocated by the super-heated air and buried under metres of ash. Pompeii itself disappeared from sight under an estimated 10 billions tons of pumice and rock. In just 18 hours the surrounding landscape was permanently changed. The city, its port near the mouth of the Sarnus River and the river itself were all gone. Within a few years, even the exact location of Pompeii had been forgotten.

FOLLOW-UP ACTIVITIES

1. Select five tricky words from the InfoByte.
   For each word look up the meaning, write it down. Write your own sentence using the word to show that you really understand what it means.
2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a diagram with labels showing how Pompeii was buried.
4. Write a poem or a rap about the destruction of Pompeii.
5. Design a Pompeii volcano shelter which would protect you from the rocks, hot gas and ash. Use diagrams and labels to explain your ideas.
**Insects - Future Food**

Could I tempt you to a plate of delicious fried crickets? Maybe a bowl of crispy toasted weaver ants? These are not the mouth-watering dishes we usually day-dream about for our next meal but in reality they may be the menu choices of the future. As the population of the world keeps growing, there are increasing numbers of people expecting to eat animal protein. It is becoming unsustainable to supply more beef, pork and chicken to meet these ever-increasing demands. But the answer might be crawling around our feet – insects!

Believe it or not, there are many advantages to including insects in the human diet. Insects are full of protein and many of the rich nutrients that our bodies need for good health. Also, insects are much easier on the environment than normal farm animals. They do not produce anywhere near the same gas emissions or require as much space. In addition, insects provide more meat per kilogram of food supplied to them. A greater percentage of their bodies can be consumed too, so that you get more for less.

However, people are not necessarily going to embrace eating insects. Even the most prolific meat eaters usually limit themselves to just a few species that are acceptable to them. Suggest a delicious slice of dog, a horse steak or a grilled rat and they will feel nauseous. Over and above the weird meat yuck factor, it is well known that insects tend to live and feed in human and animal waste. In our thinking, they are linked to dirt and decay so eating them is not at all appealing.

Despite this widespread attitude, scientists and chefs are continuing to explore the possibilities. Obviously, it will take time and effort to change our views on eating insects. Work has already begun on producing cricket flour with the aim of introducing it invisibly into foods we eat at present. This is very different from trying to serve up whole crickets and will accustom people gradually to the idea of consuming ‘creepy-crawlies’. Maybe it won’t be long before they are a viable part of our food future. By the way, what is that crunchy thing in your lunchbox?

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2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Make a poster explaining why it is important to start eating insects.
4. Write a letter to the owner of an insect restaurant explaining why you won’t (or will) be coming to their restaurant for an insect meal.
5. Design a delicious insect meal. Use diagrams and labels to explain your great ideas.
Time to Go

Nature has many incredible stories of creatures that perform remarkable feats of patience and determination. Consider this example, a fish called the long-finned eel which lives in ponds, lakes and waterways all along the eastern coastline of Australia. It leads quite a monotonous, uneventful life as it grows up, surviving on insects, fish and baby birds. This creature takes about 30 years to mature and become an adult. When it does, its behaviour takes on a surprising change.

After years of isolated pond living, one night, prompted by a substantial rainstorm, instinct kicks in. The fish leaves its comfortable, natural surroundings and begins a monumental journey. Wriggling out of its pond on to land, it searches for a swollen river or overflowing drain that will take it to the sea. But how can this be for a gill breathing fish? It seems that the watery conditions, the downpour and the sodden ground, makes it possible. But the eel's amazing adventure is only just beginning.

Once it has found a river and made its way to the sea, big changes occur in its body. Its fresh water gills undergo a transformation to enable it to function in salt water. Food is no longer necessary and so its stomach shrinks and withers away to nothing. Then the astonishing migration journey begins. The fish swims 2,000 kilometres north to its breeding grounds ... on an empty stomach! If the fish is a female, she spawns her millions of eggs there..and then she dies!

Her millions of eel offspring grow and develop in the warm seas, drifting slowly south on the East Australian Ocean Current. Retracing the 2,000 km journey of their mother will take them about two years and only a handful will survive. Eventually, one dark night in the midst of a downpour, instinct kicks in! They sense the fresh water pouring out of a stormwater drain or a river outlet and they are drawn upstream. It is difficult for them to make headway against the current. Nevertheless, they persevere until they know to leave the water and wriggle overland to the very pond that their mother left! In they slither, completing the circle of life!

