

It's alright to be bright, It's cool to be clever
We've all got potential, Let's celebrate together



It's alright
to be


Bright!

20-27 Oct 2012



Science  **Fiction:**
Future Fantastic!


NAGC
Helping children with high
learning potential thrive

It's Alright to be Bright!

20-27th October 2012

Welcome!

This is the seventh year we have run our It's Alright to be Bright! campaign and the fourth year of producing activity booklets for you to use in your class, year, school, club or family. our aim, as always, is to celebrate the many gifts and talents of all children, no matter who they are or where they live including those who may be good at maths, science, languages, art, drama, running..... or almost anything!

At the same time, we are reminded that there are a number of children who feel isolated, misunderstood or 'different' because of their gifts and talents. These children often learn in different ways and may require additional forms of stretch and challenge.

We aim to address their needs in this booklet as well. We hope that these activities provide you with ideas and suggestions for how children and young people of all abilities can be supported. Don't forget, whilst some may have gifts that are conventional or easy to see, others may have abilities that are hidden or masked through challenging behaviour or special needs. Celebrating every child's learning potential and raising their aspirations through activities which challenge and stretch them, we hope, will help them thrive in the classroom and at home. If this booklet is useful to you, we hope that you will pass it on so others benefit. We also hope that you will consider joining NAGC as a member to access more support, but equally to add your voice to the growing number of families and professionals supporting children and young people with high learning potential.

Alternatively, many schools, nurseries, sixth forms and homes have used this week to raise money so that NAGC can carry on running the It's Alright to be Bright! campaign in the future. We love to receive photographs of 'mufti days' where all the children or young people are dressed in their brightest clothes and lunchtime concerts put on by children. Whatever you do, we hope that you and the children and young people themselves enjoy these activities and help us celebrate It's Alright to be Bright! week.



Denise Yates
NAGC Chief Executive



Colourful kids enjoying the sunshine on an IATBB 'mufti day'!

Science ⚡ Fiction: Future Fantastic!

Contents...

- 4** Notes on the Activities
- 5** Key Stage 1 Science Activity – Robot Madness
- 8** Key Stage 1 Fiction Activity – Magnificent Machines
- 10** Key Stage 2 Science Activity – Travel Through Time
- 12** Key Stage 2 Fiction Activity – Into The Unknown
- 14** Key Stage 3 Science Activity – Geodesic City
- 18** Key Stage 3 Fiction Activity – Fantasy Landscape Poems
- 21** Key Stage 4 Science Activity – Fantasy To Reality
- 23** Key Stage 4 Fiction Activity – New World Anthem
- 25** Whole School Assembly - Ethics
- 26** About NAGC

Notes on the activities

Science Fiction: Future Fantastic is an activity pack of inclusive activities to support NAGC's It's Alright to be Bright! initiative, which is being held from 20th – 27th October 2012. This activity book explores different aspects of both science and fiction for different age groups. Our aims in doing this are to encourage higher order thinking skills and stretch and challenge young minds and at the same time celebrate all of the different gifts and talents we have whilst at the same time having fun. The pack can be used to provide exciting, engaging activities for the whole class, youth group or family, whilst providing support for children with special education needs. We hope it can be enjoyed by everyone including those with special needs as well as extension activities and ideas for able, gifted and talented children.

The following notes apply to all of the activities in the Science Fiction activity pack.

Suggested Key Stage



Each activity has been created for a specific key stage to ensure that the activity pack provides fun and enrichment for children of all ages. However each activity could be adapted for older or younger children if necessary.

Suggested time for activity



Each activity has been created to last 1 hour. This time frame is only a guide and can be extended or shortened as the teacher/leader/parent requires.

General resources & Additional resources needed



Curriculum Areas



All activities are cross-curricular and the curriculum areas covered by each activity are listed in the key at the top of each page.

Health & safety considerations



Activities are inclusive for all abilities:

Each activity is designed to be completed by the whole class, with suggestions for how to adapt it for children with special education needs and extension activities for able, gifted and talented children provided.

Disclaimer:

The activities in this booklet are suggestions for use in schools, youth groups and at home. However, NAGC cannot be held responsible for any incidents that may arise as a consequence, so please take care.

Science Activity:

Robot Madness



KS1



1 hour



Plain paper, pens, pencils, colouring pens, thick card, paint, paint brushes, items for junk modeling, glue, scissors, sticky tape, rulers, access to the internet



Pictures of robots



English, Art, Design & Technology, Science



Supervision when using scissors is recommended.



About the Activity

Design your own robot. What will your robot do? What will it look like? Using your knowledge of how things work, create your very own robot to do whatever you want.

Using paint, colouring pens, or collage materials, design an alien from a far away planet.

As a small group or class think about how your robot will help you, and discuss any problems with your design.

You can either make 3-dimensional shapes that stand up (and possibly move!) or 2-dimensional robots printed from interesting objects and shapes on big pieces of paper.

"He put the special robot by Nan. The robot said 'Ha-Lo-Nan. Have-you-got-a-cough?' She opened one eye. It winked. The robot said, 'I-will-blast-your-cough. BLAAAST!'"

From Harry and the Robots by Ian Whybrow and Adrian Reynolds

Learning Outcomes

- For each child to make one contribution to discussion about robots and build their confidence when speaking in a group
- To develop fine motor skills through drawing, painting, printing and assembling
- To improve speaking and listening skills by taking turns to talk about the robots and what they can do

Suggested plan

Introduce the topic. Read a story about robots. Ask the children:

- What did the robot(s) in the story do?
- What did the robot(s) look like?
- What else could robots look like?
- How does what they do change what they look like?

Tell the children they will be designing their own robot to carry out a task of their choice. Ask the children to think about what they know about how things work and what other appliances they know of that do the task they are thinking about. How can they incorporate this into the design of their robot? Encourage the children to think of shapes that are other than humanoid and functional for their chosen task.

Explain to children how they will design their robot and get designing:

2-dimensional printing

- Make/choose lots of different shapes of robot parts using items that can be washed later or thrown away, e.g. cogs, duplo bricks, building blocks, pieces of rope, plastic packaging, corrugated card
- Put thick poster paint into trays, either with brushes or in trays large enough to dip the robots in
- Let children dip robot parts into the paint or brush thickly onto the parts and press onto large pieces of paper to create their robot

3-dimensional robots

- Show children the junk materials you have collected
- Let children make 3-d robots by sticking pieces together using tape or glue
- Remind children to show what their robot can do
- If there is time, paint or decorate the robots

Let each child design their robot using the preferred method and give their robot a name. Finish work and tidy up.

