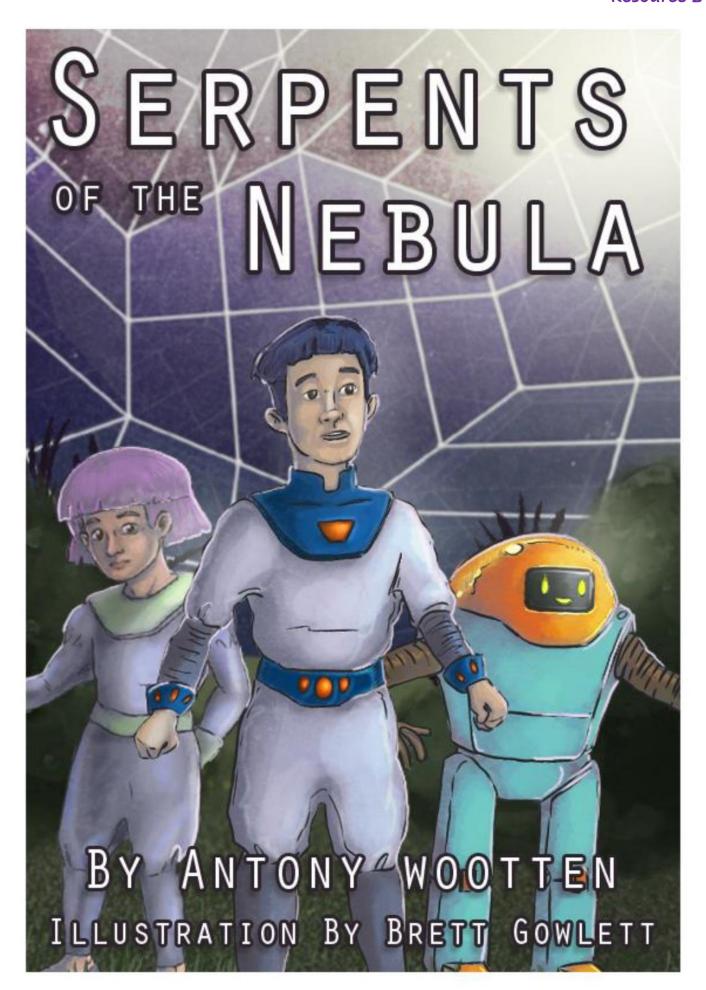
Focus: Endings which sound like /ʃəl/

Look Say Cover Write Check

Spellings	1 st Attempt	2 nd Attempt	3 rd Attempt	4 th Attempt	5 th Attempt
official					
special					
artificial					
partial					
confidential					
essential					
initial					
financial					
commercial					
provincial					





SERPENTS OF THE NEBULA CHAPTER 1

Tazz enjoyed strolling in the garden between the banks of bright and varied flowers and shrubs. Unlike in the rest of the ship, the air here was filled with a fine mist that felt pleasant against his face. Bright lights shone down from the domed glass roof, providing a substitute for the sunlight the plants needed. The heat from the lights was intense, but tall trees towered above the flowers, shading him with their canopy of huge green and red leaves.

But it wasn't the plants and trees that drew Tazz here these days. Craning his neck, he stared up at the dome and, through its distorted reflections, he could see a long and colourful space serpent flying round and round the ship against the multicoloured backdrop of the nebula.

"What do you think it's thinking?" a girl's voice said, making him jump. He had thought he was alone, but a girl, about his age, was standing nearby. From the science equipment on the anti-gravity tray that floated beside her, he could see she was studying the serpent.

Tazz had seen this girl before, but he didn't know her name. She was pretty, though, and really smiley. Her parents were scientists here on the *HMS Horizon*, and he often saw her running about and playing tag in the garden with her friends or charging down the corridors of the ship, childish behaviour that had got her into trouble more than once. She seemed quite irresponsible. Tazz, on the other hand, rarely smiled. He was the son of Captain Hanross Galgamore, the ship's captain, so he had to be setting a good example at all times. He had no time for jokes and silly games.

"No idea. I'm not telepathic," he said. The girl looked a little affronted and turned away, muttering something under her breath.

"I beg your pardon?" Tazz said, not willing to let her get away with backchatting him.

"Nothing," the girl said. "I just..."

"Do you know I am Tazz Galgamore, the son of the ship's captain?"

"Yes, I..."

"Then don't backchat me. Get on with your work." Even as he said it, he knew he didn't have to be so rude. He was cross with himself, and stood there trying to think of something nice to say, but he couldn't, and he knew she just thought he was glaring at her.

He turned away and walked towards a huge sculpture in the middle of the garden. It was a sculpture of the *HMS Horizon*, the spaceship they were on. It was a long, flat, roughly leaf-shaped structure. The domed garden was on the top near the back, like a raindrop. The real ship was the size of a small city. Tazz ran his finger over the sculpture's shiny surface and imagined a giant version of himself standing outside in space looking at the real *HMS Horizon*.

And then, suddenly, everything changed.

The whole ship rocked and the sound of an explosion tore through the air. Looking along the corridor beyond the garden, he saw fire and smoke and people running. More explosions shook the ship. The sculpture toppled sideways to the ground and huge leaves fell from the trees, drifting downwards like manta rays in the tranquil waters of a lagoon.

Through the glass of the dome, he could see more of the space serpents, the huge yet peaceful beasts they had been studying for the last two weeks. But they no longer seemed peaceful. A great tail whipped against the dome and a glass section shattered. Air from the pressurised environment inside the dome began to rush out through the hole. A great wind pulled at the trees and knocked him off his feet. It sucked fire into the garden from the burning corridors of the ship, and trees and bushes went up in flames. The artificial gravity faltered and died, and Tazz found himself becoming weightless. The wind lifted him and carried him towards the hole. He was heading for the frozen vacuum of space, where he would be dead within a minute, and there was nothing to grab onto and nothing he could do.

"Tazz!" came a voice. It was that girl. She was in trouble too, whirling around like a feather in the wind, heading for the hole. Leaves and branches and burning debris whirled

with them. But the girl was not as helpless as Tazz. She was lying flat on her anti-gravity tray, as if it were a surfboard. Its thrusters were not very powerful but gave her some control over her direction. "I'm coming!" she cried through the fire and smoke. Around them, the dome was breaking apart like a balloon bursting in slow motion. The girl steered towards Tazz.

"What are you doing?" he gasped, angry that this girl thought *she* could help *him*. Still, he grabbed hold of the tray.

"Look," she shouted, pointing. In the air, just out of arm's reach, was a box with the word "emergency" on it. The girl steered them towards it. Tazz realised why. He reached out and grabbed it. Clinging to the tray with one hand, he opened the box with the other. He pulled out two black packs. But it was too late: the dome had split open. Everything from the garden was tumbling into space, including Tazz and the girl. They had only seconds to live.



Comprehension Questions

- 1. Tazz had always enjoyed going to the ship's garden to see the plants. What else had attracted him to the garden recently?
 - a a space serpent
 - b science equipment
 - c other children
 - d the multicoloured backdrop of the nebula
 - e a sculpture of HMS Horizon
- 2. The girl looked a little affronted and turned away, muttering something under her breath.

