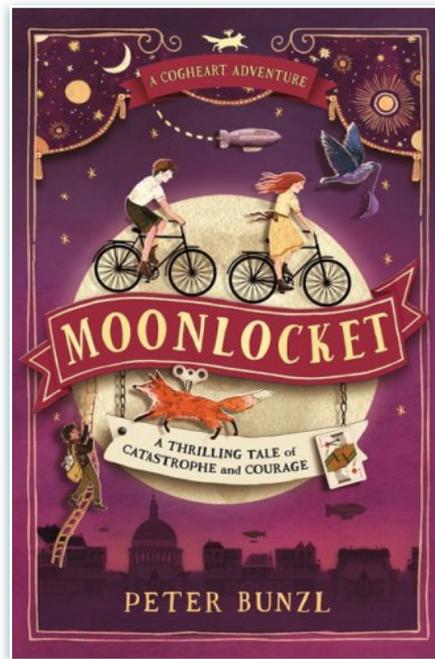
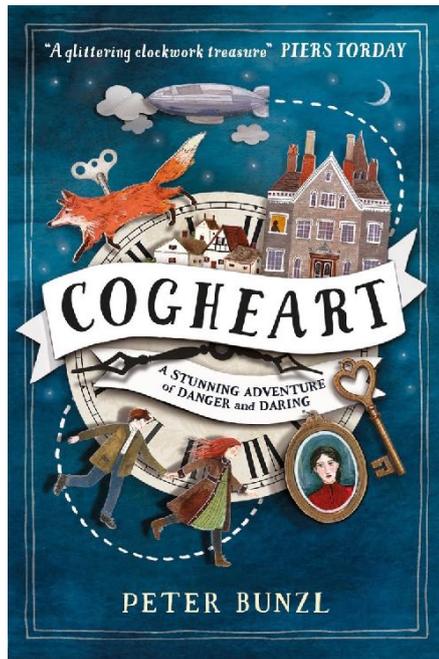


Cogheart and Moonlocket

School Resources

Pre-reading	3
Discuss the book Covers	3
Draw your own literary map.....	5
During-reading	6
Create Victorian Character Names.....	6
Write with Inspirational Images	7
Write a Letter Advocating for Mechanical Rights	8
Research Real Life Automatons	9
Debate topic: What would happen if Robots were alive?	11
Write a newspaper article	12
Guided reading Session One - Prologue & Chapter 1.....	13
Guided reading Session Two - Chapter 2 & 3.....	18
Guided reading Session Three - Chapter 4 & 5.....	22
Guided reading Session Four - Chapter 6 & 7.....	27
Guided reading Session Five - Chapter 8 & 9.....	31
Guided reading Session Six - Chapter 10 & 11.....	35
Cogheart Vocabulary	39
Creative Projects	41
Design Your Own Mechanical Robot.....	41
Design Your Own Mechanical	42
Researching real life airships	43
Design your own zep or airship.....	45
Learn a Secret Code from Moonlocket.....	47
Write a story with a McGuffin in.....	48
Make a flip-book animation	49
Make a zoetrope - a victorian animation toy	51
Make a zoetrope strip	54
Post-reading	55
Cogheart Discussion Questions	55

Pre-reading



Discuss the book Covers

They say never judge a book by its cover, but I adore the finished covers for *Cogheart* and *Moonlocket*. Becca Stadlander quirk illustrations perfectly captures the characters, and Katherine Millichope's dynamic design suggests the adventures at the heart of each story.

Write a sentence on what you think each book might be about from its title and cover.

.....

.....

What kind of characters might you imagine for the boy, girl and fox from looking at their clothes, hair, and the objects in the illustration?

.....

.....

.....

.....

