

TEACHER'S RESOURCE PACK **KEY STAGE 1 & 2**

PROUDLY SUPPORTED BY

BAE SYSTEMS

INSPIRED WORK





IN YOUR PACK

15 inserts which include:

- A fold out timeline
- A visual of Amy's flight to Australia
- Historical source material
- Curriculum linked activity suggestions
- Top tips for getting into STEM
- Links to other resources, campaigns, organisations and festival opportunities

And don't forget...Your school will have received a PDF version of this resource.

Brought to you as part of the Amy Johnson Festival

of the death of Amy Johnson, Hull's flying heroine. Born in Hull in 1903, Amy Johnson CBE was one of the most influential and inspirational women of the twentieth century. She was the first woman to fly solo from England to Australia and set a string of other records throughout her career.

Hull's Amy Johnson Festival www.amyjohnsonfestival co.uk marks this anniversary and celebrates Amy's life, achievements and legacy with an ambitious programme of the arts and engineering sciences appealing to all interests and ages.

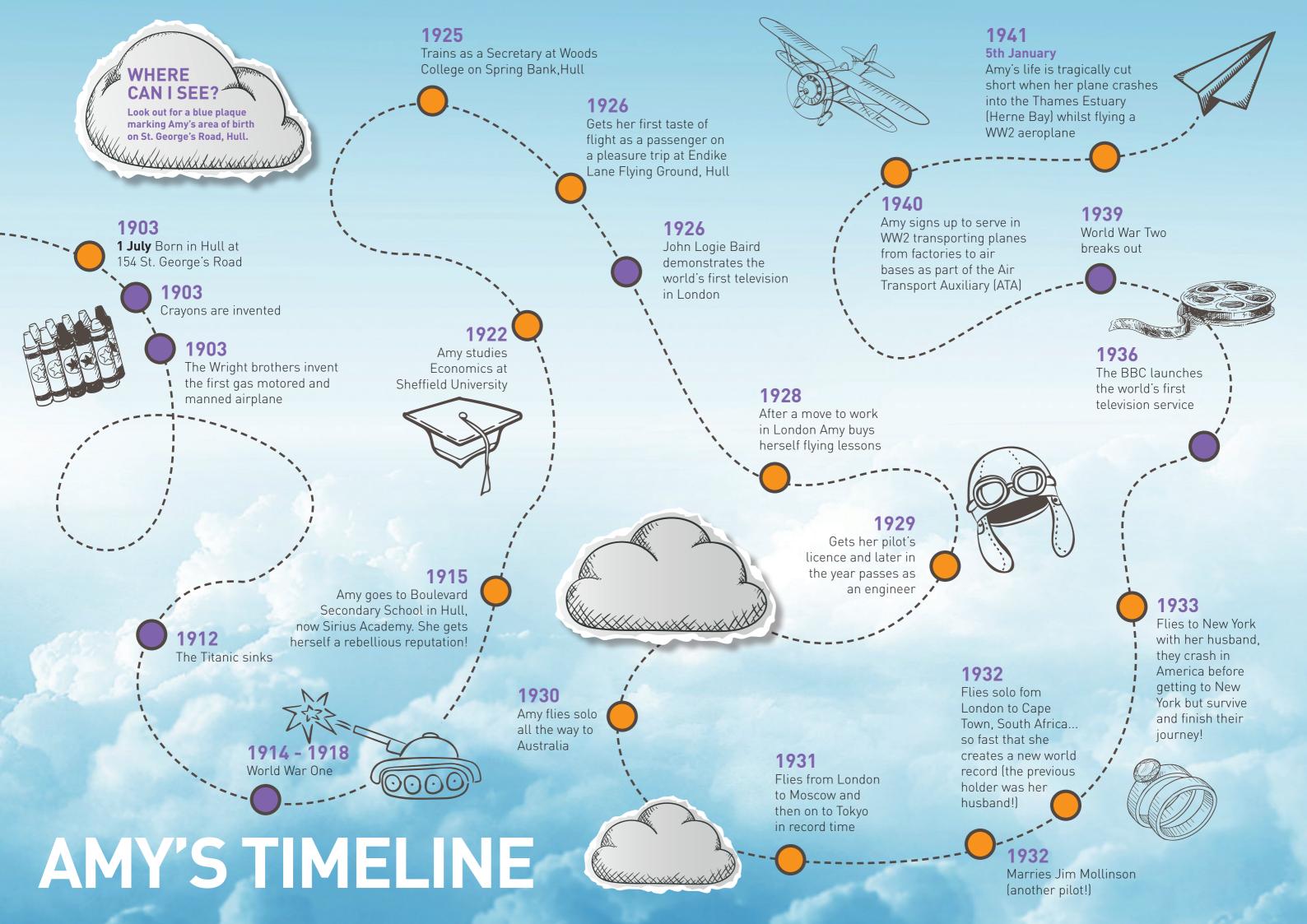
This pack is full of creative ideas to help you deliver exciting learning inspired by Amy's incredible achievements.

The pack aims to:

- Raise awareness of Amy Johnson and her achievements.
- Promote Science and Technology as a rewarding career choice, in particular maximising the potential of Amy Johnson as a positive role model to encourage girls into the field
- Give teachers creative and cross-curricular ideas and activities that will enhance their delivery of Science, Technology and History subjects.
- Bring together high quality Amy Johnson related historical source material and science material for use in the classroom.

Cover image and image above courtesy of Hull Daily Mail





UNLOCK THE SECRETS OF AMY'S TIMELINE

Chart Amy's path from her beginnings in Hull through to becoming a high flying, world famous pilot with these curriculum linked activities.

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LOCAL HISTORY / ENGLISH:

Create a set of simple cards for pupils to use featuring the date and the key fact relating to that date from Amy's timeline of the following milestones in Amy's life: when Amy was born, went to Boulevard Secondary School, went to University, gets her pilot's licence, solo flight to Australia, gets married, record-breaking flight to Cape Town and when she dies. In groups, pupils should sequence Amy's life using the cards, creating a story of her life. Prompt pupils by getting them to think about their own lives so far, as well as the lives of other adults they know to develop understanding about milestones in peoples' lives.



KS2



LOCAL HISTORY / PHSE:

Create your own timeline, include where you were born, your school, somewhere you've been. Now look at your future, it is all to come! Complete your timeline for the future. At the end of the timeline write or draw what you would like to be when you grow up. Think big, just like Amy did and then put some milestones into your timeline for what you would need to do to make your goal happen. Another interesting way to do this would be with photographs.



MATHS:

Use the timeline to work out how old Amy was when:

- She gained her pilot's license
- She flew to Australia
- Reached the end of her life



LITERACY / HISTORY



Write your own brief biography of Amy using the information from the timeline and research in more detail some of the events in her life, you can use the other documents in this pack to help, such as Amy's famous flight.

ACTUITY DEAS

FOR AMY'S FAMOUS FLIGHT

Amy touched down in lots of exotic countries during her famous flight to Darwin, Australia. Get creative and use the activity suggestions below.

The world record for flying to Australia was fifteen and a half days and I really wanted to beat it but the dreadful weather slowed me down never the less I pushed on and made it in 19 days!