What does the word *affronted* tell you about how the girl was feeling?

- a she was embarrassed
- b she was scared
- c she was nervous
- d she was offended
- e she was shy
- 3. Roughly how big was the ship that the children had been travelling on?
 - a the size of a cruise ship
 - b the size of a large football stadium
 - c the size of about twenty double-decker buses
 - d the size of a large town
 - e the size of a small city
- 4. ...like manta rays in the tranquil waters of a lagoon.

Which word closely matches the meaning of the word tranquil?

- a agitated
- b calm
- c turbulent
- d comfortable
- e stormy



- 5. Why did the ship's dome break?
 - a the air inside became too pressurised
 - b a strong wind pulled at the trees
 - c a sea serpent's tail whipped at the glass
 - d Tazz smashed into it after becoming weightless
 - e the girl shattered it with her anti-gravity tray

Words Ending in '-cial' Jumble Spelling Activity

1. Can you help? The words in the word box have been muddled up. Re-arrange the letters to spell a word from the word box

official unofficial	officially special	speciality superficial	artificial artificially
lepasic		flatcariii	_
yeplacsiti		loffacii	
aloyfcifil		ruplfisicae	
loncuafiif		larfitiialcy	

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SERPENTS OF THE NEBULA CHAPTER 2

Letting go of the anti-gravity tray, they each pulled one of the packs onto their backs and pressed the "deploy" button. From each pack, rubbery fabric unfolded, automatically wrapping itself round their bodies and limbs and sealing them inside. Transparent visors slid over their faces, and they each heard a hiss as their emergency spacesuits became pressurised.

They were tumbling through the blackness of space now. Glass, metal and other debris from the ship floated around them, and beneath them they could see the shattered dome of the *HMS Horizon*'s garden. They could see the rest of the ship now, too: a long, flat structure the size of a city. Flames and debris leapt from holes in its sides. Numerous space serpents spiralled around it like piranhas around their prey, attacking it with their vicious tails.

Tazz knew that the girl had saved his life, but they would not be alive for long.

The sculpture that only a few moments ago had been the proud centrepiece of the ship's garden drifted by like a reminder of how beautiful and impressive the *HMS Horizon* had been.

There was a crackle of static, and the girl's voice filled Tazz's right ear: "I can't believe we're still alive," she said.

"I know," Tazz replied. "But I kind of wish we hadn't made it. Now we're going to die slowly, drifting in space. An astronaut's worst nightmare."

"Well, aren't you a bundle of joy?" the girl said sarcastically.

"We've just lost our ship, and probably our parents and all our friends," Tazz informed her.

"I'm surprised you had any friends," the girl said, almost to herself.

"I can hear you," Tazz snapped back.

Just then, he became aware of a movement in the darkness nearby. Coming towards them was an enormous space serpent, its jaws opening to reveal a vast, cavernous mouth. Instead of teeth, there were hundreds of wriggling tentacles. Around its head were thousands of shining, black, bulbous eyes.

"Look!" Tazz cried. He and the girl flapped their arms and legs as if they might be able to swim away, but being in space is nothing like being in water. They had no control over their movement at all. "Why didn't you keep hold of the tray?" Tazz shouted.

"Why didn't you?" the girl shouted back.

The serpent's jaws engulfed them, and the tentacles wrapped themselves around their limbs. The huge mouth began to close on them.

But it didn't close completely.

And the tentacles didn't squeeze them too tight, or sting them, or hurt them.

Instead, they found themselves being carried along in the creature's mouth, and out of the front they could see the stars and the swirling colours of the nebula.

"What's happening?" the girl said nervously.

"How should I know?" Tazz replied, trying to pull himself free. "It's probably taking us home for its young."

"To play with?"

"No, to eat, dummy."

"Do you have to be so mean?" the girl asked, also trying to free herself. "I saved your life, remember? And you haven't even asked my name."

Tazz, who really did wish he could stop himself being so mean, sighed. It was clear they could not escape the gentle grip of the tentacles, so he gave up trying. "What's your name?" he asked.

"Julam," she replied.

Tazz didn't know what else to say. He wasn't much good at small talk at the best of times, and right now his mind was slightly preoccupied with the issue of being in a space serpent's mouth. He was sure they were going to die. He was sure his parents were already dead. Julam's too.

Ships like the *HMS Horizon* were built for scientific exploration, not war. Some people, such as his father, lived their entire lives on them. But Tazz wanted to go back home to Splenyoth, the planet where his parents had been born but that he had visited only occasionally. There were wars happening there, and Tazz wanted to command a battle cruiser one day.

But that dream would never come true now.

Time seemed to drag on and on.

"Are we actually moving?" Julam asked.

"Of course we are," Tazz said. But he knew he couldn't be sure. The stars and the nebula were an unchanging backdrop.

"I wish I could take this mask off," Julam said. "It's making my head itch."

"Well don't," Tazz said. "The vacuum of space will suck out your eyes and the low pressure will make your blood boil and your brain burst."

"I probably won't, then." Julam said.

Just then, the enormous jaws of the serpent began to open, slowly, like the doors to a space harbour. Before them, the scene had changed. They were much closer to the nebula now. But it was another sight that took their breath away. A huge, lumpy asteroid the size of a mountain hung there, bathed in the orange and green glow of the nebula. A mass of buildings clung to one side of the asteroid, as if a gigantic god had accidentally spilt a city down it.

And they could see the *HMS Horizon*, a dark and lifeless lump, floating round the asteroid in a low orbit.

The tentacles around Tazz and Julam relaxed and they found themselves drifting free. Then, they were hit in the back by a blast of hot air from inside the serpent that sent them spinning out into space, toward the *HMS Horizon*.



Chapter Sequencing

Put these events in the order in which they happened in the story, numbering them from 1 to 5. The first one has been done for you.

The children blamed each other for losing the antigravity tray.	
The children activated their emergency packs and were soon wearing pressurised spacesuits.	1
An enormous space serpent made its way towards Tazz and Julam.	
Rather than reassuring Julam, Tazz said that they were about to die.	
They tumbled through space amongst the debris from the ship.	

Pride A

Every year, usually in June or July, there are Pride marches, parades and events all over the world. These events are to celebrate **lesbian**, **gay**, **bisexual** and **transgender** (**LGBT**) pride. They are also about protesting for LGBT people to have equal rights and freedoms, such as same-sex marriage.



LGBT people have often faced **prejudice** in the past because of their **sexuality** or **gender identity**. Pride is a time to unite, raise awareness, protest for change, and celebrate equality and diversity.

The History of Pride

In the UK today, LGBT people have equal rights and this is protected by law. However, LGBT people haven't always had equality. Being gay was once illegal in the UK and United States, and LGBT people were often harassed and arrested. In June 1969, riots broke out between the police and LGBT people in New York City around the Stonewall Inn. This was the beginning of the move towards LGBT people achieving equal rights, known as 'the gay rights movement'.

In June 1970, the first Pride march took place in Chicago, to remember the Stonewall riots. The idea quickly spread around America and then around the world. The UK's first Pride march was held in London in 1972.