Extend AGT children with one of the tasks suggested.

SEN Discussion and AGT Discussion. Weird and Wacky!

SEN Activity Ideas

Provide children with a robot template that they can colour in and stick collage materials onto. Also provide assistance for children who struggle with cutting and gluing materials.

SEN Discussion

Which is your favourite robot and why?

Able, Gifted & Talented Activity Ideas

Make up a story about what happens to your robot. Create a background in either 2-d or 3-d for your robot, based on the story you told.

AGT Discussion

How could your robot be used to help other people or animals in a different situation?

Think about something positive, something negative and something interesting relating to this question:

What would it be like to have a robot living in your house?

Weird & Wacky!

What might happen if robots could fly?



Useful Resources

Harry and the Robots

Author: Ian Whybrow and Adrian Reynolds

ISBN: 978-0140569827

In this beautifully illustrated story, Harry builds an army of robots to 'Blast!' his gran's cough and help her recover.

Stories of Robots

Author: Russell Punter

ISBN: 978-0746080535

A collection of three stories for young children about robots, lots of fun with racing robots, tidying robots and a robot thief!

Robot Dog

Author: Mark Oliver

ISBN: 978-1845061838

A story about a robot dog, who is made to be played with and cared for, but has a flaw.

Four Corners: Robots!

Author: Elizabeth Tyndall

ISBN: 978-0582841093

Find out what some amazing robots can do with this factual book about where robots are used and how they work.

Robot Snap Cards

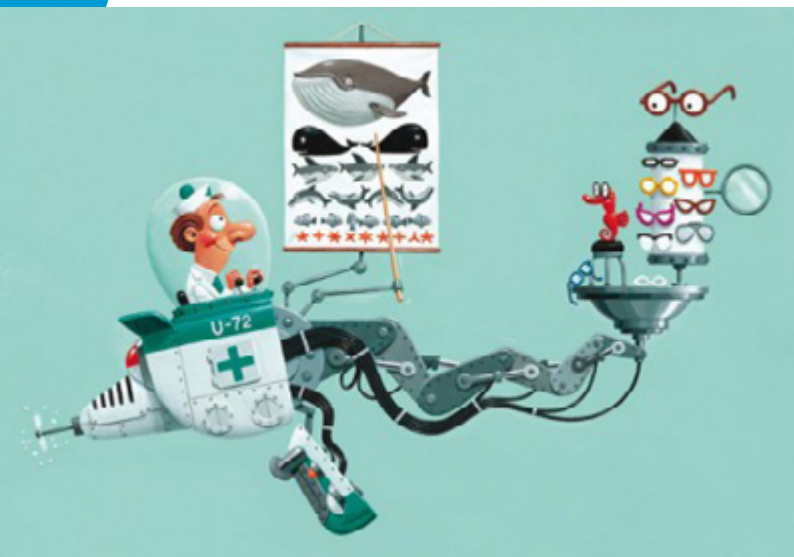
Author: Andy Elkerton

ISBN: 978-1409516903

This set of snap cards by Usborne features colourful pictures of robots of all kinds. The cards would be a good stimulus for how children could depict their robot. Playing the game would make a good enrichment activity.

Why not take a photograph of your designs and send it to NAGC? We will put the most interesting on our website!

Fiction Activity: Magnificent Machines



KEY STAGE

Key Stage 1



1 hour



Plain paper, lined paper, pens, pencils, colouring pens, rulers



Tape recorders, video equipment, digital cameras, computers with presentation or story-making software



English, Science, Art, Design & Technology, Information Technology



Supervision when using electronic equipment is recommended

About the Activity

Taking inspiration from Deep Sea Doctor Dean, who has a special submarine for helping sick animals, you can invent a special machine and make up a story about it.

What can your machine do, who can it help and what will it happen to it in your story?

You can choose how to tell your story.

"Like he did every morning, Doctor Dean dove into the ocean in his special submarine looking for fish and other sea animals in trouble.

From a mackerel with a sore tail,

to a sardine with a foul smell,

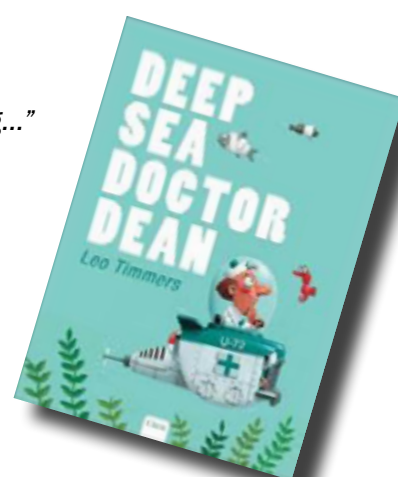
to a jellyfish with a backache,

Doctor Dean knows the cure. Soon his first patient swims along..."

From Deep Sea Doctor Dean by Leo Timmers

Learning Outcomes

- To develop speaking and listening skills through discussion about ideas
- To develop presentation skills through the method chosen
- To explore creativity by using a stimulus to inspire original thought



Suggested plan

Introduce the topic. Read the quote and/or story book. Have a discussion about machines and what they can be used for. Ask children to think of something new they would like to use a machine for. Discuss what makes a good story; exciting beginning, repetitive action and quick ending. Ask children to think about a story for their machine; what happens in the introduction, the action and the ending? Spend time making sure each child has an idea for a machine and story. Give children time to record their story ideas. This could be in cartoon strip, story board or written format. Stories could even be recorded on tape or video, rather than written, although children will need to plan their story. Another alternative could be a PowerPoint presentation, animation or story on the computer. Whilst this is taking place, a discussion with SEN and AGT children could take place. Don't forget Weird and Wacky!

SEN Activity ideas

Provide several examples of different kinds of machines so that children can run with an idea if they are struggling. Provide an exciting story beginning for children to finish off. Help children with recording the planning of their story. Consider alternative ways of recording the story to suit individual children.

SEN Discussion

What do you like most about your story?

Able, Gifted & Talented Activity Ideas

Make your story into a book for others to enjoy. What will you make your book out of? How can you illustrate it? (Give opportunities to use a computer for those who struggle with handwriting.)