GEOGRAPHY

Use the names of the different countries visited by Amy to develop skills with using maps, atlases and globes to identify the United Kingdom as well as looking at the different continents and countries she visited and the oceans she flew over

Compare the geographical similarities and differences through studying the human and physical geography of Hull and one of the countries she stopped at during her flight to Australia; a suggestion being Calcutta (known as Kolcata during Amy's time) in India.



ART AND DESIGN

Depending on the country focussed on during the comparative study, pupils could create art inspired by that country. For instance, look at Indian block printing and the traditional techniques used. Use polystyrene to draw a scene, pattern or object/animal associated with India, such as an elephant, onto the polystyrene with pencil to leave an imprint. Use a roller to roll paint or ink onto the polystyrene then print onto paper.





GEOGRAPHY / HISTORY



Use a map of Hull to mark off: where Amy was born, went to secondary school, worked and made her first flight. Undertake research, using the source material and other suggested resources, including the internet to find photographs of Hull during the time that Amy would have lived here. If possible, undertake fieldwork in an area (or all areas) to identify and record the human and physical features. Pupils should make comparisons with how Hull has changed from Amy's time.

Using maps, atlases and globes, pupils should identify the Equator, the Hemispheres and Tropics then use the source material to investigate which continents and countries she visited. Pupils should see, using the map and her flight path, at what points she crossed the Tropics and the Equator and identify which countries are in the Northern or Southern Hemispheres.



GEOGRAPHY / ART AND DESIGN



Create an Amy trail of Hull highlighting key places people should visit that are associated with her, for instance, the house where she was born on St. George's Road or the Guildhall where The Amy Johnson Cup for Courage can be found. Students could illustrate their trails to bring the key locations to life.

AMY RECORD

She flew an incredible 11,000 miles!



DISCOVERING AMY... AMY'S FAMOUS FLIGHT



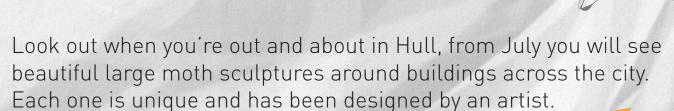


A MOTH FOR AMY



ACTIVIDEAS

A MOTH FOR AMY



The project 'A Moth for Amy' is inspired by the plane she flew; a de Havilland Gipsy Moth.

AMY FACT

The manufacturer of the plane that Amy flew, Geoffrey de Havilland was a lepidopterist that means he was fascinated by moths! In tribute he named many of his planes after them, such as the Puss, Tiger, Hawk, and Gipsy to name but a few!



ART AND DESIGN

Using an artist, such as Picasso (who was very active during the 1930s), provide information about the artist's style of work and the techniques and materials they would have used. Task your pupils with creating a design using the Moth template provided in the style of your chosen artist.



DESIGN AND TECHNOLOGY / SCIENCE

Pupils should look at a range of images of moths, identifying the key features, such as the wings. Taking inspiration from the moth featured on the template, pupils should create a model of a moth using clay. They should be encouraged to select from and use a range of tools and equipment to perform the task. Once dry, the children can place their designs onto their model moths.



HISTORY

Pupils should undertake some research into the context of why a moth is associated with Amy. This should include looking at the company, de Havilland, who created Amy's plane - the de Havilland DH.60 Gipsy Moth and identifying the names of planes that were designed and seeing if there are any similarities (they're all named after flying creatures!)



ART AND DESIGN / MATHS



Escher was an active artist during the 1930s, the time when Amy was taking to the skies. Begin by looking at some of Escher's work, making links to Maths through his use of tessellation. Provide an opportunity for pupils to have a go at creating a work of art inspired by Escher featuring an object (or objects) that are associated with Amy, such as a plane. Pupils should then have the opportunity to create their own 'Moth for Amy' using the template provided in the style of Escher.

WHERE **CANISEE?**

Look out for the moths around prominent buildings in Hull like the History Centre.



The master sculpture has been created by East Riding Sculptor Saffron Waghorn.

Find out about her work here www.hull2017.co.uk/discover/ article/meet-artist-saffron-waghorn/

For inspiration look at the moth gallery online to see the artists' beautiful designs www.amyjohnsonfestival.co.uk/ a-moth-for-amy-designs/



AMY IN POPULAR CULTURE

SONNET in Homage to MISS AMY JOHNSON, C.B.E.

Pity the soul that has not longed for wings

Nor in the mind compassed the world's bright round,

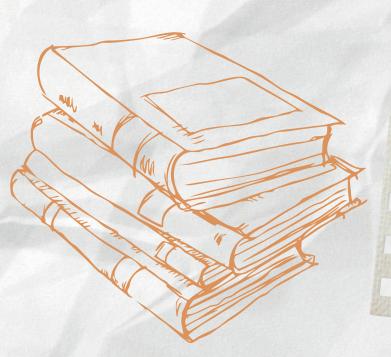
But even in daydream to the dull earth clings

And narrows the world to its own plot of ground.

Envy the soul that wings has sought and found, who sunward, as the sun is rising, springs...
Though before sunset hurricanes hound
Deathward this soul and its imaginings.

Honour the victor soul that, while resound worldshout and tribute in the mouth of Kings, owns her felicity to most abound In the sweet knowledge acclamation brings, - That by her deed the victim too is crowned And those who dreamed not have discovered wings!

ROBERT NICHOLS





The Last Testament of Amy Johnson

An ATA First Officer, I know my ground crews wink or sneer as if to say, "Just look at her!" who're safe down there while I'm up here. If those we fight, I've learned to hate, Still those we guard I truly love not institutions of this state or its stuffed shirts: I set above them home and sisters back in Hull. Most men I meet I find a bore, the lives they plan for women dull, as dull the life I had in store a different route in life I planned and very different maps unfurled: I bought a cheap De Havilland and chased the sun around the world to my born place's opposite, a Gypsy in my Gypsy Moth. So while the brows of men might knit, I cut my coat from heaven's cloth and chose to wear this uniform and ferry planes I helped to build, not chasing sun, but through the storm, to burn or fall, all I have willed. A moth or Icarus or what you might choose to call me, I don't care you might love words, but I do not. All I love's silent, in this air.

lan Duhig

Based on Yeats' 'An Irish Airman Forsees His Death'

ACTIVITY IDEAS

AMY IN POPULAR CULTURE

When Amy set off on her flight to Australia in 1930 nobody knew who she was. By the time she returned she was a celebrity across the world! The media were fascinated by her incredible achievements, especially by the fact that she was a woman. In the 1930s men dominated the fields of aviation and exploration. Amy was a powerful striking figure for the age, standing up for her beliefs and rebelling against the attitudes of the time. Because of this she has inspired artists, musicians, filmmakers and poets across the decades to make tributes to her.





MUSIC

Listen to the song, 'Amy, Wonderful Amy' by Jack Hylton and his Orchestra. Compare the style of the song with a modern day song that the children are familiar with. Discuss with them the key differences, such as the musical accompaniment of the orchestra.

The class could then practice singing the song.



ENGLISH

Explain to the children that people have written poems about Amy Johnson, celebrating her life and her achievements. Either as a whole class, in groups or independently (for more able pupils), task the children with writing short poems about Amy. Create a class word bank featuring words they associate with Amy which pupils can use within their poems.





Look out for the statue in honour of Amy on Prospect Street in Hull

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ENGLISH

Read both poems to the pupils, or encourage them to have a go reading them aloud, but don't tell them the titles. Lead a discussion using these questions as prompts:

- What are the poems about?
- Why have they been written?
- What words stand out?
- How do they make you feel?