Pride 2018

This year, there will be an enormous parade in London called **Pride in London** on Saturday 7th July. There are also smaller Pride events happening across the country.

Page 1 of 2



Pride

Last year, more than 26,000 people joined the Pride parade through central London and many more watched. Well-known companies took part in the parade with colourful floats, banners and balloons, to show their support for the LGBT community.

The rainbow flag is an important symbol of LGBT pride and appears throughout the parade, from the flags that people wave to the floats they travel on. The rainbow flag was first used at the San Francisco Gay Freedom Day Parade in 1978.



Pride around the World

Pride is now a global celebration, celebrated in over 60 countries worldwide. Every Pride is unique: from the biggest and most popular Pride in Europe, held in Madrid (attracting 1,500,000 people every year), to the world's smallest Pride held in a small village in Ireland (with a population of just 250). In the Netherlands, Amsterdam hosts the world's most unusual Pride, with a parade that travels by canal.

Glossaru

bisexual: A person who is attracted to people of all genders.

gay: A person who is attracted to people of the same gender. Usually refers to men who are attracted to men, but can sometimes be used for both men and women.

gender identity: A person's sense of their own gender. This might mean feeling male, female, or neither.

lesbian: A person who is female and is attracted to people of the same gender.

prejudice: An unfair opinion of something, often resulting in negative behaviour or treatment.

sexuality: A person's emotional or romantic attraction to others. For example, being gay, lesbian or bisexual.

transgender: People whose gender is not the same as the sex they were given at birth.

Page 2 of 2











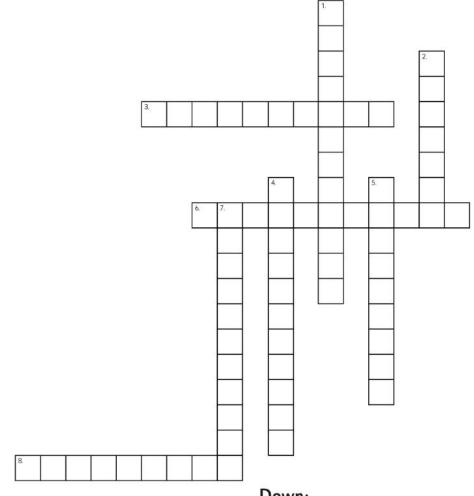






Words Ending In '-tial' Crossword

confidential partial partially essential substantial residential essentially torrential



Across:

- 3. The _____ rain caused flooding.
- 6. _ s _ e n _ i _ _ l y
- 8. It is _____ that you wear your seatbelt to keep yourself safe when travelling.

Down:

- 1. __nf_d_n_i_l
- 2. _ _ r t _ a _
- 4. Twelve families live in this _____ area.
- 5. _a_t_al_y
- 7. There was a ____amount of snow which meant that I couldn't safely travel to work.

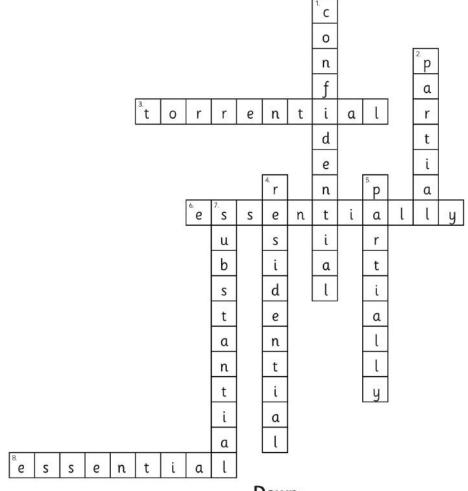
Now create your own interesting sentences using each of the words.



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Words Ending In '-tial' Crossword

partial partially confidential essential essential torrential



Across:

- 3. The ____ rain caused flooding.
- 6. _s_en_i__ly
- 8. It is _____ that you wear your seatbelt to keep yourself safe when travelling.

Down:

- 1. __nf_d_n_i_l
- 2. _ _ r t _ a _
- 4. Twelve families live in this _____ area.
- 5. _a_t_al_y
- 7. There was a ____amount of snow which meant that I couldn't safely travel to work.

Now create your own interesting sentences using each of the words.



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SERPENTS OF THE NEBULA CHAPTER 3

Once again, they were in space, and utterly helpless. They couldn't tell how fast they were going, and there was nothing they could do to slow themselves down or change their trajectory. But this time they were heading straight for the *HMS Horizon* rather than away from it. They could see what remained of the ship's garden inside the smashed dome. They felt as if they were falling out of the sky.

Tazz wondered how much it was going to hurt landing in the garden. Moments later, they plummeted between metal beams, all that was left of the dome's structure. Only then were they able to tell how fast they were going. The serpent had spat them out at just the right speed. They hit the ground and bounced upwards in the gravity-free environment, unharmed.

Flailing for something to stop them tumbling back out into space, Tazz grabbed the branch of a scorched and mangled tree. With his free hand, he caught hold of Julam's ankle as she passed him. With the artificial gravity not working, they had to pull themselves down to ground level. Everything was coated in a thick white layer of frost. The broken dome could no longer protect the garden from the ravages of space. Equipment, plants, soil and stones were all floating around the few remaining trees like lazy butterflies.

"The serpent that brought us here was helping us!" Julam realised. Tazz nodded and looked up, but the serpent was nowhere to be seen.

Pulling themselves along, they floated weightlessly down the corridors of the *HMS Horizon* like divers exploring a shipwreck. Every room was icy and empty. Every light was dead and every screen was blank. After a brief discussion, they made their way to the engine deck in the hope that they might be able to get some power back on.

The engine deck was vast. A dim red glow from some emergency lighting gave a strange illusion of warmth, despite the glittering frost patterns on every surface.

Just then, a metallic voice came through their earpieces: "Tazz, is that you?"

"I don't believe it," Tazz said squinting into the shadows, searching for the owner of the voice. "Didac-One! Where are you?"

Didac-One was Tazz's personal tutor, a luxury reserved for the captain's son, and one he had never appreciated until now. After a few minutes of searching, they found him. Didac-One was a robot, and he had connected himself to a computer terminal deep in the heart of the engine deck.

"Oh gosh," Julam said delightedly. "A robot tutor! I always wanted one. You are so lucky, Tazz!"

"I don't think Tazz thinks that," Didac-One said.

"Nope," Julam replied, "I'm pretty sure he never does."

"Do you mind, you two?" Tazz objected.

"My name's Julam, by the way," she informed the robot.

"Hello, Julam," Didac-One replied.

Didac-One was a small, bulbous droid with a screen for a face. The screen could display all sorts of things, but right now, in its default mode, it was displaying two green dots for eyes and a line for a mouth that rippled when it spoke.

"It is very good news that you two are alive," Didac-One said. "Everyone else has been taken prisoner somewhere on the asteroid."

"By space serpents?" Tazz asked.

"No. After the attack, the ship was boarded by people. They were armed. I escaped discovery by disabling most of my systems so that I wouldn't show up on their scanners," he explained. "I hid down here, and they didn't find me. Once they'd taken everyone prisoner, two of the space serpents towed the *HMS Horizon* to where it is now. I've been listening in. Have you heard of Prince Dagalag?"