AGT Discussion

How have machines improved the lives of humans?

Think about something positive, something negative and something interesting relating to this question:

What would it be like if a new machine was invented to get you to school more quickly?

Weird & Wacky!

What if there was a machine to get you dressed?

Useful Resources

Deep Sea Doctor Dean

Author: Leo Timmers

ISBN: 978-1605370064

Doctor Dean gives consultations from his special submarine with various attachments, but one day things go wrong. Who will help him out?

The Dragon Machine

Author: Helen Ward

ISBN: 978-1840119909

George sees dragons wherever he goes and he decides he needs to return them to the wilderness they came from, so he builds a machine to take them home. Beautiful dreamlike illustrations set this book apart.

How Machines Work

Author: Nick Arnold and Allan Sanders

ISBN: 978-1848772120

An interactive guide to understanding simple machines and mechanisms and how they have been used throughout history.

How Things Work (See Inside Usborne Guide)

Author: Conrad Mason

ISBN: 978-0746098516

Colourful, fun and informative, this interactive guide (due to the many flaps that can be lifted) shows many different kinds of machines and how they work in simple terms for younger children.

Publishinghouse Me

www.publishinghouse.me.uk

Website where children of all ages can publish work of a high standard. Has a writer's house giving advice and tips about writing, as well as examples of other children's work.

Why not take a photograph of your designs and send it to NAGC? We will put the most interesting on our website!

Science Activity: Travel Through Time



Key Stage 2



1 hour



Plain paper, lined paper, pens, pencils, colouring pens, rulers, access to the internet



Copy of Real Readers The Time Machine by H.G Wells, detailed below, access to internet for AGT activity



Science, Design & Technology, Information Technology, Art & Design



None



About the Activity

Many great science fiction stories show how we could conquer Time; travelling to periods in Mankind's past and future, as seen in H.G. Wells' The Time Machine.

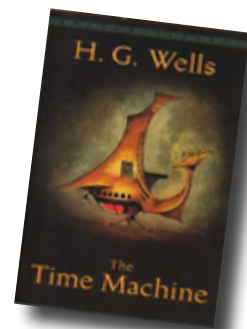
What about the amazing machines these time travellers use? If you were the engineer of a time machine, what would you design? How would your machine travel through time?

Would it be like Dr Who's Tardis, bigger on the outside than on the inside, or could you hold it in your hand? Would it need to be shaped in a particular way or be made of a certain metal? What do you know about science and the way things work that could be applied to your invention?

Your challenge is to design your time machine, its dimensions, what it would contain. Don't worry if what you want to do doesn't yet exist. You may invent it sometime in the future! Tell everyone about your invention and why you have included the different elements of your design.

"So I travelled, stopping ever and again, in great strides of a thousand years or more, drawn on by the mystery of the earth's fate, watching with a strange fascination the sun grow larger and duller in the westward sky, and the life of the old earth ebb away. At last, more than thirty million years hence, the huge red-hot dome of the sun had come to obscure nearly a tenth part of the darkling heavens. Then I stopped once more, for the crawling multitude of crabs had disappeared, and the red beach, save for its livid green liverworts and lichens, seemed lifeless."

The Time Machine by H.G. Wells



Learning Outcomes

- To develop creativity through an open-ended task
- To develop higher order thinking skills through application of knowledge and evaluation of ideas
- To develop self-esteem and social skills through talking and listening to others in a group

Suggested plan

Introduce the idea of a machine that can take people backwards or forwards in time. Ask the children whether they know of any stories like this, either in books or on TV (it is likely they will mention Dr Who). Read out the text from H.G. Wells' *The Time Machine* above, if you can access a copy of the book for children referenced below, show this now. If you have the resources, show them a clip from Dr Who where the Tardis moves from one time to another. Ask the children whether they think this could work in reality, how they think this could work. Either split the class into groups or ask them to work individually to come up with a design for a time machine. Get them to think about how the time machine will work, and to reflect this in their design. How big will the time machine be? How far in the future/past can it go? How many people can it take at once? Ask the groups/individual children to come up with a name for their time machine. Record the information about the machine through drawing and labeling, or through writing notes.

Each group/individual has a chance to show their time machine designs to the class. Allow shyer children the chance to present by telling someone else about their design who can then tell the class, if they haven't got the confidence to do it themselves. Give children a chance to respond to each design in a positive way by asking what they like about a design. Critical comments should be limited to functionality of a design, rather than presentation. For a bit of added competition, you could run a tally of favourites to see whose design is most popular. Allow AGT children the opportunity to research the AGT activity question.

SEN Activity ideas

Ask children what point of time in the past they would like to travel back to. Talk about why this particular time is interesting and what they would do once they are there. Record their responses pictorially or using a scribe.

SEN Discussion

What else would you invent a machine to do?

Able, Gifted & Talented Activity Ideas

Research scientific developments in time travel. What stops people being able to travel through time?

AGT Discussion

If a time machine is invented in the future, who do you think would be the first person to travel back to 2012?

Think about something positive, something negative and something interesting relating to this question:

What would it be like to travel through space but not time?

Weird & Wacky!

What if sheep invented time travel? Could they take over the world?

Useful Resources

Doctor Who

www.bbc.co.uk/doctorwho/dw

All about this popular TV programme including the ability to watch past episodes and read about current and past episodes of the show.

The Time Machine (Real Reads Science Fiction Series)

Author: H. G. Wells, Retold by Eric Brown

ISBN: 978-1906230135

Real Reads gives an excellent version for those not yet ready for the full text, told in friendly language. An great way to access our literary heritage.

The Ice Cream Time Machine

Author: David Barry

ISBN: 978-1905988570

Young characters go on historical adventures in this exciting story about a time machine involving what all children love: ice cream!

Horrid Henry and the Mega-Mean Time Machine

Author: Francesca Simon

ISBN: 978-1842550694

Although this story is about Henry tricking his brother, Peter, into thinking a box is a time machine, reading the book would compliment this activity well as a light-hearted, funny story.

**Send your designs into NAGC
and we will put the best onto
our website!**

Fiction Activity: Into The Unknown



Key Stage 2



1 hour



Plain paper, lined paper, pens, pencils



Tape recorders, video recording equipment
or digital camera, computer



English, Media, Information Technology



None



About the Activity

Creating a good story often starts with something to inspire you. Inspiration can come in the form of something you have seen, a place you have been to, or something you have read. Here is an intriguing ending to inspire a story; your challenge is to decide what comes before! Enjoy getting your story ready for others to hear or read using a choice of media.