Ask the children to suggest titles for the poems and then reveal the actual titles. How do their titles differ to the ones written by the poets? Point out the significance of the terms, 'homage' and 'Last Testament'.



ENGLISH / HISTORY



Challenge your pupils to write a poem about Amy. They could focus on a particular part of her life, such as her flight to Australia, or use the milestones from the timeline to write a poem celebrating her life.



MUSIC

Listen to the song, 'Amy, Wonderful Amy' by Jack Hylton and his Orchestra. Compare the style of the song with a modern song or one which commemorates the life of a significant individual – an example being 'Candle in the Wind' by Elton John. The discussion could be centred around:

- The sound quality of the recordings, linked to the development of technology.
- The use of an orchestra in comparison to instruments or technology used today to produce music.
- The lyrics of the song, linked to the celebration of Amy's historic flight in comparison to the lyrics of 'Candle in the Wind' (1997 version).

Practice and perform the song with or without the original accompaniment for an audience.

LETTERS FROM AMY

ACTIVITY IDEAS LINKED TO AMY'S LETTERS

Amy's first big love was when she was 18 with a man called Hans. During their romance she wrote hundreds of letters to him. Hans married someone else in the end, but kept Amy's letters for the rest of his life! The originals are now kept at the Hull History Centre.

KSI



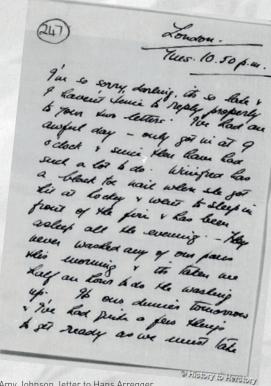
ENGLISH / ART AND DESIGN / GEOGRAPHY



Ask your pupils how we communicate with each other today or share messages. Explain to the children that when Amy lived during the 1930s, most people would have written letters as not everyone had a telephone and mobile phones hadn't been invented.

Refer to Amy's journey to Australia, alone, in 1930. How would she have let people, such as her family, know that she was ok? Provide a postcard template (available in the downloadable version of the resource) for your pupils to write a postcard, from the perspective of Amy, from one of the countries she visited on her journey. The children should think about what she might have seen and what she would want to tell her family.

On the reverse of their postcard, they could draw a design showing a scene or an object that is associated with the chosen country.



Amy Johnson, letter to Hans Arregger, 14 December 1927 HCL1/247/002

See PDF for larger version

KS2



ENGLISH

Read the extract dated 14 December 1927 – the letter is from Amy to her partner of the time, Hans Arregger. Ask the class: How does Amy feel? Using the extract, pupils should also explain why they think Amy could be feeling in that way.

The pupils should write a response to Amy from the perspective of Hans. They should think about the style of language he might have used at the time and how he could reassure Amy, who sounds somewhat stressed.

Amy Johnson letter to Hans Arregger, 14 Dec 1927. Transcription:

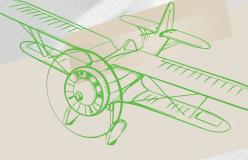
I'm so sorry, darling, it's so late & I haven't time to reply properly to your two letters. I've had an awful day – only got in at 9 o'clock and since then have had such a lot to do. Winifred has a black toe nail where she got hit at hockey & went to sleep in front of the fire & has been asleep all of the evening. They never washed any of our pots this evening & it's taken me half an hour to do the washing up....I've had quite a few things to get ready...

IMAGES © History to Herstory.

Digitised versions of Amy's letters to Hans Arregger can be viewed using the catalogue at: www.historytoherstory.org.uk/index.html

Thank you to West Yorkshire Archives. www.archives.wyjs.org.uk

AMY THE REBEL



Amy fought for equal pay

In the 1930s women's role in society was different to what it is today. Attitudes to women, what they should do with their lives, even how they should dress, were very strict and often decided for them by other people. Their main role was to bring up a family and look after their husbands. Amy stood up against this and followed her own path! AMY FACT

CONTEMPORARY ACCOUNT

This extract is from an article that was written about Amy to celebrate her famous flight.

"DEA EX MACHINA"

By Sylvia Thompson

ESTERDAY, not so many yesterdays ago, Woman first rode a bicycle. Rode it precariously, gripping strange handle bars in defiance of convention, pedalling bravely and yet a little uncertainly off the beaten track of tradition. Yesterday Woman advanced (in a suitably designed and decent costume) on two wheels, ringing the small and yet so significant bell that heralded her approach round unknown corners, and warned the world that a frail sex might be as capable of guiding a vehicle as rocking a cradle, and as able to understand the working of machinery as to comprehend the comparatively simple mechanism of the masculine mind.

for equal work during her time in the ATA

ACTIVITY IDEAS

KS2



ENGLISH AND HISTORY

In groups use the contemporary account, written by Sylvia Thompson in 1930, during Guided Reading - start from the last paragraph on the first page (full source in the PDF version) . Get the children to read through the account of her journey from the UK to Darwin in Australia, posing questions to them to determine their understanding of the account, the use of certain vocabulary and the thoughts of the author.



WHERE CAN I SEE?

Copies of Amy's letters to Hans Arregger can be viewed online at www.historytoherstory.org.uk





Saturday.

Dear Haus,

I am coming home ou Tues. (the 11th). - Ineue & Mers. Petrie are fetching me. an coming back the following Miouday. It would be rather mice to go to a dance, if there happened to be a decent one, (which phrase if I were putting wite Latin would go wi the Sulpunction, as a condition unlikely of fulfelment). Though sure, I'm no soaked in work, Har The apaid youll buix une more borney Man ever. 247)

Хопою . - Ушег. 10.50 р.ш.

The so sorry donling, to so lake & I havent Levie to reply properly to your sur letters. The had an awful day - only got in at 9 o clock & sence Her have had such a lot b do . Whirifed has a black toe hail where she got his at locky & went to sleep in pour of the fire & has been asleep all the evening - They wever wasked any of our paus this morning or the taken we Kalf au lour to do He washing 16 ous dunier tomorrow i Toe had Junte a few thereis to see ready as we werest lake

"DEA EX MACHINA"

By Sylvia Thompson

ESTERDAY, not so many yesterdays ago, Woman first rode a bicycle. Rode it precariously, gripping strange handle bars in defiance of convention, pedalling bravely and yet a little uncertainly off the beaten track of tradition. Yesterday Woman advanced (in a suitably designed and decent costume) on two wheels, ringing the small and yet so significant bell that heralded her approach round unknown corners, and warned the world that a frail sex might be as capable of guiding a vehicle as rocking a cradle, and as able to understand the working of machinery as to comprehend the comparatively simple mechanism of the masculine mind.

To-day Woman, controlling the machine, rides an air where convention never breathed, and defies the elements on a path untrodden and unimagined by any tradition. To-day Woman, in the person of Amy Johnson, has swept diagonally across the map of the world, and alone, with magnificent composure, defying her dangers and grasping her difficulties, has put a girdle round half the earth in nineteen days.

From England to Australia. Across three continents . . . across mountains and seas and deserts. . . . The story reads fantastically. The mere names of the places strung together on that flight

have an epic glow: Vienna, Stamboul, Aleppo, Baghdad. . . . (A girl alone in that throbbing winged machine, pressing southward, eastward, cleaving steadily through the air) . . . Bandar-Abass, Karachi, Jhansi, Calcutta, Rangoon—Bangkok, Singora, Singapore . . . (the machine still bearing south and east through strange weathers and over fatal seas)—Tjormal, Sourabaya, Atamboa—Port Darwin. 12,000 miles! Europe, Asia, Australia in nineteen days.