FOLLOW-UP ACTIVITIES

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2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a diagram with labels showing the journey that these eels take - the circle of life.
4. Write a poem or a rap about this eel.
5. Design some new features for the eel that will help it get from the pond to the sea and back again.
Blue Jeans

Blue jeans have to be the most popular garment in the world today. They create mental images of the American West and of cowboys - who still wear them, of course. But these days, jeans are worn by anyone from fashion models and mums to students and businessmen. Danny Miller, a scientist who studies cultures, did a survey. He went to many different countries, and in each one he counted the first hundred people to walk past him. In every case, whether he was in India, Brazil or Turkey, he found that half the population was wearing jeans!

Ask people why they wear jeans and you are sure to get different responses. Some find them very comfortable, some find them hardwearing and others view them as a fashion statement. Jeans originated as clothing for those working on the farms and in the mines of America's western states during the late 1800s. They were designed by Jacob Davis who chose the tough denim fabric for its strength. To reinforce pockets and seam areas he added small metal rivets. His creation was a hit with the workers of the time.

But being tough and hard wearing was not the only reason for the rise in the popularity of jeans. After World War Two, they become a sign of freedom and of teenage rebellion. American movie directors thought it was cool to dress their bad boy actors in jeans. But older generations thought that the wearers of jeans were irresponsible. To discourage young people from wearing them, school administrators banned jeans in schools. Of course, that had the opposite effect - teenagers just wanted them more!

During the 1960s, jeans became widely accepted across the generations and even beyond American shores. Jeans were a symbol of a casual, easy going American way of life that Europeans wanted to buy into. Jeans were not expensive, did not need constant washing and required no ironing at all. Today, jeans can be worn almost anywhere, either casually or as a high fashion statement. Jeans are a clothing legend and many would consider a pair of jeans (blue or otherwise) a ‘must have’ for their wardrobe.

FOLLOW-UP ACTIVITIES

1. Select five tricky words from the InfoByte. Look up the meaning of each word and write it down. Use each word in a sentence to show you know what it means.
2. For each paragraph decide on a heading which tells you what the paragraph was about.
3. Draw a time line showing the history of Blue Jeans.
4. Write a letter to your school principal explaining why you want to wear Blue Jeans to school.
5. Design a new pair of pants that will replace jeans as the best ever pants for everyone to wear. Use diagrams and labels to explain your great ideas.
Ewe Won’t Believe It!

When sheep reproduce, they normally give birth to one or two lambs and, on rare occasions, three. Recently, a sheep on the property of Thames resident Weston Finlay exceeded that expectation. Ex-sheep farmer Finlay always kept a single ewe on his small lifestyle block to help keep the grass down. That changed when a farmer friend offered him another sheep, supposedly a ram that had been ‘fixed’. Finlay figured that his lone sheep would appreciate a bit of company. The problem was that this ram had a bit more going for it than everyone expected.

‘I suspected there was going to be an increase in my sheep population,’ remarked Finlay. ‘The ram hadn’t been docked properly and was probably still capable of doing the business.’ One spring morning, he noticed Sheep (his ewe) restlessly walking around in circles. Finlay knew this was a sign that she would soon go into labour. Sure enough, an hour later, she gave birth. Because it was bitterly cold and raining, Finlay took the lamb to a comfortable warm spot in his woodshed. When he returned to check the mother, he discovered two more wet lambs lying on the ground.

Fearing that they would not survive, Finlay rescued these lambs from the muddy puddle they had been born in. He bathed them in a bucket of hot water and rubbed them down with a towel to help their circulation. Then he encouraged them to drink their first meal from their mother’s teats. However, Sheep had more work to do. She was still in labour and lamb four soon appeared. A stunned Finlay moved Sheep and her four new-borns to better shelter. At lunchtime, he returned to check on their condition and found five lambs!