"I have," Tazz said. "Queen Zalgama of Splenyoth's evil brother. He was exiled after trying to overthrow her and take over Splenyoth."

"Yes, and this is where he came. And some of his army came with him, and some very clever scientists too. They had a few weapons, but not enough to take over a planet.

But now they are building up an army of space serpents. They are planning to use them to take control of Splenyoth."

"So the space serpents are working with Prince Dagalag?" Julam asked.

"Sort of. You see, Dagalag has learned how to control the space serpents by transmitting a powerful signal directly into their brains. He inflicts great pain on them. They are his slaves."

"Poor creatures!" Julam breathed.

"Instead of having his own fleet of spaceships, Dagalag has turned the serpents into war machines," Tazz said.

"Exactly," Didac-One confirmed. "And now he has the *HMS Horizon*. Right now, he can only transmit the signal from the asteroid, but he's going to repair the *HMS Horizon* and, transmitting from there, he'll have his own entirely portable army of space serpents."

With a touch of excitement, Julam said, "So, it's down to us to rescue the crew, get the *HMS Horizon* back and stop Prince Dagalag using the serpents as his weapons."

"Not quite," Didac-One said. "When the *HMS Horizon* was attacked, a distress signal was sent out. Rescue will be on its way, but..."

"But that's what Prince Dagalag wants," Tazz realised. "It's a trap. The rescuers will be attacked just like we were, and Dagalag will have their ship too."

"And there will be a battle," Julam pointed out. "Those innocent serpents will get hurt or killed."

"We have to stop Dagalag," Tazz and Julam said together.

"Well, I have a plan," Didac-One said, "but it is extremely dangerous.



Spelling, Punctuation and Grammar

۱.	Choose the correct homophones to complete the sentences below.		
	The children decided to <u>precede/proceed</u> through the wreckage,		
	pulling themselves along. It took a lot of effort and they felt		
	wary/weary. When they reached the engine room, Tazz		
	<u>heard/herd</u> a familiar voice.		
2.	Tick the option that shows how the underlined words in the sentence below are used.		
	Everything was coated in a thick, white layer of frost.		
	Tick one .		
	as a main clause		
	as a fronted adverbial		
	as a subordinate clause		
	as a noun phrase		
3.	Rewrite the sentence below so that it is in the passive voice .		
	The robot tutor enchanted Julam.		
1.	Add a relative clause to complete the sentence below.		
	Didac-One,, told the children about what had happened after the attack.		
	what had happened after the attack.		

Serpents of the Nebula - Chapter 3



5.	a) Define the word <i>antonym</i> .
	b) Write one word that is an antonym of <i>repair</i> .

My Play Script

The characters in this scene are:		
The setting is:		
Character name	What is said	





Food fit for Astronauts

Introduction

Nutrition has played a critical role throughout the history of exploration, and space exploration is no exception. Astronauts may spend months aboard the International Space Station or several years on a mission to another planet so it is absolutely critical that they have adequate nutrition on board.

Essential nutrients must be available in the spaceflight food system which is extremely different today from how it was during the first space missions. The early Mercury programme (1961-1963) included food packaged in bite-sized cubes, freeze-dried powders and semi-liquid foods in aluminium tubes. The menu today is composed mainly of packaged foods that are freeze-dried and thermostabilised (canned), with very few fresh foods. However, the crew members do plan their own menus with the assistance of a dietitian, and an effort is made to include all of the nutrients needed for working in the space environment. Refrigerators, freezers and a microwave convection oven are now found on some spacecraft allowing there to be a more extensive menu including a variety of fresh foods.

The astronauts must consume sufficient energy (calories) whilst in space for optimal work performance and good health. Vitamins and minerals can be particularly important, including calcium and vitamin D due to their beneficial effect on bone. Astronauts can be prone to poor bone health due to the weightlessness of the environment and the loss of any weight-bearing exercise which we take for granted every day on Earth where gravity is present.

Problem

How can I provide the next team of astronauts with a healthy, varied and nutritionally balanced menu that is appetising, appealing, easy to eat and creates the fewest amount of crumbs whilst in a micro-gravity environment?

Observation

Astronauts must consume enough energy (calories) every day so they can maintain their energy level and good health. Many astronauts simply do not consume enough calories due to a variety of reasons including lack of time, unappetising menu, adverse reactions to food eaten, and potential difficulties with actually eating and then digesting the food available. Menu variety with crew exposed to healthier and tastier foods has been shown to decrease stress during a space mission and therefore lead to a less stressed, healthier crew who perform to the best of their ability.

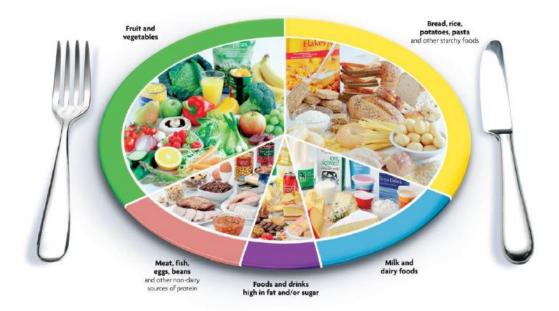
Nutrition is essential to maintain important functions of the body, skeletal and muscle condition, and hydration status of all space crews on their space mission, all of which are especially important for extended-duration missions.

The provision of a variety of foods that are tasty and stimulate the senses when on a space mission will enhance food intake by the crew. However, spacecraft are limited by the amount of food storage space they can contain, as well as the weight restrictions to physically launch the aircraft into space.

Let's think about your in-flight menu record

Think about the macro and micro-nutrients and list which of these are the most important to astronauts and why. State which of these (if any) must be eaten in different amounts compared to the requirements on earth and state the reason for this difference.

Investigate the eatwell plate by going to http://www.eatwell.gov.uk/healthydiet/eatwellplate/



Do you think that your team of astronauts will remain fit and healthy for the duration of their mission if they were to eat foods from your menu plan for the mission duration?

What are some of the healthy choices that you made and why?

What are some of the unhealthy choices that you made and what were the reasons behind these choices?

If you were to become an astronaut would you be happy to eat your menu for 3 months? If not, why not, and what would you change about it?

When you were putting together your menu did you think about how the astronauts will eat your foods? Will they be squeezed out of toothpaste-type tubes, can they be eaten from a spoon-bag or is there another method?

Quiz Answer the following questions about the Food fit for Astronauts Activity

- 1. Many astronauts do not consume enough calories whilst on a space mission. What are some of the reasons for this?
- 2. Why are crumbs bad news for astronauts?
- 3. Astronauts can often lose their sense of smell and taste when in the spacecraft for long periods of time. How can this effect be minimised or overcome?
- 4. How does the food eaten on present day space missions differ from that of the earliest missions?
- 5. What are the different types of food available to astronauts on the spacecraft?
- 6. What do astronauts use to eat from?
- 7. Why is it important that astronauts eat at least one meal of the day together?
- 8. Why is nutrition so important for astronauts in space?
- 9. What is the limiting factor affecting an astronauts food requirement in space?
- 10. Why are food labels so important?