Examine the details of such a flight. The dazzling quality is what we see, the shining speed, the jewelled names of places linked across the world; but the thing was done deliberately and coolly, without show or boasting.

Amy Johnson left Croydon on May 5th in her Gipsy Moth. Her flight was an independent venture. (Briefly, she had wanted to fly to Australia and in due course had gained the experience and the machine which enabled her to try and do so.) She flew for ten hours and landed in Vienna. The next day she flew via Belgrade and Sofia to Constantinople; she landed here flying 800 miles in twelve hours. Next day she crossed the Bosphorus and flew over Asia Minor, landing at Aleppo, after 550 miles in the air. (She had never crossed the Channel before, nor flown more than 200 miles at a stretch.) Her next stage was across the desert to

Baghdad. A sandstorm forced her down in the desert, where she waited for two hours, struggling to hold her machine to the ground, piling her luggage against the wheels to prevent it nosing over, and holding ready a pistol against the very possible hostility of Arabs. reached Baghdad at the end of her fourth day. On the fifth day she passed over Basra and got to Bandar-Abass on the Persian Gulf. On the sixth day she got to Karachi, the gateway to Indiabreaking Hinckler's record to Karachi (of eight days). She then began her flight across India, landing at Jhansi to get petrol and stay the night. The next day she crossed the great plains of India, alighted at Alahabad, and then went on to Calcutta. Calcutta she had done 7,000 miles in eight days.

On the ninth day she started on the dangerous stage to Rangoon, passing over the Yomas Mountain range at 12,000 feet. Landing at Rangoon, taxi-ing over unknown ground, she ran into a ditch, damaging her machine. Its repair took two days. When she set off on May 16th she met heavy rain, and after flying over dense jungle and mountainous country she reached Bangkok.

The next day she flew towards Singapore, fighting rain storms and strong head winds, and had to drop at Singora after six hours. On the fourteenth day she reached Singapore; the next day she crossed Java Sea in heavy storms and made a forced landing at a sugar plantation. She spent the night there and

resumed her flight via Samarang to Sourabaya. Here she prepared her machine for the last hazardous stages of her journey. She had to cross the Dutch East Indies and the Timor Sea. She started from Sourabaya at 6 a.m. For the following day and night nothing was heard of her; no news came through. . .

But news came the next morning. She landed near Atamboea. Then she started on her last stage across the sea. At 3 p.m. on May 24th, by a triumph of navigational skill, she located and landed at Port Darwin.

Twelve thousand miles across three continents in nineteen days. . . .

We must pay a hundred tributes to the woman whose qualities of mind and character drove her to such a feat, recognising it as a tremendous proof of her skill and bravery, tenacity and in-But it isn't only as an dependence. individual that Amy Johnson commands our admiration; it isn't merely as the heroine of a single great flight that she captures the public mind. The imagination sees in her not only a Heroine, but the Heroic Spirit; sees her achievement as part of a tradition of gallant and magnificent adventure. In a world of stereotyped materialism, in an age stupefied by comfort and dulled by security, the hungry imagination looks up and is strangely intoxicated by the vision of a girl, a calm "goddess in a machine," flying in the face of the elements—and of Providence—neither shaken nor discouraged nor overawed by their incalculable power.

CELEBRATIONS FOR AMY

MENU

Cantaloup Frappé Caviar d'Astrakan Hors d'Œuvre Parisiens



Œufs Pochés Port Darwin



Délice de Sole Jason



Suprême de Volaille Montpensier Cœur de Romaine Amy Johnson



Pêches et Framboises Grand Succès Parfait Glacé Napolitaine Délices des Dames



Café



WHERE CAN I SEE?

The menu features in a souvenir booklet from August 6, 1930 that can be viewed at the Hull History Centre, call ahead to arrange a viewing 01482 317500.

ACTIVITY IDEAS

MENU

This menu was taken from a souvenir booklet made for a luncheon held at the Savoy Hotel in London, on August 6th 1930, a celebration of Amy's famous flight to Australia.





HISTORY / LANGUAGES

Look at the menu and identify any references to Amy. If your school teaches French, your pupils (using dictionaries if required) could translate the menu into English.



ENGLISH

Look at a modern-day menu from a high-end restaurant, or alternatively, watch a short clip from an episode of Masterchef where the narrator provides very detailed descriptions of the dishes being prepared. Your pupils should, using their translated menu, create a menu in a very descriptive style. It would help them to search via the internet images of some of the dishes that featured on Amy's menu, so they can view what they look like.



ENGLISH / DESIGN AND TECHNOLOGY / MUSIC



Your pupils should help organise a party to celebrate Amy in school. They should create menus for the foods they would like to serve, including making references like the original menu to Amy and her journey. They could also prepare some dishes to serve at their party and choose a range of music, either from the 1930s when she was flying or inspired by some of the countries she visited.

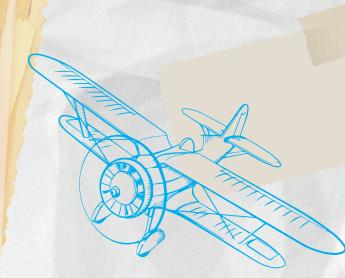




ENGLISH / DESIGN AND TECHNOLOGY / MUSIC







AMY'S WORLD -THE 1930s

The leading lights of the day were invited to a celebration of Amy's incredible achievement. The guest list reads like a who's who of important people from the 1930s. It shows how respected she was.

Another great insight into Amy's world in the 1930s is to look at some of the books she owned.

Here's a reading list from my personal library of some of my favourite books



GUESTS

HIS MAJESTY'S GOVERNMENT

THE RT. HON. J. H. THOMAS, M.P., AND MRS. THOMAS

AUSTRALIA

Major-Gen. The Hon. Sir Granville de Laune Ryrie, K.C.M.G., C.B., C.M.G., V.D., and Lady Ryrie Mr Percy E. Colman

CITY OF HULL

THE RT. HON. THE LORD MAYOR
AND LADY MAYORESS OF HULL
THE DEPUTY LORD MAYOR OF
HULL AND MRS. PEARLMAN
THE SHERIFF AND LADY
SHERRIFF OF HULL
THE TOWN CLERK OF HULL

Mr. J. W. Johnson Mrs. J. W. Johnson Miss Molly Johnson Miss Betty Johnson

LITERATURE

Mr. Robert Nichols Mr. J. B. Priestley Mr. Evelyn Waugh

SCIENCE AND ART

Mr. John L. Baird Mr. Cecil Beaton Mr. Tom Purvis

STAGE AND CINEMA

Mr. Noel Coward Mr. Alfred Hitchcock Mr. Charles Laughton Mr. Ivor Novello



Amy's reading list

Modern Ballroom Dancing Victor Silvester (Herbert Jennings ltd.)