“Geo stared across the barren wasteland with a lump in his throat. This was all his fault. If only he hadn’t meddled none of this would have happened. He thought back to his first day there. He was so happy with the friends he had made and the work he had to do. Why did it have to end like that? Yet he believed, even after all he knew, he still couldn’t have done anything differently. With that thought Geo picked up his ruck sack and without giving as much as one backward glance, he limped away over the cooling rocks and into the unknown. THE END”

Learning Outcomes:

- To increase literacy skills through creating a story
- To develop creativity through an open-ended task
- To enhance their knowledge of using different forms of media and information communication technology for telling stories

Suggested plan

Introduce the topic. Have a discussion about writing stories and using a stimulus to inspire you. Read out the ending to the story and ask the children about their ideas for how Geo ended up here.

You could ask:

- * Who was Geo?
- * How did he travel here?
- * Where was everyone else?
- * What happened to his friends?
- * What work was he doing?

Ask the children to come up with ideas and plan their story, making sure they include an exciting beginning, interesting middle and the ending provided.

Give children the chance to present their work using video, voice recording or presentation software. They could even use animation or cartoon software to tell their story. Give AGT children time to follow this activity with one of the suggested activities. SEN Discussion and AGT Discussion. Weird and Wacky!

SEN Activity ideas

Help children plan their story, giving suggestions as needed but allowing for individual choices. Allow stories to be presented using a media that works well for the individual child.

SEN Discussion

What is the most exciting part of your story and why?

Able, Gifted & Talented Activity Ideas

Create a sequel to the story about Geo's adventure in the new world. Create a story with choices for the reader/viewer/listener, giving alternative endings.

AGT Discussion

What if you were all alone in the world?

Think about something positive, something negative and something interesting relating to this idea:

In the future children need to work hard to stop the planet exploding.

Weird & Wacky!

What if we lived in a world with no trees or plants?

Useful Resources

Journey Under the Sea (Choose Your Own Adventure)

Author: R. A. Montgomery
ISBN: 978-1933390024

This 'choose your own adventure' book puts the reader in the shoes of a deep sea explorer looking for the lost city of Atlantis. Joy and dangers await the reader according to the choices made.

Moon Quest (Choose Your Own Adventure)

Author: Anson Montgomery
ISBN: 978-1933390260

Another 'choose your own adventure' book, packed with realistic characters, exciting action and a variety of endings.

The Warlock of Firetop Mountain (Fighting Fantasy Series)

Author: Steve Jackson and Ian Livingstone
ISBN: 978-1848310759

The first in a series of books with alternative endings, this half-game-half-book is a medieval sword and sorcery adventure in a fantasy world. Making a map with a pencil and paper is recommended to navigate the underground terrain of the mountain.

A Wrinkle in Time

Author: Madeleine L'Engle
ISBN: 978-0140372311

A science fiction classic about two children and their friend who disappear through a wrinkle in time in search of their missing father.

BBC Bitesize English Key Stage 2

www.bbc.co.uk/schools/ks2bitesize/english/
Website full of resources and worksheets to help with writing.

Publishinghouse Me

www.publishinghouse.me.uk
Website where children can publish work of a high standard. Has a writer's house giving advice and tips about writing, as well as examples of other children's work.

Science Activity: Geodesic City



Key Stage 3



1 hour



Plain printing card, pencils, glue, scissors, sticky tape, rulers, access to the internet



None



Science, Maths, Design Technology, Information Technology



None



About the Activity

Imagine a future world where every family or group of people have their own closed ecological system contained within a biodome. Earth's atmosphere has become unstable, with solar radiation causing many problems, and technology in closed ecological systems has advanced to include all different kinds of ecosystems. People can have their choice of structures and eco-systems to suit their taste and budget.

A geodesic dome is a sphere-like structure composed of a complex network of triangles. The triangles create a framework that gives strength while using a minimum of material. In this activity you can investigate how the triangles give strength to structures and use this knowledge to create your own futuristic structure, together creating a city of geodesic structures.

Discuss aspects of living in biodomes which have their own closed ecological systems. What are the benefits? What are the risks? What would you miss from the world as it is now? How many different kinds of ecosystems can you think of together?

Learning Outcomes:

- To increase accuracy and construction skills by following intricate instructions
- To develop social skills by working with a team to create a city
- To develop creativity by taking an idea and building on it in creative ways

Suggested plan

Before the session:

- print off instructions for students to follow
- print off, in varying sizes, enough patterns for each student

Introduce the topic using the description above with your own embellishments. Show the Green Society Eco City video, referenced on page 17 (optional). Hand out the patterns and instructions and guide students in creating their own geodesic dome. Having a variety of sizes with mean your city of domes will be more effective. Split the class or group into teams and ask them to pick one kind of ecosystem to focus on for discussion.

These include:

- Desert ecosystem
- Forest ecosystem
- Grassland ecosystem
- Mountain ecosystem
- Marine ecosystem
- Freshwater ecosystem

Ask students to discuss:

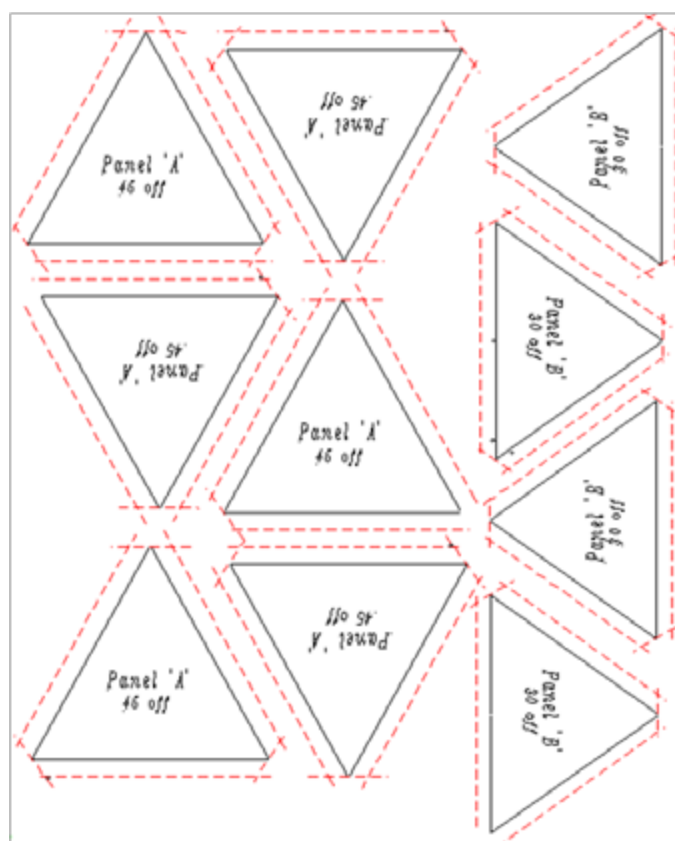
- How would students make sure the eco system inside their biodome was balanced?
- What criteria would students use to know when their ecosystem was successful?
- How will humans fit into each ecosystem considering how waste products will be used?