Nutrition	The study of food consumption.
Nutritionally balanced foods	Foods containing the correct nutrients in the right amounts for optimum health.
Macronutrients	Make up the majority of the diet supplying energy and the essential nutrients as carbohydrate, protein and fat.
Micronutrients	Include vitamins and trace minerals that are needed by the body in small amounts.
Eatwell plate	Pictorial representation showing the types and proportions of foods we need to have a healthy and well-balanced diet.
Calories	Unit used to measure food energy.
Micro-gravity environment	An environment in which the effects of gravity are greatly reduced.
Graphic design	The process of designing visual information that stimulates the sight.

Food fit for spaceflight Quiz Answers

1. Many astronauts do not consume enough calories whilst on a space mission. What are some of the reasons for this?

Many astronauts do not consume enough calories due to a variety of reasons including lack of time, unappetising menu, adverse reactions to food eaten, and potential difficulties with actually eating and then digesting the food available.

2. Why are crumbs bad news for astronauts?

Crumbs can float around the spacecraft and cause possible damage to expensive machinery and equipment.

3. Astronauts can often lose their sense of smell and taste when in the spacecraft for long periods of time. How can this effect be minimised or overcome?

Through the provision of a variety of foods that are tasty and stimulate the senses when on a space mission. Menu variety with crew exposed to healthier and tastier foods has been shown to decrease the stress during a space mission and therefore lead to a less stressed, healthier crew who perform to the best of their ability.

4. How does the food eaten on present day space missions differ from that of the earliest missions?

Space food systems have evolved as space programmes have developed. The early Mercury programme (1961-1963) included food packaged in bite-sized cubes, freeze-dried powders and semi-liquid foods stuffed into aluminium tubes. Later space missions had hot water to re-hydrate foods improving their taste and quality, as well as enabling the use of actual utensils to eat with making the overall action of eating closer to the experience of eating on Earth. Today, astronauts needn't worry too much as 'proper' food is sent up to space that has been designed by a dietitian and can be eaten from individual food trays.

5. What are the different types of food available to astronauts on the spacecraft?

- a) Rehydratable food water is removed from the food during packaging, e.g. hot cereal such as oatmeal.
- b) Thermostabilised food heat processed so the food can be stored at room temperature, e.g. tuna fish.
- c) Intermediate moisture food preserved by taking some water out of the product while leaving enough to maintain the soft texture, e.g. dried apricots.
- d) Natural form food ready to eat, packaged in flexible pouches with a naturally long shelf-life, e.g. nuts.
- e) Irradiated food cooked and packaged in flexible foil pouches and sterilized by ionizing radiation so they can be kept at room temperature, e.g. beef steak.
- f) Frozen food quick frozen to prevent a build up of large ice crystals and maintain the original texture of the food so that it tastes fresh, e.g. casserole.
- g) Fresh food neither processed nor artificially preserved. Must be eaten within the first 2-3 days of the mission or they will spoil, e.g. apple.
- h) Refrigerated food foods that require cold or cool temperatures to prevent spoilage, e.g. sour cream.

6. What do astronauts use to eat from?

Astronauts use special trays in space because of the special micro-gravity environment. These trays are designed to hold everything in place while food is being prepared and eaten. On the spacecraft, the trays used have straps on the back so that the astronauts can attach them to either the wall or their leg in order to hold them in place. They also use Velcro to attach the food and drink packages. Utensils (including knife, fork, spoon and sometimes most importantly scissors) can be held in place using magnets or Velcro straps. The food trays have special compartments to hold special bowl-like containers which snap into place and hold the food in the tray.

7. Why is it important that astronauts eat at least one meal of the day together?

Evidence shows that it is not just about basic nutrition and what to eat that is important to astronauts but also the psychosocial benefits of eating together with the rest of the crew for interaction and morale boosting effects.

8. Why is nutrition so important for astronauts in space?

Nutrition is essential to maintain important functions of the body, skeletal and muscle condition, and hydration status of all space crews on their space mission, all of which are especially important for extended-duration missions.

9. What is the limiting factor affecting an astronauts food requirement in space?

Space. Spacecraft have a limited amount of food storage space they can contain, as well as the weight restrictions to physically launch the aircraft into space.

10. Why are food labels so important?

Food labels can give you advice on a particular food to help you make healthier, safer and more informed choices.

TASK – complete the in-flight menu record for an astronaut (to be healthy)

Day		Date		
Time	Meal	Food/drink description & preparation	Portion size	
8am	Breakfast	Unsweetened orange juice Cornflakes, Kellogg's Milk (semi-skimmed) Toast, Hovis granary Olivio spread	1 glass 1 medium bowl 200ml 1 slice Medium spread	

Word Endings -tial and -cial

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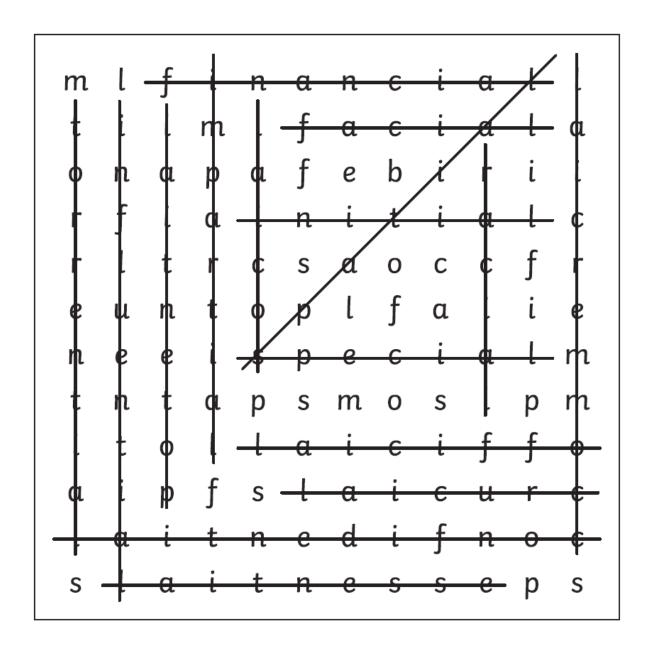
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Word Endings -tial and -cial



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SERPENTS OF THE NEBULA CHAPTER 4

Five minutes later, they were strapped into their seats in a small escape module on board the *HMS Horizon*. Didac-One had reconnected himself to the ship's control network. The escape module's life-support systems were fully functional, so Tazz and Julam had lifted their visors and could breathe normally. They were waiting for the right moment to launch themselves away from the *HMS Horizon*. In order to escape undetected, though, they needed a huge distraction, and Tazz felt sick with the guilt of what they were about to do. A red emergency light was flashing, and the voice of *HMS Horizon*'s computer was saying, "Fifty-five seconds to self-destruct. Abandon ship. Fifty seconds to self-destruct. Abandon ship..."

Tazz was sweating. He had triggered the self-destruct system to destroy the *HMS* Horizon, his father's ship. It was either the bravest or the stupidest thing he had ever done.

At last: "Two, one..."