The Flight of Birds Horton C. Smith

Of Mice and Men John Steinbeck (Heinemann 1937)

Flying as a Career Major D Stewart (Pitman 1934)

Lady, What of Life? L.Storm (1931)

Round the world J.P. Thomas (Outridge Printing Co. 1904)

Swimming the American Crawl J Wetsmuller (Putnam 1934)

South Africa A.W. Wells (Dent 1947)

England Have My Bones T.H. White (Collins 1936)

Who's Who in British Aviation – (Airways publications 1931)

A House of Pomegranates Oscar Wilde (Methuen 1924)

A Book for the Lonely W. Wynne James Clark C.1937

Fame & Faith Reverend F.T.B. Westlake (Skeffington)

View the full guest list in the PDF version of this resource.





The guest list features in a souvenir booklet from August 6, 1930 that can be viewed at the Hull History Centre. Call ahead to book a viewing **01482 317500**.

ACTUITY DEAS

AMY'S WORLD IN THE 1930s

WHERE



You can see portraits of past Lord Mayors of Hull at the Guildhall in Hull.

KSI



TO HISTORY

Show pupils a range of images, or objects if available, that relate to people and their lives during the 1930s. These may include examples of toys children played with, clothes people wore, objects used around the house or images of places they are familiar with. Ask the children how things have changed. Are there any similarities?



HISTORY

Pupils should look at the list of names of those who were invited from the city of Hull to Amy's celebratory lunch in August 1930. Using the link to the Hull City Council's list of Lord Mayors, pupils should find out who the Lord Mayor was that attended the event in honour of Amy.

http://tinyurl.com/j8uho7q



ENGLISH / HISTORY / DESIGN AND TECHNOLOGY



Pupils should imagine that they have been asked to design the invitations to the quests for Amy's celebratory lunch at The Savoy Hotel. They should think about the style of language they would need to use to invite such important people. What would they want their invitations to look like? Supply a range of materials for them to design their own invitations, including giving them access to computers to ensure their designs have a professional feel with appropriate fonts.



GUESTS

HIS MAJESTY'S GOVERNMENT

THE RT. HON. J. H. THOMAS, M.P., AND Mrs. THOMAS

AUSTRALIA

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THE DEPUTY LORD MAYOR OF HULL AND MRS. PEARLMAN

THE SHERIFF AND LADY SHERIFF OF HULL
THE TOWN CLERK OF HULL

MR. J. W. JOHNSON MRS. J. W. JOHNSON MISS MOLLY JOHNSON MISS BETTY JOHNSON

AIR MINISTRY

AIR-VICE-MARSHAL SIR SEFTON BRANCKER, K.C.B., A.F.C.
AIR-COMMODORE F. V. HOLT, C.M.G., D.S.O. DR. G. C. SIMPSON, C.B., F.R.S.
LIEUT.-COL. H. W. S. OUTRAM, C.B.E.
MR. F. G. L. BERTRAM, C.B.E.
MR. F. TYMMS, M.C.
MAJOR L. F. RICHARD
MR. ALLAN ATTRIDE

AIR LEAGUE OF THE BRITISH EMPIRE

Kathleen Countess of Drogheda, c.b.e.
Lady Patricia Moore
Brig.-Gen. Sir Charles DelmeRadcliffe, K.C.M.G., C.V.O., C.B., C.M.G.
Lieut.-Col. N. G. Thwaites, c.b.e.,
M.V.O., M.C.

ROYAL AERO CLUB

THE RT. HON. SIR PHILIP SASSOON, G.B.E., C.M.G., M.P.
MAJOR K. M. BEAUMONT, D.S.O.
COMMANDER H. E. PERRIN
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ACTUITY DEAS

LEARN ABOUT THE MANY SKILLS OF AMY

Amy liked to do things her way. As well as being a pilot she was the first woman in the country to become a qualified engineer, working on planes.

Amy was also president of a group called the Women's Engineering Society (WES). The group was set up during the First World War to support women into work, whilst men went to war. After the war, when the men returned, women were expected to give up their jobs and return to looking after the home. WES, however, continued to support women into engineering and their good work continues to this day.

For more on the Women's Engineering Society and their work with schools www.wes.org.uk





HISTORY

Look at the image of Amy. Ask the children what they notice in the picture. They may pick up on the logo for de Havilland planes – the star with the moth and possibly the clothing she's wearing. Explain that this shows Amy working on her plane, 'Jason', before she flew it to Australia. Ask the children: Why would Amy need to know how to mend an engine? Explain that when she flew to Australia, she went by herself, so if the plane broke (which it did part way through her journey), she had to know how to mend it.



SCIENCE

Place a range of every day materials, such as wood, metal, plastic, glass, rock, paper, brick or cardboard in front of the children. Get the children to identify the different materials. See if they can match up any of the given materials with that which they think the plane is made from. Ask the pupils why Amy's plane was not made from any of the other materials.





HISTORY

Show the image of Amy working on the engine to your pupils. Ask your pupils: What does this image tell us about Amy? They may begin by noticing things such as the clothes she is wearing and the fact she is doing this messy work. Encourage your pupils to think deeper by going past what they simply see in the picture, such as thinking about the type of person she could have been, particularly as most women in the 1930s were expected to stay at home and work in the house. Discuss the need for Amy to have learnt skills, such as engineering with her undertaking her flight to Australia alone.



SCIENCE / HISTORY

Pupils should identify the material used for Amy's plane 'Jason'. Discuss why these materials would have been used to build Amy's plane (wood and fabric) – what are its properties that would have made it a suitable material at the time? Compare Amy's plane to a modern day plane. Is there any difference with the choice of materials used?

WHERE CAN I SEE?



See an important collection of Amy Johnson memorabilia including her flight helmet and goggles at Sewerby Hall and Gardens.

www.eastriding.gov.uk/sewerby-hall-museum

THE AMY JOHNSON CUP FOR COURAGE





You can see Amy's Cup for Courage at The Guildhall in Hull

ACTUITY DEAS

LINKED TO AMY'S CUP FOR COURAGE

The Amy Johnson Cup for Courage which she presented to the Guildhall in 1932, is awarded every year by the Lord Mayor of Hull to a young person for an outstanding act of courage.

After Amy returned from Australia she announced at Hull City Hall that a cup for courage should be awarded every year in her name. Amy believed very strongly in the values of courage and using this to help others. The award is still given today.





HISTORY / PSHE



Show the pupils the image of the Amy Johnson Cup for Courage. Ask the children what they think the word 'courage' means. Tell the children about the 2013 winner of the cup, an 11 year old girl who saved her grandmother from a fire. Ask the children why they think that was a brave thing to do. Do they think Amy was courageous too? Ask the children what they think is the most courageous thing a person could do.



ENGLISH / ART AND DESIGN



Using their ideas about what makes a person brave or courageous; challenge them to create a new Superhero based on them. They should think about what their Superhero could do, what they would wear and what makes them brave or courageous.





HISTORY / ENGLISH / PSHE



Show the pupils the image of the Amy Johnson Cup for Courage. Ask the children what they think the word 'courage' means and what it means to be courageous. Encourage the children to think about why Amy had the cup made – was she courageous herself? Either read the articles to the pupils, or supply copies for them to read about the 2013 and 1944 winners. Were they deserved winners? Ask the children what they think is the most courageous thing a person could do.

Pupils should write a story featuring them as the main character. They should either reflect on something brave and courageous they have done or use an idea from the class discussion. They could use the news articles as additional examples of acts of courage. Their stories should use appropriate conventions, including describing settings and characters.