Draw your own literary map

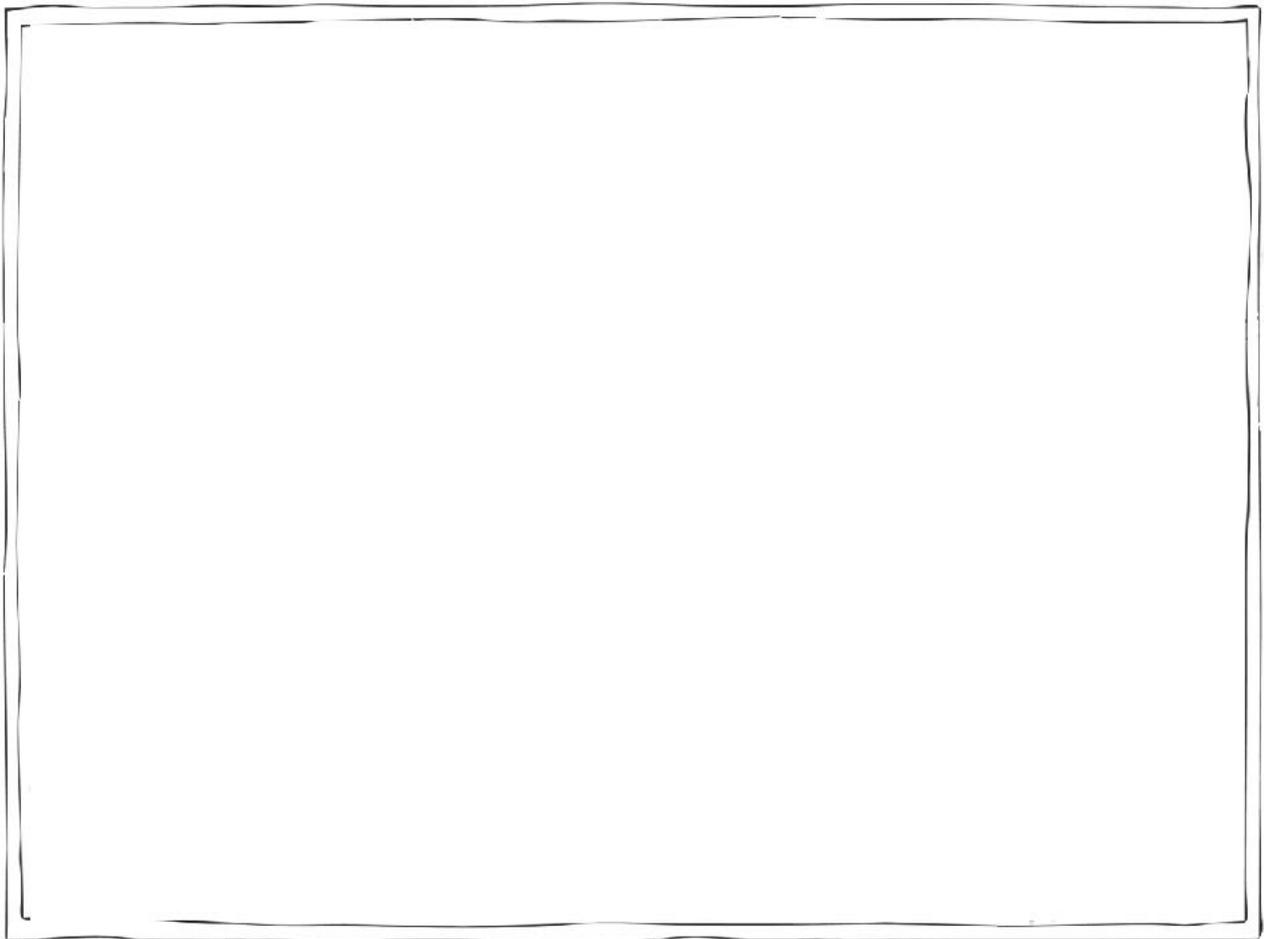
On the previous page, above are two maps of the places Robert and Lily visit in *Cogheart and Moonlocket*. I love adventure stories with maps in. When I first read *Lord of the Rings* I traced the characters' journey with the book's map and it felt almost as if I was on their quest with them!

What are some of your favourite books with maps?

Maybe you could bring one in and discuss it with the class?

Have a go at creating your own literary map by drawing the place where your characters live. It could be of a city, or a town, a county, or even an island, anywhere you like, real or imagined. Think about where your character might live on your map. What does their house look like? Draw it in.

What modes of transport do they use to get around? Add those too. Are there monuments or landmarks? City buildings, rivers, mountains, woodlands, coastlines? Put those in too? Now add some names to your map to help suggest what the different places are like.



During-reading

Create Victorian Character Names

Creating character names is one of the most fun parts of writing a book. Character names don't always have to be realistic - they can be crazy and strange, especially in magical or fantasy stories. Here are a few of the names from the Cogheart Adventures:

Lily Hartman

Mrs Rust

Selena Door

Robert Townsend

Captain Springer

Miss Dorothy Dash

Octavia Scrimshaw

Anna Quinn

Silva Buttons

Simon Silverfish

Bartholomew Mudlark

Angelique Airhart

These names are already very alive without adding any extra information. But how do I give my characters names as good as these? Well, there are lots of ways...

- If you see or hear odd words and names, write them down to save for later.
- Baby name sites like nameberry.com list all sorts of names and their origins.
- An A to Z or street-map provides local sounding names. Check the one you choose isn't associated with a famous historical person, although if it is that's a whole other line of research!
- Use wildlife books or sites – like the Cumbrian Wildlife Trust Website – to find strong wildlife words – these can create very Dickensian names.