Presentations by each group. Allow about 5 minutes per group with time for questions by the rest of the class. Allow additional time for AGT students to hold a debate, as suggested. SEN Discussion and AGT Discussion. Weird and Wacky!

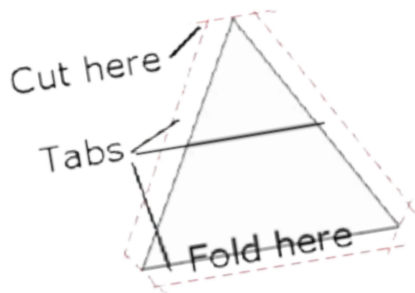
Creating a geodesic dome

You need 8 x the amount displayed to the right, to build a dome. Once you have these, use the following instructions to build your dome:

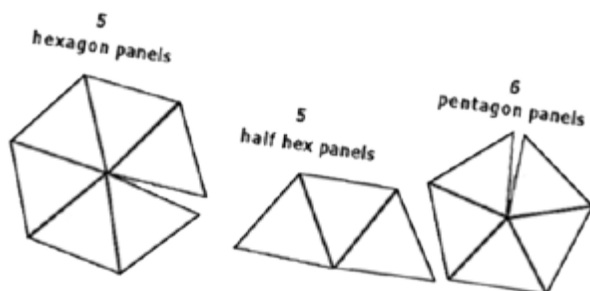
1. Cut each triangle at the red dotted line. You should have 45 panel 'A' triangles and 30 panel 'B' triangles.



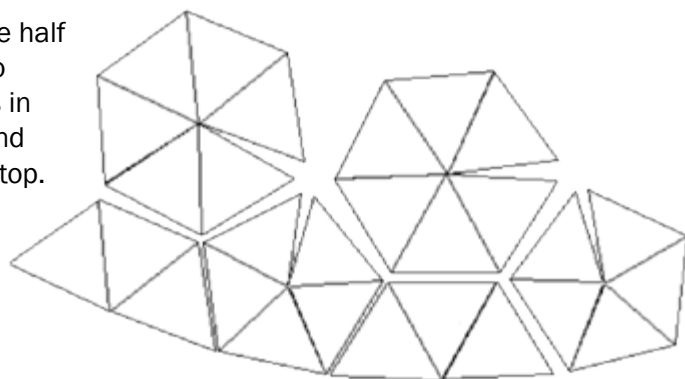
2. Now fold all the edges along the black lines to form tabs on each side, these will be used to glue the panels together.



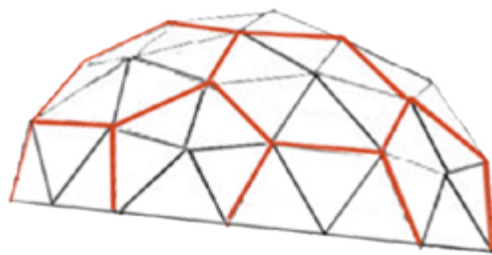
3. Glue together the panel 'A' triangles to form 5 hexagons and 5 half hexagons. Glue the remaining panel 'B' triangles to form 6 pentagons



4. Now glue five pentagons to the five half hexagons alternately, (see diagram to the right) then glue the five hexagons in the space between each pentagon and finally place the last pentagon in the top.



5. You should now have a finished dome. Don't forget to glue your model to a stiff piece of card. A red line to show the glue lines between pentagon and hexagon panels.



Take a photo of your futuristic city and send it to NAGC; we will put the best designs on our website!

SEN Activity ideas

Provide the children with a list of websites to help them research information about ecosystems. Create a PowerPoint template that they can add their information into.

SEN Discussion

Is there anything you wouldn't be able to do in a biodome?

Able, Gifted & Talented Activity Ideas

In a world where solar radiation has significant risk, those who cannot afford to live in a biodome or who cannot due to health concerns, decide to create a world underground, resulting in two separate societies. Debate the choice people would have to make: living above ground in a biodome – exposed to high radiation levels, eating foodstuffs that have developed strangely due to radiation, living a shorter but more exciting life – or living below ground – rarely seeing daylight, eating genetically engineered mycoproteins, in a restrictive society.

AGT Discussion

What measures could be taken to ensure that these two societies – the biodome and the underground – live in harmony with one another?

Think about something positive, something negative and something interesting relating to this statement:

An ecosystem is a dynamic entity – it is rarely stable, ever changing.

Weird & Wacky!

What one treasured possession would you take into your biodome? It could be anything!

Useful Resources

Mother Grimm

Author: Catherine Wells

Raised within the sterile limits of a Biodome, a young woman longs to be free, taking her chances Outside where the victims of a devastating virus dwell. But even greater dangers await Outside: the warring factions that have turned the once beautiful mesas into a slaughter ground, and the Edgewalkers, who tread a fine line between sanity and madness.

The Human Experiment

Author: Jane Poynter

Crew members struggled to survive in Biosphere 2, where they swore nothing would go in or out, no food or water, not even air all in the name of science. Biospherian Jane Poynter who lived and loved in the Biosphere shares what really happened in there.

Green Society Eco City Video

<http://www.youtube.com/watch?v=897f9MTnFvg>

Dome Home Video

www.youtube.com/watch?v=qpNG2yob90w&feature=plcp

Geodesic Building Pictures

<http://tinyurl.com/geodesicbuildings>

Maths Behind Geodesic Shapes

<http://mathcircle.berkeley.edu/BMC6/ps0405/geodesic.pdf>

Did you know?