School children in Sydney, Australia gave me a purse of sovereigns. What better way to spend them than on this award for children!



propulsion system

like this propeller

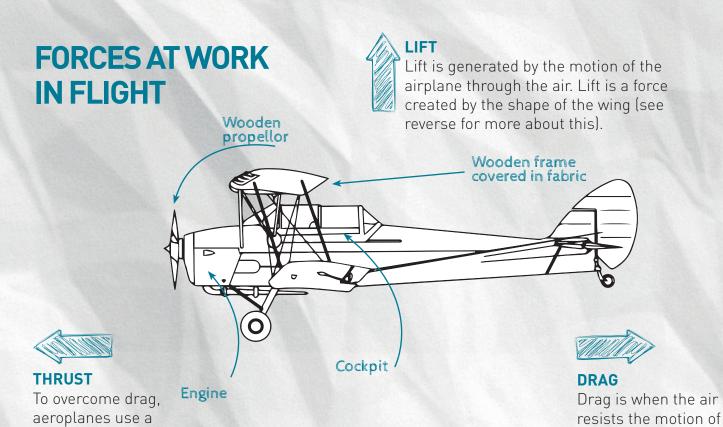
force to pull them

forwards.

to generate a thrust

AMY'S PLANE 'JASON' HOW SCIENCE KEPT HER IN THE AIR...

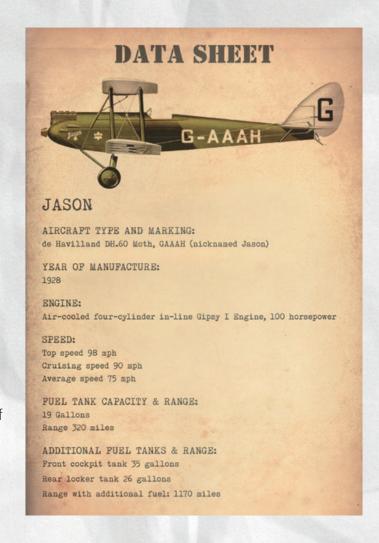
the aircraft.





WEIGHT / GRAVITY

Weight is the force that pulls an aircraft directly to the centre of the earth.



AMY'S PLANE 'JASON' IT'S ALL IN THE CURVE!

If lift acts against gravity preventing the plane from hitting the ground how does the design of an aeroplane wing actually make lift happen? Well...it's all in the shape.

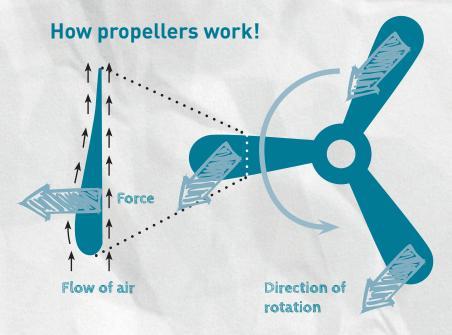
Diagram of aerofoil shape



Because of the curved shape of the top of the wing, the air flowing over the top has greater distance to travel and moves faster, which reduces air pressure.

The shape of the wing underneath is flat, therefore the airflow underneath the wing stays constant and pressure is higher than above the wing, creating an upwards force which lifts the wing.

So if planes can propel themselves forwards by using thrust to act against drag, how does the plane actually do this? They use a propulsion system (You can see Jason has a propellor).



A propeller is like a spinning wing. Instead of pushing air behind the plane, the airfoil shaped blades act to pull a plane forward just as an aeroplane's wings lift it upward. The amount of thrust created by a propeller depends upon how fast and at what angles its blades cut through the air.

Take a look at the Flights of Fancy activity sheet for some great practical ideas around exploring flight.



FLIGHTS OF FANCY

PRACTICAL IDEAS FOR INVESTIGATION OF FORCES IN ACTION

Hoop Glider Competition

Try throwing a plain straw through the air and measure how far it travels. Now here's your challenge, have a go at adapting your straw to make it glide in the air for as long as possible! Just like Amy you'll need to get your engineering head on for this one!

You will need

- Paper
- Ruler
- Scissors
- Pencil
- Non-bendable, plastic drinking straw
- Tape
- 1) Cut two strips of paper. Make one strip 2.5cm wide and 12.5cm long Make the second strip 2.5cm wide and 25cm long.
- 2) Curl each paper strip into a hoop.

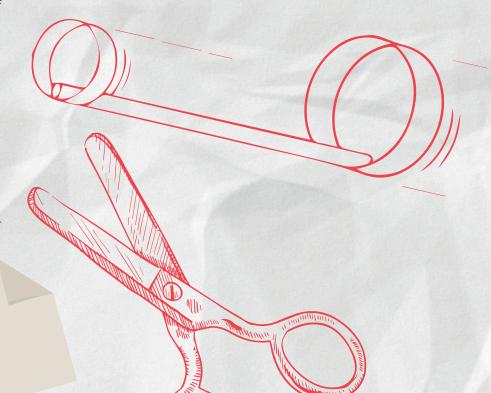
 Tape the ends together. Now you have a big hoop and a small hoop.
- 3) Tape the small hoop to one end of the straw.
- 4) Tape the big hoop on the other end of the straw. Make sure the big hoop lines up with the small hoop.
- 5) Hold your hoop glider in the middle of the straw, with the small hoop in front. Throw it gently like a spear. It might take some practice to get the hang of it. Now measure how far your straw glider can fly...

Review Adapt and Improve

Now experiment by changing your glider to attempt to make it fly the longest possible distance.

Tips

What happens if... you make the straw smaller? Change hoop size, even add a third hoop? Choose one thing at a time to change (that's called a variable). Make a prediction of what you think will happen and then test it!





FLIGHTS OF FANCY

FANCY BEING A ROCKET SCIENTIST?

Rocket STEM experiment (from BAE)





You will need

- One plastic specimen tube with a tight push fit lid
- One soluble alka seltza
- Water
- Safety goggles
- Test tube rack

What to do

- 1) Break the Alka-Seltzer tablet into 8 pieces
- 2) Put one piece of tablet into the plastic test tube
- 3) Add 1 or 2 teaspoons of water

DO THE NEXT STEP VERY QUICKLY

- 4) Put the lid on the test tube
- 5) Put the test tube into the rack upside down (lid on the bottom)
- 6) Stand back 5 meters
- 7) About 10 seconds later you will hear a large pop and your tube will launch up into the air

CAUTION

If it doesn't launch, wait at least 1 minute before examining your rocket. It could be the lid wasn't tight enough and the ${\rm CO_2}$ gas escaped.

How does it work?

The water dissolves the tablet and starts a chemical reaction which produces carbon dioxide. The carbon dioxide starts to build up, which increases the pressure inside the tube, eventually the cap is forced off and the rocket blasts up. This principle of thrust is exactly how real rockets work.

Further investigation: How do the following changes affect the time it takes the rocket to fire and the amount of thrust created?

- Try using a greater and smaller amount of tablet
- Try breaking the tablet into smaller pieces to increase the surface area
- Try using baking powder and vinegar instead of water and alka seltzer
- See if you can get the rocket to go higher by adding fins to the bottom of the tube to increase stability

With thanks to our sponsor BAE systems who provided the content for these activities. BAE offer high quality STEM learning resources as part of their service. Please see link for further details.

www.baesystemseducation.com







FESTIVAL OPPORTUNITIES



The Amy Johnson Festival is packed full of exciting opportunities, far too many to print here, so we've picked a selection of highlights that you won't want to miss! For details of the full programme please visit the website:

www.amyjohnsonfestival.co.uk

Free Gipsy Moth Plane Flat Pack Kit for all schools!