Now that you know my secrets for creating great character names have a go at making up a few...

.....

.....

.....

.....

.....

Just from the names you've created, can you imagine what your character is like?

Write a short biography or description of them.

Write with Inspirational Images



There's something intriguing about mysterious old photos. I find myself making up whole stories around them. Many characters in *Cogheart* were developed this way and you can see some of the fascinating photos that inspired me on my [Pinterest](#).

Find an old picture with an intriguing character, or use one above. Who are they? What are they like? Do they have family, friends, enemies? Write a short paragraph on the person or people in your chosen image, and their relationships. This could be the start of a fantastic story!

.....

.....

.....

.....

.....

.....

.....

Write a Letter Advocating for Mechanical Rights



In Cogheart and Moonlocket there are mechanical robot characters who are servants to the humans. Those mechanicals are treated like second class citizens by various characters in the book, despite the fact that they may have thoughts and feelings of their own.

Lily and Robert treat the mechanicals in the story as friends, and believe that all mechanicals should be treated as equals to human beings. Do you think this should be the case?

Imagine your are living in Robert and Lily's world in 1896 where these robots exist. Now write a letter to the prime minister to ask that robots be given rights.

Some points you might want to include from the story:

- Experts state that robots/mechanicals have feelings and souls and therefore deserve a bill of rights to protect them.
- Whether it is fair for mechanicals and robots to be owned by people, when they can feel and think for themselves.
- How humans might feel if they were treated the way the robots and mechanicals are.
- How humans should care for mechanicals and robots properly, and not discard them or let them go rusty by leaving them out in the rain or outdoors.

Research Real Life Automaton

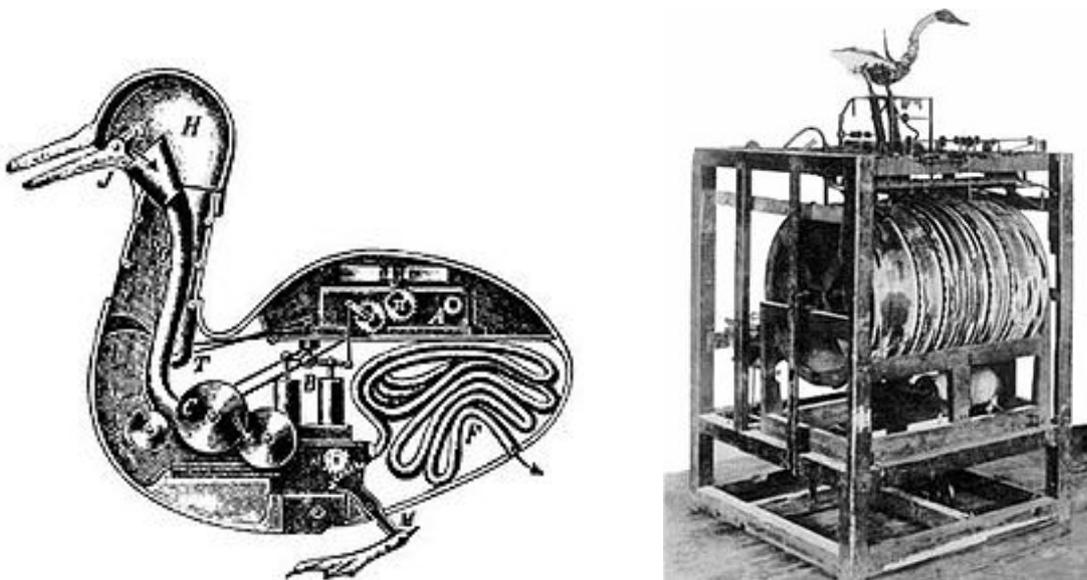
The inspiration for *Cogheart* came from reading about the clockmaking geniuses of the 18th and 19th Century who built the first automata and androids (- these are the old fashioned words for clockwork robots, for the word robot was only invented in the 20th century).

They were built to do simple tasks like write their name or a few lines of poetry, or play an instrument, or a card trick. Some of them were just clocks with moving figures on.

Here are some famous early automaton. Can you find out anything about them online and in books? What were they like, when were they built, and what did they do?