It is not unheard of for four lambs to be born but when that happens, some of them are usually stillborn. Sheep had produced quintuplets and all of them were healthy. Finlay wonders if perhaps Sheep had been a twin or triplet herself, something which would have increased the likelihood of her having successful multiple births. He will not keep all five of the lambs though. Sheep is successfully feeding two of them but the other three will go to new homes. Sadly, the ram’s future is rather gloomy.

‘We don’t want this happening again.’ said Finlay. ‘The chances are he will end up in my freezer as sausages.’

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2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a map to show where the action took place in the news item.
4. Write a letter to Weston Finlay telling him why you would be the perfect person to look after one of his lambs.
5. Sheep can’t feed more than two lambs. Design a machine that would help her feed five. Use diagrams and labels to explain your great ideas.
Children of the War

Many of us would feel upset if, as children, we were removed from our families and forced to live with total strangers for five years. That was the frightening experience of many British children in 1939. The outbreak of war meant that British cities such as London were heavily bombed during nightly air raids by the Germans. Many parents feared for the safety of their children and so a massive evacuation to relocate them was organised. Families living in the countryside volunteered to take children from the city into their homes.

Within just four days, one million children were removed from the cities to country areas. Queues of them lined up at every railway station, some excited at the adventure ahead of them, some nervous and bewildered. All carried one small pitiful suitcase of personal belongings and wore identity tags around their necks and as if they were random items of cargo being shipped out to faraway places. By the time they reached their destinations, they were exhausted and hungry. Host families had the task of choosing which child they wanted so, as you can imagine, all the good-looking, healthy children went first.

Host families were well paid by the government and some were accused of joining the scheme just for the money. In the worst cases children were neglected while their hosts spent the money, intended for the children’s welfare, on themselves. The majority of the boys and girls were ‘adopted’ by agricultural labourers. Living in a cottage with no electricity or hot water and a toilet in the garden was a shock for children raised in the city. Some were taken advantage of, used as unpaid farm labourers, and many tried to run away.

However, there were many positive experiences. New friendships were established and new skills gained. Children learnt the art of breadmaking, the care of domesticated animals and an understanding of rural life. A few children had the good fortune to be taken in by wealthy aristocrats. One East End girl found that she had servants. The evacuation scheme (named Operation Pied Piper) was not perfect by any means, but it was generally a success. Of the 60,000 British civilians killed in World War 2, only 5,000 were children. If they had not been removed from the cities, many more children would have died.

FOLLOW-UP ACTIVITIES

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2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.

3. Make a list of all the things you would have in your bag if you were leaving the city to go and live in the country in 1939.

4. You have been moved out of the city because of the war. Write a letter to your Mum and Dad telling them what it is like with your new family.

5. Design an air raid shelter that would protect you and your family from the bombs. Use diagrams and labels to explain your great ideas.
Global Warming

The term ‘global warming’ is one that is often used, especially when speaking about the environment. What does it mean? Most scientists agree that the earth and sea are gradually heating up increasing the average temperature of our planet. Even small increases in this average temperature of Earth could result in huge environmental changes. And, although geological studies show that Planet Earth has experienced wide temperature differences in the past (Ice Ages and thaws), the concern is that this time, humans are the cause of the warming.

Because human history has always involved struggle and suffering, people have used their creative thinking to invent ways of making life easier. Since the industrial revolution, over 100 years ago, there have been sophisticated advances in all kinds of inventions. Our lives are probably more comfortable and convenient than at any other time in history. But all these machines, appliances and other technologies need energy. Burning fossil fuels – coal, gas and oil - to create this energy has brought about its own set of problems.

How does this work? Wrapping around the earth is a layer of many different gases. These gases create a blanket for the planet, maintaining it at just the right temperature for the survival of plants and animals. One of the gases, carbon dioxide, is particularly good at trapping heat and preventing it from escaping into space. As we increase the amount of fossil fuels we use, more and more carbon dioxide is released. As more heat is trapped the blanketed planet slowly increases in temperature, interfering with the balance of nature.

If the world continues to heat up, there will be many consequences to face. A real possibility is that the polar ice caps will melt resulting in rising sea levels. If that happens, homes, farms and cities close to the sea will be flooded and these areas will become uninhabitable. Higher temperatures will change the habitats of many species of fish, animals and plants. Heat waves and drought could turn farms into deserts. Horrible diseases that flourish in the heat may become more difficult to control. We need to engage our creative thinking and find ways to solve these problems while we still have time.