Every school will receive a batch of approximately 40 kits of card planes. They will arrive at your school flat packed. When made they are an accurate replica of the type of plane Amy flew. They measure approximately 30 x 40cm

Suitable for 8 year olds and above to construct. The planes will come with full instructions.

Once constructed children can get creative and design a decoration scheme for it! The themes can be entirely up to your school. Why not set a challenge or run a competition!

It is recommended the designs are coloured using felt tips otherwise the cardboard will weaken when wet.

Finished planes can be hung up with thread. You could create a high impact installation in your school by suspending all the planes together in a communal area.

a public installation of the finished models at a Hull city centre location.

Kite making workshops

In association with Artlink Community Arts Centre, the festival are offering free kite making workshops to Primary and Secondary schools in Hull and East Yorkshire. Presented by local arts workers, the workshops will provide an introduction to Amy Johnson and her amazing life, information about kites and how they fly, and a practical making session in which all children will get to make their own kite which they can bring to the Kite Weekend to fly.

Kite Workshops are available from week commecing Monday 20 June until Wednesday 20 July. For further details or to book a session for your school, contact Rachel Elms, Arts Development Manager, Artlink Community Arts Centre, telephone 01482 345104 or email artsdevelopment@artlink.uk.net



FESTIVAL OPPORTUNITIES

Da Vinci Engineered Renaissance mechanics to contemporary art

In association with Green Port Hull and University of Hull School of Engineering, supported by BAE Systems and Spencer Group

Saturday 2 July - Sunday 21 August 2016 Open daily 10am - 5pm Last admissions 4pm

Amy Johnson Festival themes of engineering, flight and creativity come together in this must-see exhibition, displayed in our specially constructed gallery in Zebedee's Yard. Twelve faithful reproductions of Leonardo da Vinci's flight and wind machines loaned by Da Vinci Museum, Florence, demonstrate the remarkable prescience of this great artist and his engineering genius.

Alongside these Renaissance machines, specially commissioned and selected works by contemporary artists respond to ideas of flight or explore the use of engineering in their conceptualisation, design or production. This fascinating exhibition, curated by Lara Goodband, reminds us that the creativity of the engineer and the inspiration of the artist are two sides of the same coin of human endeavour and innovation.

A series of associated artists' talks and hands-on workshops for young people will take place throughout July and August. See the festival website for full details of these and other events.

Admission prices

Adult: £5

Concessions: £3 (Students, under 18s, senior citizens)
Available now from www.hullboxoffice.com

Please phone Festival Office **01482 224334** for special prices and arrangements for school parties and for groups of 10 or more.

'Living Amy' Writing commissions

As part of the festival a series of 12 brand new works have been commissioned to celebrate Amy.

My Spirit Found Outlet in the Air Ruth Carslaw

A creative film documentary capturing the essence of flight and the infinite possibility of youth.

Amy in Love Helen Cross & Carol Adlam

Amy in Love is a ten page graphic zine, created by Carol Adlam and Helen Cross, an artist/writer partnership. It tells the story of Amy's life between 1921 and 1929, particularly in relation to her struggles for independence and her affair with Hans Arregger, an older businessman. www.caroladlam.co.uk www.helencross.net

Girl with Silver Wings Liz McPherson

Meet Amy Johnson, rebel and record breaker. The Girl with Silver Wings is aimed at young people who lack reading stamina and those with English as an additional language. Interest level, teen. Reading level, 11 years. Includes glossary.

Amy in Moscow

A graphic novel by Bob Moulder & Andy Messer.

Letters from Amy Laura Turner

"Letters From Amy" is a series of fictional letters written in the voice of Amy Johnson and hosted online to bring to life her young adult years as she discovers her passion for flying. Amy defies the conventions and expectations of a woman of her time and these letters reveal the real woman behind the pilot's goggles as she becomes an inspirational international heroine, but never forgets her Yorkshire roots.

I am Amy Sarah Wilkinson

A blog, based on Amy's letters to Hans, uploaded in real time several times a week throughout the Festival.

Being Amy

The Writing Squad's Project H Writers

A series of 6-10 sound pieces ('sound flights') each lasting 3-5 mins. Each sound flight will have its own web area, incorporating images from Amy's life and contemporary images, original and recreated documentation, a dynamic map, and a resources site for young people.

No Horizons Tom Glover

Join Amy Johnson on her flight to Australia as she traverses the world via your local library. 'No Horizons' is a storytelling piece that blends live performance, video streaming and books in the rip-roaring tale of one woman's refusal to accept limits.

The Wind and the Weather Matheson Marcault (gaming company: Hollie Gramazio & Sophie Sampson)

The Wind and the Weather is a text-based game following Johnson's astonishing flight from England to Australia. It explores Johnson's experiences and the nature of long-distance flying in 1930, setting the the nineteen and a half days of her journey against fragmentary narratives of later journeys which - though less extraordinary - nevertheless help to reveal the deep strangeness of travelling around a whole planet.

Poetry Light Night Joe Kriss & Annie Watson

A poem film based on the concept of risk taking.

Flying Through her Streets Dave Windass & Dave Lee

A short film combined with new pieces of prose that cover Amy's early life in Hull, revisiting her birthplace and the streets where she lived with her family.

The Amy Johnson Fan Club Rob Young

The Amy Johnson Fan Club is a small show with a big heart. Emily is a regular kid from Hull with one special talent: she can fly. A funny, moving one-girl-play for ages 10 - 18.

For further details on how to access these resources visit the festival website or call **01482 224334**.



THE LIFECYCLE OF A MOTH



EGGS



CATERPILLAR



ADULT MOTH



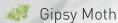
PUPA

ACTUITY DEAS

LIFECYCLE OF A MOTH

Planes and Moths

Geoffrey de Havilland was fascinated by moths. The table below shows some of the moths he named his planes after.



Hawk Moth

Puss Moth

Swallov



Swallow Moth



Tiger Moth



Fox Moth



Hornet Moth

KSI



SCIENCE / ENGLISH



Begin by reading the pupils, "The Very Hungry Caterpillar" but leaving out the last page. Show pupils the images of the lifecycle of the moth. Ask the children what animal they think it is – it's likely they will think that it is a butterfly. Explain that the images show the lifecycle of a moth. Show an image of a moth and a butterfly – what is similar / different about them?



ART AND DESIGN

Inspired by the different moths the de Havilland aircraft company named some of their planes after; give each child a picture of a moth, for instance a Gipsy Moth or a Tiger Moth and a moth template. Provide a range of materials for your pupils to create a mixed media collage of their given moth.



KS2

Д

SCIENCE

Look at the life cycle of the moth as well as life cycles of a mammal and a bird. Pupils should identify any similarities and differences between the different species.

Using the list of moths that the de Havilland planes were named after, print a selection of images of the moths and also a selection of butterflies, birds and other flying insects. Pupils should begin to classify the different creatures into different groups. The challenge for the children is likely to be classifying the moths and butterflies. A tip to assist them with this is that moths have feathery antennae whereas butterflies are club-shaped. Based on the pupils' classifications, they could attempt to create their own classification keys to support others learning about flying animals or insects.