Tazz pressed the launch button.

At that moment, Didac-One triggered the launch of all of the *HMS Horizon*'s other escape modules, and the ship erupted into an immense ball of fire like a supernova.

Tazz steered their escape module around the asteroid and out into space, as more than a thousand empty escape modules also sped away from the fireball in every direction.

"Wooohooooo!" Julam shouted gleefully.

They were now accelerating away from the asteroid, hoping that the explosion of the *HMS Horizon* had been enough to shield them from Prince Dagalag's sensors, and the empty escape modules would add to the confusion.

Tazz pointed their tiny vessel towards the colourful gas and dust clouds that made up the nebula. The nebula had previously just been a beautiful backdrop that they had admired from a distance, but now it closed around them, and they plunged into its depths.

Several hours passed. They didn't even know if Didac-One's plan would work. They were taking a huge risk. They had a theory, but that was all.

"You really are a clever girl!" Didac-One congratulated Julam.

"I thank you," she smiled. It was Julam's research a few days ago on board the *HMS Horizon* that had helped the ship's scientists to realise that the space serpents were not the adults of the species. They were the lava, just as caterpillars are the lava of butterflies. Julam had theorised that the adults of the species, whatever kind of beasts those might be, could be found deep inside the nebula, but nobody knew for sure.

What they did know was that the species communicated using telepathy. It was their telepathy that Dagalag's scientists had learned to control. But an adult of the species might be able to overpower Dagalag's signal with a stronger telepathic signal of its own.

The first thing they had to do was to locate one.

"I wish this thing would go a bit faster," Tazz said, pushing the throttle to maximum. They all knew what would happen if any rescue ships arrived at the asteroid while the serpents were still under Dagalag's control.

For many hours, they flew deeper and deeper into the nebula.

"Oh no," Tazz said, pointing to a dot that had appeared on the scanner's screen. "We're being followed."

"Could it be a rescue ship?" asked Julam.

"No, definitely not," Didac-One said. "They haven't had time to get here yet."

"Must be one of Dagalag's ships, then," Tazz said.

Around them the nebula's gas and dust swirled in dreamy clouds of green, purple and yellow. Just then, a huge, dark shadow drifted through clouds in front of them.

"That's one of the adults," Didac-One announced. Tazz steered them towards it. He was trying not worry that it might just eat them.

"Can you talk to it?" Julam asked Didac-One.

"Sort of," the robot replied. "But I don't even know if it's intelligent. I'm going to play it some recordings of the space serpents' telepathic signals. I'm hoping it'll get the idea."

Suddenly, right in front of them, the colourful clouds parted and the gargantuan adult beast appeared. Like the young serpents, its face was a mass of dark eyes surrounding powerful, tentacled jaws. Unlike the young serpents, its body was fringed with huge, striped, wing-like sheets that rippled around it like flags. It was many times bigger than a young one, and it dwarfed the escape module.

"It's beautiful," Julam gasped.

"You'll have to act fast," Tazz warned Didac-One, pointing to the scanner. "The ship that's been following us is closing in."

"I'm transmitting the signal now," Didac-One said.

They waited.

"I'm not sure it's working, actually," Didac-One said. "In fact, I really don't think it got the idea at all. I'm getting a response from it that I think – if I'm interpreting it correctly – is anger."

Suddenly, a tentacle shot from its mouth and Tazz just managed to steer them out of its thrashing reach. But it came for them again, and the beast's enormous bulk lurched towards them. Frantically, Tazz swung their vessel this way and that, dodging the attacks; he had played many simulations but had never actually piloted anything for real.

An emergency message flashed onto the screen: "Power level critical." Escape modules were not made for long journeys or combat, and Tazz knew this was very bad news indeed. And, worse still, the scanner showed that the ship that had been pursuing them was now almost on top of them.



Open-Ended Questions

- 1. Why didn't Tazz and Julam need their visors inside the escape module?
- 2. Tazz was sweating. He had triggered the self-destruct system to destroy the HMS Horizon, his father's ship. It was either the bravest or the stupidest thing he had ever done.

Complete the following two sentences.

Tazz thought that destroying his father's ship was the bravest thing he had ever done because

Tazz thought that destroying his father's shop was the stupidest thing he had ever done because

- 3. Look at the paragraph beginning Tazz pointed their tiny vessel... Explain why Tazz and Julam's thoughts about and opinion of the nebula have changed.
- 4. For many hours, they flew deeper and deeper into the nebula. What does this sentence tell you about the size of the nebula?
- 5. But it came for them again, and the beast's enormous bulk lurched towards them.

What does the word *lurched* tell you about the way the beast moved?

CHARACTERS	SIMILARITIES	DIFFERENCES
TAZZ		
JULAM		

Year: 6	Spring: 1	Week: 3
Focus:	Endings which s	ound like /ʃəl/

Dictation

It was ______that the _____guest was attending.

It's _____that all _____papers are shredded.

Their _____meeting didn't go particularly well.

The _____governors decided to have _____plants.

There was a _____service operating on the trains.

London's _____centre is incredibly important.

The _____success of the business is yet to be known.



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SERPENTS OF THE NEBULA CHAPTER 5

But then something else came into view: a young space serpent, speeding towards them with its mouth wide open.

"It's the same one that saved us before!" Julam guessed. "Fly into its mouth!"

"It wasn't one of Prince Dagalag's ship's that was following us after all!" Tazz said. "It was him!"

"Might be a 'her'," Julam grinned.

Tazz knew the serpent was their only hope. Dodging the attacks of the adult beast, he steered their tiny escape module into the serpent's cavernous mouth and turned it round so they were facing forward. Just as before, the serpent's mouth remained slightly open.

The serpent and the adult were now face to face.

"The signal from the adult is changing," Didac-One said. "It's not angry any more. In fact, I can hear the serpent's signal too. They are having a conversation. I can't tell what they are saying. But I think the serpent understands that we are trying to help it."

"Power level critical," the on-screen message reminded them.

"It's taking us back to the asteroid," Tazz said, and the scanner showed he was right. It indicated that they were heading back the way they had come, and the adult beast was following them. Not only that, but other adults were coming too.

"It's amazing," Tazz said.

"Is there a danger Dagalag will just be able to control the adults, the same way he controls the young?" Julam said.

"We'll soon find out," Didac-One said.

Many hours later, they emerged from the nebula. Dagalag's asteroid lay directly ahead of them.

"Ohhhhh," Julam breathed, realising something as she watched the scanner's screen.

"The adults can't leave the nebula, but the young can. That's why they've never come to help before!"

"I'm going to use the last of our power to boost the adult's signal," Didac-One said.

The serpent opened its mouth and the escape module drifted from it. At that moment, a whole host of serpents emerged from the asteroid and came speeding towards them ready to attack.

"They know we're here," Tazz warned. "It's now or never!"

"The adult is signalling to them," Didac-One said. "I'm boosting it."

The serpents opened their mouths, about to destroy the tiny escape module. Tazz tried to steer away from them, but there was no response from the controls; the power had run out. In that moment, knowing they were all about to die, Tazz had one great regret: not treating the brave and optimistic Julam more kindly. He turned to her and saw the terror in her face.