FOLLOW-UP ACTIVITIES

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2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a diagram showing how global warming works. Include labels.
4. Make a poster warning people about global warming.
5. Design something to help you survive global warming. Use diagrams and labels to explain your great ideas.
Clive Staples Lewis

The land of Narnia with its amazing creatures, talking beasts and great lion, Aslan, has been popular with children for generations. The creator of this magical world, the author C S Lewis, wrote over thirty books, most of them for adults. However, it is the stories of Narnia which have gained the most fame, especially now that some of them are films. What sort of man dreamt up these children’s fantasy classics?

Lewis was born in Ireland in 1898 and always displayed a great imagination and his love for animals. As a young boy, he and his older brother, Warnie, made up a land called Boxen. It was an imaginary place ruled by animals that wore clothes. The boys would sit in a big old wardrobe and make up long stories about this magical land. They also loved Irish fairy tales told to them by their nurse and were always reading the large supply of books they found in their home.

As a young man Lewis went to Oxford University in England where he was very successful as a student. When World War 1 broke out, Lewis joined the army and fought as a soldier in France. On his return he became a professor at Cambridge University. It is said that Lewis would start his lessons in a loud booming voice while still walking towards the classroom. He wrote many books, essays and newspaper articles and was a popular speaker on radio. When he started writing stories for children, some people thought that it could make him look foolish. How wrong they were!

Here are some interesting facts about C S Lewis: he smoked a pipe and loved going on ‘rambles’ or walking tours in the countryside with friends. He was injured in World War 1 and carried pieces of metal in his body for the rest of his life. He was a close friend of J R R Tolkien, the creator of 'The Hobbit'. He was a generous man and donated money from his book sales to help the poor. Lewis once famously said, ‘You can never get a cup of tea large enough or a book long enough to suit me.’

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2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a timeline of C S Lewis’s life using the information you have.
4. Make a poster advertising C S Lewis’s books.
5. Design some interesting, weird characters for your own imaginary world. Use diagrams and labels to explain your great ideas.
Your Own Worm Farm

Anybody can be a farm manager if you are farming worms! In today’s world, it is a fantastic idea for all households to keep their own worm farm. It also provides you with a great option for dealing with the waste food that is a by-product of every kitchen. It is a much more positive action to recycle your organic waste in a worm farm than to mindlessly discard it in the garbage. A worm farm will provide you with many benefits for your home and garden and it will help the planet as a whole.

Are you aware that by having a worm farm you could help reduce greenhouse gases? When your organic waste breaks down in a landfill, it not only smells disgusting but produces methane gas. This gas remains in the atmosphere for 10-12 years and contributes to global warming. This means that if there were more domestic worm farmers, there would be less methane gas produced and less global warming. Although worms are small and generally go unnoticed, they are vital little servants working for the well-being of the earth.

Not only do worms get rid of your waste but they produce a wonderful fertiliser from it. It has been said that ‘worm poo is black gold for your garden’ and it certainly has great value. Worms will chomp and nibble their way through kitchen scraps such as apple cores, potato peelings and ageing salads. They even consume hair, crushed egg shells and coffee grounds. As a result, they produce worm castings or vermicast. This is a perfectly balanced, 100% organic fertiliser which does not smell and costs nothing. Put back into the garden, it enriches the soil so that you can grow beautiful flowers and healthy vegetables.

Keeping a worm farm requires very little space, time or energy on your part. Just 28 square centimetres is needed for a bin which should be placed in a sheltered area of the garden. Some apartment dwellers keep their worm farm in a dark cupboard and nourish their pot plants with the castings. Some office work places do the same. Once set up your farm will only require food scraps to be added regularly and occasional checks on the moisture levels. Why wouldn’t you want to be a worm farm manager?

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3. Draw a diagram showing how to make a worm farm. Include labels.
4. Make a poster encouraging people to run a worm farm.
5. Design your own super efficient worm farm. Use diagrams and labels to explain your great ideas.
The Island of Pukapuka

Have you ever dreamed of escaping to a beautiful Pacific island where the weather is sunny and the sea is like a warm bath? Have you longed to see coconut palms swaying and glorious sunsets on the horizon? Well, on the remote atoll of Pukapuka (Pookapooka) in the Cook Islands, this is everyday life! Pukapuka is made up of three small islands which are joined together by huge sandy reefs. The atoll is the shape of a rough triangle with each island as one of the corners. In the middle is a warm safe lagoon where you can swim and fish.