ART AND DESIGN

Create a class collage of the moths the de Havilland aircraft were inspired by. Pupils could use mixed-media to create the collage of the different moths.

GETTING INTO STEM

Be inspired by Amy's drive, ambition and incredible achievements. Working in STEM (Science, Technology Engineering and Mathematics) is incredibly rewarding. Have a look below at some inspiring people working in STEM today and what they have to say.

Cindy Hider, Senior Flight Systems Engineer, BAE Systems

Never be afraid to think outside the box.

Never be afraid to ask a question; only by asking will you find the answer.

Sam Tindell, Machining Apprentice, BAE Systems

"I have always had a fascination with how things work from a young age and always been involved with taking apart and fixing my bicycles, motorbikes and cars. I thought a job in engineering would be a fun and challenging job role for me."

My flight was carried out for two reasons: because I wished to carve for myself a career in aviation, and because of my innate love of adventure.



Elizabeth Hodgson, car body repair student, Hull College

Elizabeth is studying at Hull College. She is so passionate about STEM and determined to get a career in this field that she travels 120 miles a day to learn!

"I have become a lot more confident in all aspects of life and I think that is due to taking that plunge to come to a new course and college."



GETTING INTO STEM

Emily Cummins, Inventor

When Emily was four her granddad gave her a hammer and taught her how to make toys from scraps of materials found in the garden shed, she loved the fact that they could make something out of random bits and her interest in sustainable design was born. Look at some of Emily's incredible inventions here:

www.emilycummins.co.uk/about

Tom Turner Software Engineer & STEM Ambassador

TOP TIPS

If you don't know what you might like to do when you grow up try lots of different things as a child, then when you have to make the decision you will know what you like and what you don't.

As a child I loved taking computers to bits and then at college I had a very enthusiastic teacher at who helped show me that IT didn't just mean typing all day, there is lots of problem solving that goes on as well.

Bruce Fitzpattrick, BAE systems, Design Engineer

Hear how Bruce got interested in engineering...

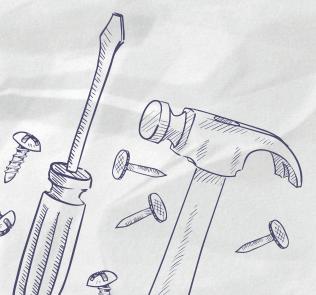
From a young age I've always been interested in how things work structurally. It started with Lego, progressed to Meccano and now I work with Aeroplanes!

I joined the school Go-Kart club around 13 years old and enjoyed it so much I didn't want to do anything else!

Bruce also supports the Robert Brough Blackburn Scholarship programme which involves working with year 9 and 10 students. They are given a design brief and are tasked to develop a design and produce a physical representation of it. This teaches them time management, team working skills, and most importantly encourages them to think about the engineered world around them and develop their own ideas

To people who might think engineering is boring, this is what Bruce says...

Everything in your life is engineering, your iPhone, the car you came to school in, the building we're sat in today... all engineering!!



Thank you to BAE Systems and WES for providing the above quotes

For more inspiring STEM role models have a look at the links below

www.wes.org.uk/rolemodels www.baesystemseducation.com www.aerosociety.com/Careers-Education/coolaeronautics www.careers.easyjet.com/pilots/female-pilot-opportunities www.nextgenstemm.org.uk



THE WORLD OF STEM

ORGANISATIONS, CAMPAIGNS & LEARNING RESOURCES

This section includes links to other STEM organisations and associated resources and includes a brief overview of our sponsor BAE Systems, a major presence in the region within the field of STEM careers.



BAE systems, a brief history 100 YEARS OF AVIATION EXCELLENCE AT BROUGH

BAE Systems is one of the world's largest defence companies, with approximately 83,400 employees spread across the globe, serving customers across the air, land, maritime and national security domains.

The Brough site is part of the air sector, and was established in 1916 by aviation pioneer Robert Blackburn.

Thousands of aircraft have been produced at the site, including the Kangaroo, Iris, B2, Shark, Firebrand, Skua, Botha, Barracuda, Beverley, Buccaneer and the Harrier. Since the 1970s the site has been involved with the Hawk aircraft, and is known to many as the 'Home of the Hawk'. There are now 1.000 Hawks sold or on order around the world.

To this day Brough's 1,000 employees have wide-ranging capabilities in design, development, manufacture and support of fast jet aircraft.

The Blackburn legacy lives on at Brough, and in this special centenary year, the site is proud to be one of the oldest sites in the world where aircraft manufacturing has continued uninterrupted.

BAE systems are committed to developing the next generation of engineers; find out more about their education programme...

www.baesystemseducation.com

THE WORLD OF STEM

ORGANISATIONS WITH STEM LEARNING PROVISION

Women's Engineering Society

One of the main objectives of the Women's Engineering Society is to encourage engineering education, it has a number of engaging programmes and campaigns including:

National Women in Engineering Day – a national campaign to support girls with careers in engineering – 23 June annually www.nwed.org.uk @nwed1919

Magnificent Women – A one day schools outreach activity sponsored by Northrop Grumman to encourage girls to think about engineering **www.magnificentwomen.org.uk**

Read more about these and other initiatives here... www.wes.org.uk/content/education-and-outreach

British Science Association

Their mission is to support, grow and diversify the community of people interested and involved in science; and to strengthen their influence over science's direction and place in society. They organise major initiatives across the UK, including British Science Week; the annual British Science Festival and a range of programmes for young people in schools and colleges, find out how to get involved...

www.britishscienceassociation.org/british-science-week

www.britishscienceweek.org

Acknowledgements

Thank you to the following organisations for supplying content and source material:

- Our sponsor, BAE Systems
- The Amy Johnson Estate
- Sewerby Hall and Gardens
- Women's Engineering Society
- Hull Museums
- Hull History Centre
- Hull Daily Mail (Images courtesy Hull Daily Mail)
- Heritage Learning
- Process Black Design

HETA (Humberside Engineering Training Association)

Set up to bridge the gap between industry and education, HETA is renowned as the leading Engineering training provider in the region. Have a look at their engaging learning programme for schools here...

www.heta.co.uk/pages/big-bang

Streetlife Museum

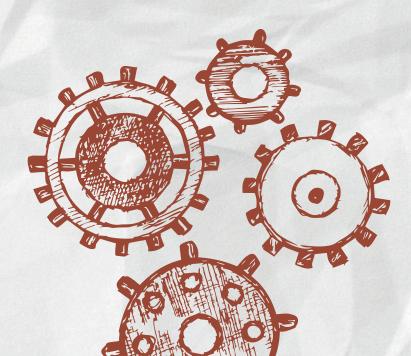
Heritage Learning run a range of stimulating STEM sessions at Streetlife Museum for KS1 & KS2. Find out more here...

www.heritage-learning.com/hl_science/fabulous-forces-fantastic-friction

NextGenSTEMM

Formed to encourage girls to study STEMM subjects and to pursue careers that will inspire them and make the world a better place. Find out more here...

www.nextgenstemm.org.uk





Amy in flight gear – ©Hull Museums



Amy's jacket worn as part of her ATA Uniform – ©Hull Museums



Amy Arrives in Hedon (1930) – ©Amy Johnson Estate



Amy stops to refuel – ©Hull Daily Mail



Amy's Plane 'Jason' – ©Hull Daily Mail