But then the serpents stopped, closed their jaws and turned away.

"It's working!" Didac-One announced.

Tazz and Julam both let out huge sighs of relief.

Before them, the space serpents headed back towards the city on the asteroid, and with their mighty tails they began smashing some of Dagalag's structures.

"They are targeting the transmitters," Didac-One explained. Some of Dagalag's ships zipped out of the asteroid and began firing on the serpents.

"Don't hurt them!" Julam cried.

But the ships were no match for the serpents now that they were free from Dagalag's control, and their tails whipped the ships, shattering them or sending them spinning off into space.

"Yay!" Julam cried, clapping, and Tazz punched the air in delight.

"All we need to do now is rescue the crew of the *HMS Horizon*," Tazz said, as if that would be easy.

"Well," Julam interjected, pointing at a small cluster of dots on the scanner, "I suggest we leave that to them."

"Queen Zalgama's forces," Didac-One confirmed. "They want to speak to us."

"Oh, um, okay," Tazz said nervously, and cleared his throat. "Hello," he said into the intercom.

"Who am I speaking to?" came a voice.

"I'm Tazz Galgamore, son of Captain Hanross Galgamore. I'm here with my friend, Julam, and my tutor, Didac-One. Prince Gagalag's defences are down. Please do not hurt the serpents; they are innocent and no longer under Gagalag's control. The crew of the HMS Horizon is imprisoned on the asteroid somewhere."

"I am Queen Zalgama," the voice said, "and you are heroes."

"I wonder if she'll still think that once she knows what we did with the *HMS Horizon*," Julam whispered, and Tazz returned her grin.

Half an hour later, the queen's forces had stormed the asteroid, located the *HMS Horizon*'s crew and taken Prince Gagalag prisoner.

*

Floating out in space once more, Tazz and Julam were now equipped with jetpacks provided by Queen Zalgama herself. Round and round the head of the space serpent they flew.

"I don't know how this one managed to evade capture," Julam said, "but I think it was trying to communicate with us all along, when it was flying around the *HMS Horizon*. It was probably asking for help."

"And we just couldn't hear its telepathic signal," Tazz said. "Poor thing."

The serpent's huge head nudged them gently as they spiralled about.

"By the way," Tazz said, swallowing. "I am very grateful to you for saving my life, and everything."

"I know," Julam grinned, "and you saved mine too."

"Well, I shouldn't have been so rude when we first met. Sorry."

"No problem," Julam said, shoving him playfully.

"I hope this beast knows we're grateful too," Tazz said, bouncing off the serpent's nose and turning a somersault.

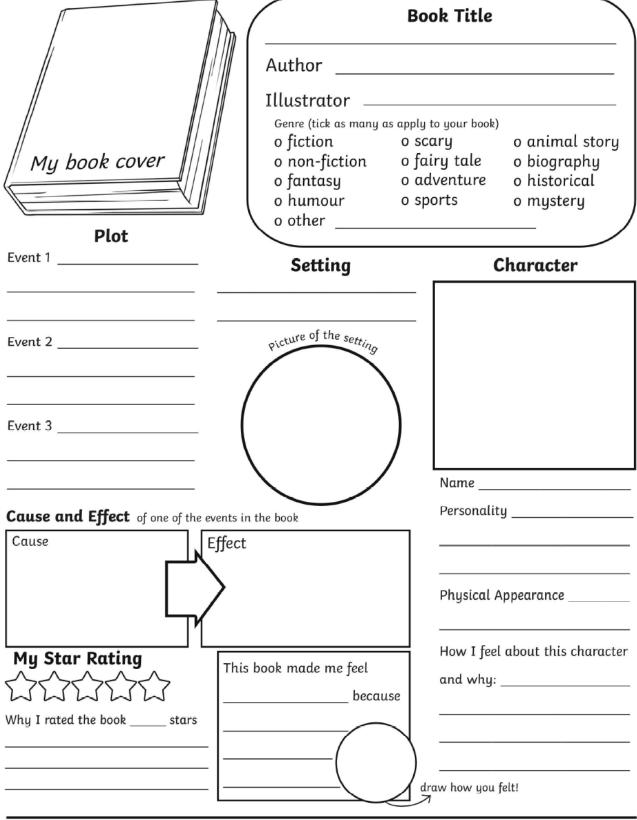
Although they estimated the serpent was hundreds of years old, they knew it was still a child. But it seemed to know they had come to say thank you.



Open-Ended Questions

- Dodging the attacks of the adult beast, he steered their tiny escape module into the serpent's cavernous mouth...
 How did the children feel about entering the serpent's mouth compared with the first time they were inside it?
- 2. The serpent opened its mouth and the escape module drifted from it. What does the word drifted tell you about the way the escape module was moving?
- 3. Look at the conversation between Queen Zalgama and the children. Why did Julam whisper?
- 4. The serpent's huge head nudged them gently as they spiralled about. What does this sentence tell you about the relationship between the children and the serpent?
- 5. At the end of the story, how could the children tell from the serpent's behaviour that it knew they had come to say thank you?

Book Review









The Great Get Together 2020 Goes Virtual to Scarborough Fair

We Are Scarborough and Say Hello Coast have come together to organise three competitions which we hope will inspire Yorkshire Coast residents to get together in a creative and fun way that everyone can share in. The competitions have been inspired by the Jo Cox Foundation's Great Get Together event which seeks to celebrate Jo's life and her vision of bringing people together.

Scarborough has joined in with the national Great Get Together celebrations for the last three years and rather than miss out, this year we have decided to go ahead in a way which will safely bring people together in celebration of our Town and Borough and key workers. The plan is to hold three competitions around the theme of Scarborough Fair which has brought the people of the Yorkshire Coast together for centuries. The original fair dates back to the early middle ages when it was akin to the town's market day. More recently it is a funfair popular with families and young people. The song Scarborough Fair has iconic status as a traditional English ballad made famous around the world by Simon & Garfunkel. https://www.youtube.com/watch?v=-Jj4s9I-53g

The three competitions are:

- · A postcard competition,
- · A song lyric competition and
- A multi genre competition for writers, poets, model makers and performers.

All three competitions will have first and second prizes for entrants who are: 11 and under, 12 to 18 years and over 18. This project is open to everyone and anyone and is family friendly so we would ask all those posting entries to bear that in mind.

To obtain more information about the Great Get Together and full details about how to enter the competitions and find out more about Scarborough Fair and its history please go to our Facebook page @TheGreatGetTogetherScarborough or our We Are Scarborough website https://wearescarborough.co.uk/

The closing date for competition entries is midnight on Monday 15th June 2020. The winners will be announced online during the Great Get Together weekend 19th to 21st June 2020.

Postcard Competition

We will collate all submitted postcards in Facebook albums at www.facebook.com/TheGreatGetTogetherScarborough, as well as an online gallery on the We Are Scarborough Website https://wearescarborough.co.uk/ for general viewing. We also hope to have a final exhibition 'in the real world' later in the year. Scarborough Library in Vernon Road have agreed to hold a display but the details of when we can do that are to be finalised. The postcards judged 1st and 2nd in each category: 11 and under, 12 to 18years and over 18 will receive a prize of book, theatre or music shop vouchers with a cash value of £50 for 1st prize and £30 for 2nd.