The term geodesic is from Latin, meaning earth dividing. A geodesic line is the shortest distance between any two points on a sphere.

Fiction Activity: Fantasy Landscape Poems



Key Stage 3



1 hour



Plain paper, lined paper, pens, pencils, coloured pens or pencils, access to books and the internet for inspiration



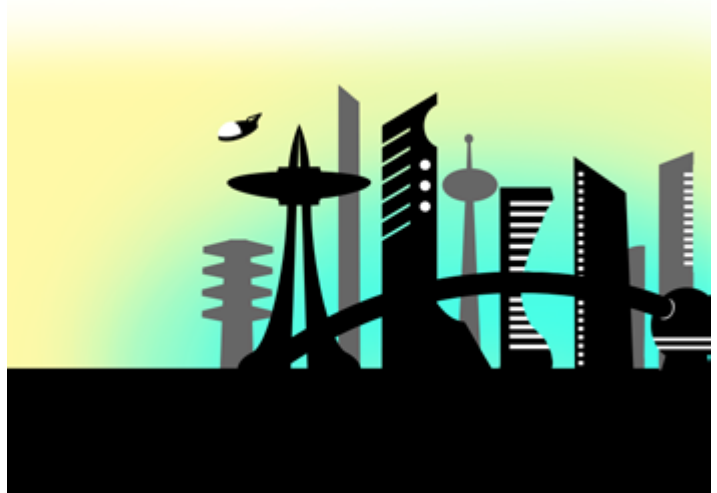
None



English, Media, Information Technology



None



About the Activity

Using example descriptions of science fiction landscapes as inspiration, your task is to create your own imaginary landscape using free verse. Creating a poem in free verse enables you to make choices about the length of poetic lines, how long and how many stanzas to use, as well as where your text sits on the page. Alternatively, create a calligram depicting a landscape using a word or phrase of your choice.

"We were lined up, single-file, on the permaplast sidewalk that connected the billet and the supply hut. We'd practiced walking inside, all morning, and this wasn't any different except for the exotic scenery. Though the light was rather dim, you could see all the way back to the horizon quite clearly with no atmosphere in the way. A black cliff that looked too regular to be natural stretched from one horizon to the other, passing within a kilometer of us. The ground was obsidian-black, mottled with patches of white or bluish ice. Next to the supply hut was a small mountain of snow in a bin marked OXYGEN."

From Peace and War by Joe Haldeman

"The huge orange sphere of the gas planet Yavin heaved itself over the horizon of its fourth moon. Soft, misty light shone across the ever stirring jungles and the ancient stone temples."

From Star Wars: Dark Apprentice by Kevin J. Anderson

"It was the size of a large locomotive; a broad, squat shape with a hide of grey, banded in places with zig-zagging yellow and black stripes. Its skin was marked all over with scars, including the near-indestructible shovel that jutted out in front of its head like a massive metal jawbone. Like many engimals, it had wheels for feet, but Trom was of a breed known as bull-razers; creatures that could use their shovel to ram through anything in their path."

From Ancient Appetites by Oisín McGann

"Snow stretched away under a sky so dirty white that Tiffany might have been standing inside a pingpong ball. Only black trunks and scribbly branches of the trees, here and there, told her where the land stopped and the sky began..."

... those, and of course, the hoofprints. They stretched away towards a forest of black trees, boughed with snow."

From The Wee Free Men by Terry Pratchett

Learning Outcomes:

- To develop vocabulary skills
- To develop creativity through the open-ended task of describing a science fiction landscape
- To increase confidence as an author (poetry writing) or artist (calligram creating)

Suggested plan

Before the workshop gather together some poetry as examples of free verse using figurative language, and/or some example calligrams. If possible, gather some science fiction books as example descriptions as well. Introduce the topic by reading out the descriptions above and others of your choice. Discuss the different types of landscapes you may get in science fiction stories and films. Ask the students to choose a type of landscape to describe and think about what to include in their landscape, considering that it may be futuristic, on another planet or in another dimension.

Poetry Writing

Show or read the poems you have brought as examples.

Remind students about what they need to think about when creating poems in free verse, especially about choosing the length of lines and where they break off, and how this affects rhythm. Also discuss the types of figurative language they could use, including:

- Sound repetition
- Exaggeration
- Appealing to the sense
- Imagery
- Comparison

Ask students to write a stanza to set the scene, then move on and write a second stanza. If students have the ideas, allow them to write more stanzas to a length of their choice.

Calligram Creating

Show the calligrams you have brought as examples. Remind students that a calligram is a phrase or word in which the writing is arranged in a way that creates a visual image.

The image created expresses visually what the word or phrase says. Ask students to choose a word or phrase to depict and to think about how they will depict their choice. Give time to create their calligram and provide assistance where needed. Allow students to present their work to the rest of the class or group if they are comfortable doing so.

Give AGT students the time to have at go at the AGT activity on the next page.
SEN Discussion and AGT Discussion. Weird and Wacky!

SEN Activity ideas

Provide students with lots of examples of calligrams to help them understand the idea and make suggestions about how certain words could be depicted. Suggest they make a template to place their work within or use this link:

http://www.readwritethink.org/files/resources/interactives/theme_poems

SEN Discussion

How do you feel when you hear a description of a science fiction landscape?

Able, Gifted & Talented Activity Ideas

Combine the poetry and calligram idea by writing their poem out (or creating electronically if they have the skill) in a visual form to create a landscape or with a background of their described landscape.

AGT Discussion

Which of the landscapes described (those above or those created by students) would you like to live in and why?

Think about something positive, something negative and something interesting relating to this statement:

All of the water on earth will dry out in 100 years.

Weird & Wacky!

What if everyone over the age of 14 was wiped out? How could this affect earth's landscape?