Only the largest island of the three, Wale (Wah-lair) meaning ‘home’, is lived on permanently. The other two islands are used as garden areas where foods such as taro, pandanas and bananas are grown. These days, some food is imported but boat and plane services are not very reliable. Most of the time, the islanders find their own food through fishing, gardening and gathering coconuts. The children enjoy chasing and catching huge coconut crabs for a favourite meal.

Although the culture of Pukapuka is Polynesian, the people have their own unique language and customs. Women create beautifully woven pandanus mats and busy themselves in the taro gardens while the men are excellent canoe builders and skilled fishermen. The children’s work is to gather firewood and husk coconuts. All generations love to sing and dance. Teams from Pukapuka regularly travel to Rarotonga to perform in the Cook Islands cultural competitions. They are favourites with the crowds because of their great singing voices and their original, cheeky, dancing style makes them such fun to watch.

However, life on this peaceful island has also had its problems. In the 1600s, a tsunami swept away many people, leaving only 17 men, 2 women and some children. All Pukapukans today can be traced back to those few fortunate survivors. Then, in 1863, slave traders captured 145 men and women and took them to South America where they were sold as slaves. Sadly, only two of them ever returned to their island home. In 2005, Cyclone Percy devastated much of the island, flattening all but a few houses and so many people left. There are only about 500 people living on Pukapuka today but twice as many Pukapukans live in places like Rarotonga, Australia and New Zealand.

FOLLOW-UP ACTIVITIES

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2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a map of the atoll Pukapuka using the information you have been given.
4. Make an advertising poster encouraging tourists to come to Pukapuka.
The Planet Venus

The mysterious planet Venus was named after the Roman goddess of love and beauty, perhaps because it shines so brightly. In fact, only the moon outshines Venus in the clear night sky. Venus is the second planet from the sun and the closest planet to Earth. While alike in size and mass, there are significant differences between these two planet neighbours. Venus is a bit smaller than Earth, has no moons and is continually covered by thick clouds. Its direction of rotation is opposite to that of Earth and the rotation is much slower. One day on Venus (or one rotation) takes the same time as 117 Earth days.

The dense layers of cloud surrounding the planet Venus are many kilometres thick. It is the sun’s rays reflecting off these clouds that makes the planet glow so brightly. The clouds are made up of gases, a mix of carbon dioxide and nitrogen. This means the air would be unsuitable for human life. They also create a ‘global warming’ effect. The air has already been heated by the closeness to the sun and by the activity of the planets many volcanoes. It is then trapped by this cloud cover, turning the surface into a furnace.

The surface of Venus is therefore very hot and dry, the normal temperature being a scorching 462˚C. This temperature is hot enough to melt lead! Surprisingly, the surface of Venus is even hotter than on the planet Mercury, even though Mercury is closer to the sun. This information was gathered by unmanned spacecraft sent from Earth to explore the conditions. Photos sent back to Earth show Venus to be an uninhabited wasteland made up of volcanic deserts plans and low hills with no plant life.

Beginning in the 1960s, a number of countries have shown interest in exploring Venus. For most of these missions the brutal heat and enormous pressure from the atmosphere meant that landing spacecraft on the planet was not part of the plan. A number of Russian spacecraft did manage successful landings. The scientific equipment on these craft sent back valuable information about the surface before it melted after about two hours. In 1993, NASA (from the USA) mapped the surface of Venus using radar. Now, in the 21st century, USA, Russia, Japan and some European countries continue to share what they have learned about Venus.

FOLLOW-UP ACTIVITIES

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2. For each paragraph decide on a heading which summarises the main idea in the paragraph. For each piece of information in the paragraph write down one word that will trigger the information for you.
3. Draw a diagram explaining why the temperature on Venus is so hot. Include labels and captions.
4. Make a poster about the special features of the planet Venus.
5. Design a building that would survive the heat on Venus and allow humans to live on the planet.