The Brief:

What would we like you to do?

- * Create a 4" x 6" (10cm x 15cm) postcard, leaving a bit of an edge all around.
- * Theme Together at Scarborough Fair. Anything you like so long as it's family-friendly, could be a depiction of the ancient fair or the modern fair or even an imaginary Scarborough Fair, could even be linked to the Scarborough Fair song (This project is open to everyone and anyone, so we need to bear that in mind).
- * Medium Again, anything goes. You could even make something in 3D and larger than the postcard dimensions and then take a photo of it to turn it into a postcard of the required size.
- * If you include (a) photo(s) or text (e.g. a poem) on the front of your postcard, these must be your own. Exceptions are any elements which are clearly 'collaged', standard postcard phrases ('Welcome to Scarborough Fair' 'Wish you were here') and other well-known quotes (which must be clearly indicated as such).
- * On the back of the postcard, please write a short text, e.g. explaining what it depicts (if not immediately obvious), why you chose the subject, or something about the craft techniques used.
- * On the back of the postcard, please also include your name, first part of your postcode (YO11, YO12, etc.) and your age group the latter two for evaluation purposes.
- * When you're done, please post a picture of both sides of your postcard in the Postcards from: 'The Great Get Together 2020 Goes Virtual to Scarborough Fair' Facebook page.
- * If you, or someone you know who might like to take part are not on Facebook, you can also submit postcards via email to tony.quinn@northyorks.gov.uk We will ensure these cards get put up both in our Facebook group and our 'We Are Scarborough' website gallery.
- * Feel free to make and post as many postcards as you like, but note that if we do end up exhibiting in a real world location then we may be limited to how many we can exhibit.

The closing date is Midnight on Monday 15th June 2020



Song Lyric Competition

We will collate all submitted song lyrics on our Facebook site www.facebook.com/TheGreatGetTogetherScarborough and our in the We Are Scarborough Website https://wearescarborough.co.uk/ for general viewing. The best 6 verses will be performed by local musicians and released with details of the winning entries on our Facebook page during the weekend of 19th to 21st June 2020. The verses judged 1st and 2nd in each category: 11 and under, 12 to 18years and over 18 will receive a prize of book, theatre or music shop vouchers with a cash value of £50 for 1st prize and £30 for 2nd.



The Brief:

What would we like you to do?

- * Write a new verse, or verses, to the tune of Scarborough Fair (Simon and Garfunkel). No need to include the music that will be done by our musicians. Feel free to follow the format of the original song e.g. Tell her to make me a ---, however feel free to change the lyrical format as long as it can still be sung to the tune of Scarborough Fair. Please be aware that when performed by our musicians there may be slight adaptations to the lyric to make it scan more easily for singing purposes.
- * Theme Our central theme is getting together at Scarborough Fair, but your theme(s) can be anything you like so long as it's family-friendly. Like the original it could be about meeting at the fair and a series of requests to a loved one, or it could be totally different. We expect references to the current 'lockdown' situation and possibly the great work of key workers, but that is not essential.
- * Musical genre Again, anything goes. We are hoping we get all musical tastes reflected in the entries. Our partners and the musicians involved in the project have a whole range of musical tastes.
- * All entries to be on a plain word document. The lyric must be your own. Exceptions are any elements of the original traditional ballad (see below) which you have included in your version.
- * On the bottom of your entry you can if you wish write a short text, e.g. explaining what inspired you (if not immediately obvious), why you chose the subject, or something about what the song means to you.
- * Please also include your name, first part of your postcode (YO11, YO12, etc.) and which age group you belong to: 11 or under, 12 to 18 or over 18.
- * If you wish to also post a video of you, or someone else, singing or performing your lyric then that would be great and we will also post it to our page. We also want your performances of the original song so again please post those and we will put them on.
- * If you, or someone you know who might like to take part, are not on Facebook, you can also submit postcards via email to tony.quinn@northyorks.gov.uk We will ensure these cards get put up both in our Facebook group and We Are Scarborough website gallery.
- * Feel free to write and post as many verses as you like but there is only one prize per person.
- * The closing date is Midnight on Monday 15th June 2020

Multi-Genre Competition

Do you want to take part in the fun, but have other skills and talents besides song writing, drawing and painting? You may be a writer or poet, a model maker or singer, a mime artist or dancer. If so, this competition is for you. We welcome submission of:

- stories, poems etc of no more than 500 words for those 11 and under 1000 words for those 12 to 18 years and 1500 words for those over 18
- · video of performances which are no longer than 5 minutes or,
- · still pictures of your model or other submission.

We will collate all submitted entries on our Facebook site: www.facebook.com/TheGreatGetTogetherScarborough, as well as the

online gallery on the We Are Scarborough Website https://wearescarborough.co.uk/ for general viewing. Where suitable the winners and selected others will be displayed at Scarborough Library on a date to be fixed. Details of the winning entries will be published on our Facebook page during the weekend of 19th to 21st June 2020. The entries judged 1st and 2nd in each category: 11 and under, 12 to 18years and over 18 will receive a prize of book, theatre or music shop vouchers with a cash value of £50 for 1st prize and £30 for 2nd.

The Brief:

What would we like you to do?

- * Devise a story, poem (max 500 words for 11 and under, 1000 words for those 11 to 18 and 1500 words for those over 18) or record a performance (max 5 minutes) or make a model or other submission which is around the subject of getting together at Scarborough Fair. Your actual theme can be anything you like e.g. visiting the fair with your parents, falling in love at the fair, the wonder and excitement of the fairground or the excitement of travelling in from your village to the modern fair or the historical one— so long as it's family-friendly. We expect references to the current 'lockdown' situation and possibly the great work of key workers, but that is not essential. (This project is open to everyone and anyone, so we need to bear that in mind when considering the suitability of content).
- * All written entries to be on a plain word document. The work must be your own. Exceptions are any elements of the original traditional ballad (see below) which you have included in your version.
- * Videos and photographs of performances and models etc should be no longer than 5 minutes and in a digital format ---
- * On the bottom of your entry you can if you wish write a short text, e.g. explaining what inspired you (if not immediately obvious), why you chose the subject, or something about what the subject means to you.
- * Please also include your name, first part of your postcode (YO11, YO12, etc.) and which age group you belong to: 11 and under, 12 to 18 or over 18.
- * If you, or someone you know who might like to take part are not on Facebook, you can also submit entries as attachments via email to tony.quinn@northyorks.gov.uk We will ensure these entries get put up both in our Facebook group and our We Are Scarborough website gallery.
- * Feel free to submit and post as many entries as you like but there is only one prize per person.

The closing date is Midnight on Monday 15th June 2020

Looking for Inspiration? Or simply wish to have a good read?

The link below has a short story about Scarborough Fair by the writer William Kovacic and further interesting historical information about the medieval fair and the Scarborough Fair song including a great version by Simon & Garfunkel: https://letterpile.com/seria.../Scarborough-Fair-A-Short-Story