Useful Resources

Poetry Writing

<http://www.creative-writing-now.com/poem-structure.html>

Figurative Writing

<http://www.angelaspoeems.com/test-1/figurative-writing-intro>

Calligrams

<http://lookupatthesky.wordpress.com/2011/07/18/poetry-calligrams>

Peace and War

Author: Joe Haldeman
ISBN: 978-0575079199

Star Wars: Dark Apprentice

Author: Kevin J. Anderson
ISBN: 978-0553408096

Ancient Appetites

Author: Oisin McGann
ISBN: 978-0552554992

The Wee Free Men

Author: Terry Pratchett
ISBN: 978-0552549059

Science Activity:

Fantasy to Reality



Key Stage 4



1 hour



Plain paper, lined paper, pens, pencils,
access to the internet



None



English, Media, Sciences, Design
Technology, Information Technology



None



About the Activity

Does fantasy technology in science fiction ever become a reality? What examples of this can you find? Your challenge is to research instances of technology in fiction becoming reality. How long does this process take and which happened the most quickly? Alternatively, you could look for fantasy technology that is likely to become reality in the future, or historical science fiction that got it wrong.

Cloaking devices or invisibility are used in science fiction writing and movies, starting with a book called *Balance of Terror* by Paul Schneider in 1966, and subsequently in various writing and film scripts. Cloaking has now become reality; mirage cloaks were developed by BAE Systems for the military, sonar cloaks have been produced by researchers at the University of Illinois.

George Orwell told that cameras would be watching us in his book *Nineteen Eighty-Four* back in 1949, this turned out to be a prediction of the CCTV that is now on most of our city streets.

What other examples like this can you find? What science fiction technology do you think is likely to become reality in the future?

Learning Outcomes

- To increase research skills by finding out about technology in fiction and reality
- To develop critical thinking skills through evaluating information
- To increase social skills through working in teams on this challenge

Suggested plan

Introduce the topic by reading out the examples above. Discuss technology seen in science fiction and whether students can recall any that have subsequently become reality. Split the class or group into teams and ask each team to choose a technology to research, from robotics to time travel, food technology to artificial intelligence.

Ask students to find instances of their technology being mentioned in science fiction, then to find out information about any inventions in this area and the date they were made reality. Finally, ask students to work out the time delay between the technology first being mentioned in science and any actual inventions. Students should then collate the information they have found to present in a way of their choice to the class. Give each group a few minutes to present to rest of the class and allow any questions to be answered. Nominate someone to keep a tally of the time delays of each technology. Discuss the time delays, seeing which was the shortest and longest, most surprising etc. Hold a discussion on what technologies that students have seen in movies or read in books or comics, are likely to become reality in future.

SEN Discussion and AGT Discussion. Weird and Wacky!

SEN Activity ideas

Provide a list of websites to help students research the information. Create a PowerPoint template that information can be added into.

SEN Discussion

Where do science fiction writers get their ideas from?

Able, Gifted & Talented Activity Ideas

Imagine a scenario in a science fiction story set either in the future, on another planet or in another dimension. You are the main character and you are battling to stay alive against all odds. What are you struggling against? What invention of new technology could help you in your plight? Write up your invention, saying what function it serves, what it is made of and how it looks. Do you think your technology could become reality?

AGT Discussion

How do we ethically deal with technology that hasn't yet been invented?

Think about something positive, something negative and something interesting relating to this statement:

The science used in Hollywood blockbusters should always benefit humankind.

Weird & Wacky!

It is said that in the future computers will be more intelligent than humans; what if robots

Useful Resources

Technology in Science Fiction

<http://www.technovelgy.com>

5 Technology Fictions That Came True

<http://all-that-is-interesting.com/post/10013774476/five-science-fiction-technology-predictions-that-came>

10 Great Gifts From Sci Fi

<http://www.wired.com/geekdad/2010/04/10-great-gifts-from-sci-fi>

Nineteen Eighty-Four

Author: George Orwell
ISBN: 978-0141036144

Physics of the Impossible: A Scientific Exploration of the World of Phasers, Force Fields, Teleportation and Time Travel

Author: Michio Kaku
ISBN: 978-0141030906

Physics of the Future: The Inventions That Will Transform Our Lives

Author: Michio Kaku
ISBN: 978-0141044248

Fiction Activity: New World Anthem



Key Stage 4



1 hour



Plain paper, lined paper, pens, pencils, colouring pens/pencils, access to computers



Musical instruments if needed



English, Art & Design, Music, Information Technology



None



About the Activity

The year is 2512. Earth's population has reached dangerous proportions and half of its people have had to be evacuated to nearby planets. You are the first passengers of the spaceship heading to Mars. Your mission; to colonise this uninhabited planet and make it ready for future inhabitants. Each of the groups in the ship has been given assignments to complete before landing. You have been chosen to write the New World Anthem which will unite all members of this new population. Using whatever skills you possess, whether it is music, prose or technology, your task is to create an anthem with lyrics by the time the ship lands and perform it in front of your shipmates.

Earth's Ambassador has sent the following message which we hope will give you an outline brief for your work:

"In this new colony we will be uniting all the races of Mankind. We need a New World Anthem which stirs their hearts and brings them together as one. I know that your team will be able to provide words that people can sing now and in a thousand years' time and a theme that our people will be able to sing forever. Good luck in your assignment."

The challenge is yours! If you send your finished piece to NAGC, we will publish the best on our website.

Learning Outcomes

- To improve creativity through an open-ended task
- To develop confidence when presenting
- To increase team work amongst class members

Suggested plan

Introduce the activity by having a discussion about what an anthem is and what elements are needed in this anthem to fulfill the brief. Listen to some examples of anthems, which already exist and also some music from space. Split the students into groups for this activity. They can divide the individual tasks amongst their group however they wish. Give them guidance in this division of tasks if you feel it is appropriate. Let them know how much time they have. At the end of the allocated time ask the students to present what they have produced. You could either have all the students voting for their favourite anthem, in which case voting slips would need to be produced; or ask other people (e.g. teachers, parents, group leaders, and business people) to vote for their favourite and give feedback to the students.

SEN Discussion and AGT Discussion. Weird and Wacky!

Investigate these alternative ways of writing an anthem:

- Haiku – 3 line poem where the first line has five syllables, the second line seven syllables and the third line nine syllables
- Limerick – a 5 line poem, usually witty or funny, where lines 1, 2 and 5 rhyme and lines 2 and 3 rhyme
- Rhyme – type of poetry where there is the same or similar sound usually at the end of each line. Often children's nursery rhymes, as they are very easy to remember
- Rap – a rhyme spoken in rhythm, often set to music or a beat

SEN Activity ideas

Give support in choosing whether to write a song, music, poem or rap. Support handwriting by using a scribe where appropriate. Give suggestions of ideas that need to be included in an anthem where appropriate.

SEN Discussion

When would the anthem be used?

Able, Gifted & Talented Activity Ideas

As well as an anthem, ask students to consider what code of ethics should be followed on the new colony.

AGT Discussion

How would you assign the different roles to be fulfilled on a new colony and how often would people get a day off?

Think about something positive, something negative and something interesting relating to this statement:

The new colony on Mars should be run by a committee representing all inhabitants.

Weird & Wacky!

What if time went backwards on the new colony?

Why not put lots of different activities together and run a whole day's event?

Include activities such as:

- Designing the colony you will live in within a fixed budget
- Creating and producing a traditional New World dish
- Designing the New World flag
- Creating the history of why you went to Mars
- Making up a new, common language or other means of communication
- Creating a New World newspaper or website
- Discussing the scientific impact of living on Mars
- Agreeing the laws you will live by

Suggested resources

Example anthems:

<http://www.youtube.com/watch?v=y43FCDxu0QI>
<http://www.youtube.com/watch?v=nHhePr0TKfc>
<http://www.youtube.com/watch?v=f0aCSQB0fSY>
<http://www.youtube.com/watch?v=9C7YzqTtFXU>
<http://www.youtube.com/watch?v=2CYDgezeQas>
<http://www.youtube.com/watch?v=niw8NHfwngI>
<http://www.youtube.com/watch?v=tN9EC3Gy6Nk>
<http://www.youtube.com/watch?v=tiyKiUCiKcE>
<http://www.youtube.com/watch?v=AOAtz8xWM0w>
<http://www.youtube.com/watch?v=UctriMuXYS0>
<http://www.youtube.com/watch?v=29FFHC2D12Q>
<http://www.youtube.com/watch?v=s8tswkr25A0>

How to Write an Anthem

<http://garyewer.wordpress.com/2009/09/08/how-to-write-an-anthem>

How to Create an Anthem

http://www.ehow.com/how_7484401_create-anthem.html

Assembly: Ethics



All Key Stages



15 – 30 mins



PowerPoint presentation or verbal presentation about ethics

Learning Outcomes

- To increase higher order thinking skills
- To develop discussion skills
- To help students think about their own personal code of ethics

Introduction

Tell the group about the 3 laws of Robotics. Explain what ethics are, and the right and wrong of a situation. Ask students whether they think these laws are good. If we are ever successful in creating artificial intelligence, so much so that it forms another race, are we justified in keeping these laws of robotics or would they need amendment?

Everyone should know what ethical laws are, right? Wrong! Through life there will always be times when your own code of ethics will be different from your neighbours' and where your sense of ethics is tested to the limit.

Use examples on a PowerPoint (see Ian Gilbert's Thunks PowerPoint for inspiration). Ask for a show of hands on answers to the following:

- What is more important being right or being nice?
- Is it ever right to bully a bully?
- If you lie to protect someone's feelings is that right?
- If you say sorry, but don't mean it, does it count?
- If you read a paper in a shop, is it stealing?
- If I killed a human being is there ever any situation when it would be right?

Explain that the development of an individual's own personal code of ethics is extremely important. Ask the group: if you were involved in the future development of your world's code of ethics, what would be top of your own list? Then get examples from the room about what they would be.

Reflection

Finish the assembly with a closing statement quote or passage that will leave the children with something to think about (see links below for ideas).

Suggested resources

I Robot

Author: Isaac Asimov
ISBN: 978-0586025321

The Little Book of Thunks

Author: Ian Gilbert
ISBN: 978-1845900625

A PowerPoint of Thunks

www.tes.co.uk/teaching-resource/Thunks-6022495

Stories to Add Interest to Teaching

www.businessballs.com/stories.htm#stories

Why not carry on the ethics theme all week?...

Put Thunks around the walls of the corridors to inspire thought and even have voting slips about whether they agree with the statements.

Develop a code of ethics in your family, group school, college etc. Pupil Voice could coordinate this.

AGT children could develop a code for how they should be treated.

About NAGC

Who we are

We are a not-for-profit organisation that supports the social, emotional and learning needs of children with high learning potential of all ages and backgrounds. This includes children who have been identified as gifted and talented within the school setting; children who have the potential to achieve through a wide range of abilities in academic subjects, sport, the arts and leadership; those who are dual or multiple exceptional (high learning potential coupled with a disability or learning difficulty) and the profoundly gifted.

Our aim is to enable every child with high learning potential to grow in confidence, thrive and achieve fulfilment.

We support over 15,000 people each year face-to-face and through email by providing parents, carers and professionals with the confidence and tools they need to help these children thrive. We give them support and specialist advice covering a wide range of issues that affect some of these children's lives every day, such as lack of self esteem, feelings of isolation and frustration, lack of challenge in the classroom or at home, underachievement or challenging behaviour. In addition, we provide opportunities for fun, friendship and challenge outside the classroom.

Most importantly, we celebrate the achievements and potential of these amazing children.

Our services

We support parents through:

An Information and Advice Service on 01908 646433

A fully resourced website including fact and advice sheets

National BIG family events to enthuse, educate and entertain

Parent Matters workshops

Annual awareness raising campaign 'It's Alright to be Bright!'

Lobbying on behalf of children with high learning potential

Members' benefits including telephone consultancy appointments, online discussion forum, monthly e-newsletters, and termly news bulletin for parents and e-zine for children with additional articles on the Explorers area of the website

In addition, we support schools through:

Let's Explore! Creative and critical thinking activities for pupils

Parent Matters workshops

G&T Learning Matters CPD training

Bespoke consultancy

Standard and Gold School Membership to support and enhance the school's provision for, and commitment to, their most able pupils and their parents

And teachers, tutors and educational psychologists through:

Professional Matters talks and workshops

Bespoke consultancy

Professional Membership to acknowledge and support the professional's understanding of children with high learning potential

Help us to help you and others

Join us as a family, school or professional member to access dedicated resources and support.

Contact us on 01908 646433, amazingchildren@nagcbritain.org.uk or visit www.nagcbritain.org.uk

Donations

This activity booklet has been produced without external funding. If everyone who received this booklet were to donate just £5 we could secure the initiative again for next year, as well as providing additional support for parents and professionals through our Information and Advice Service. To make a donation please visit our website www.nagcbritain.org.uk or send to NAGC, Suite 1.2, Challenge House, Sherwood Drive, Bletchley, Milton Keynes MK3 6DP.

Thank you!