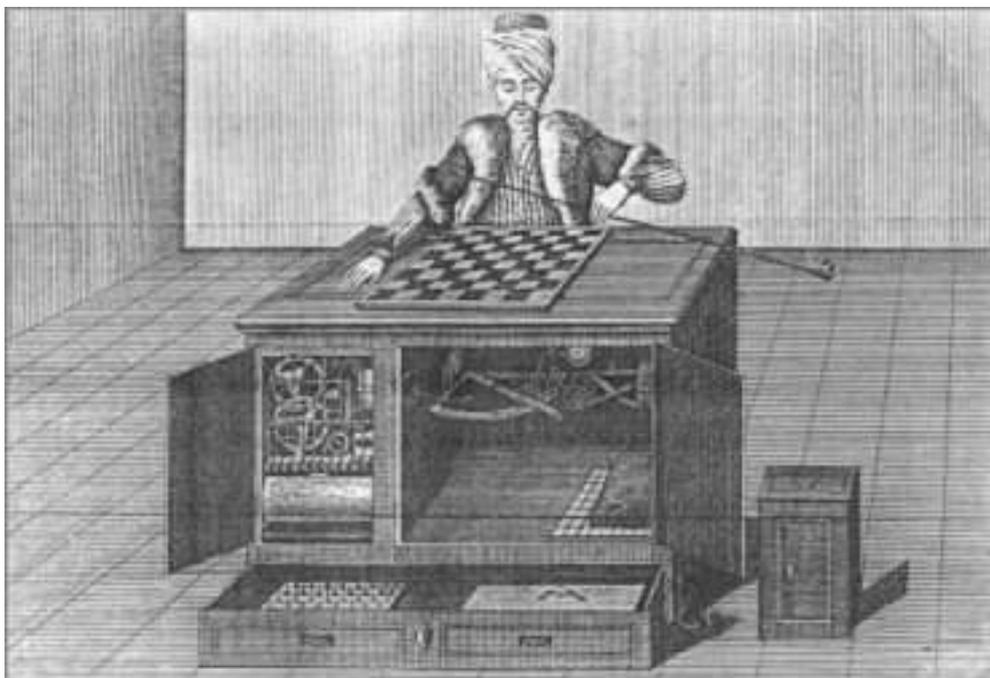
The Silver Swan by James Cox



The Digesting Duck by Jacques de Vaucanson

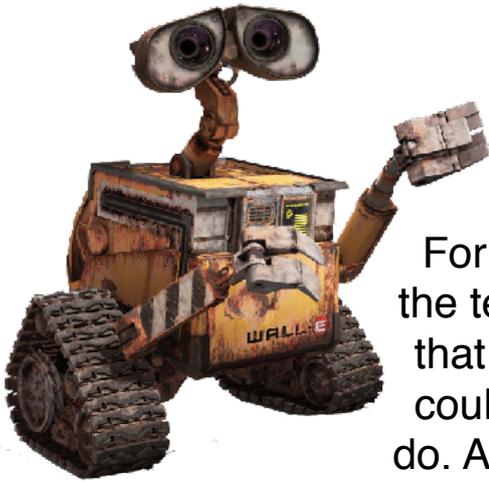


The Draughtsman by Jaquet-Droz



The Turk, also known as the Mechanical Turk or Automaton Chess Player by Wolfgang Von Kempelen.

Debate topic: What would happen if Robots were alive?



For my story I wondered, what would happen if the technology in Victorian times had got so good that they could make clockwork robots that could do everything and anything a human could do. All they needed was winding up. Robots made of bits of metal that were almost alive. Could they feel and think? Could the spark of life exist inside them? And what would that mean for their inventors and owners? These are some of the questions I was thinking about in Cogheart. And some of the questions that are the subject of many science fiction stories.

What do you think? Perhaps you could have a class debate about what would happen if robots were really alive?

- Is it something that you think might occur within your lifetime?
- Will they take jobs from people?
- Could they take over?
- Or will they be helpful if we teach them to be?
- If they learn from our behaviour will they learn to be good or bad?



Write a newspaper article

DAILY COG

PROFESSOR HARTMAN MISSING PRESUMED DEAD

London, evening edition, 9th November, 1896 One penny

 John Hartman, co-inventor of the modern mechanical, and infamous recluse, was travelling on board his private airship *Dragonfly* yesterday when she disappeared. The ship failed to land at its stated destination of Brackenbridge Airstation, and is thought to have combusted in a mid-air explosion. Authorities are currently searching the crash site in order to retrieve as much information as possible.

Prominent in the field of mechanical design, Professor Hartman co-owned the country's largest mechanical manufacturing business with his friend and colleague Professor Silverfish. But he forfeited his share of the business and vanished from public life seven years ago, when his wife was killed in a steam wagon crash. He leaves one surviving relative: a daughter, Lily, aged thirteen, whose current whereabouts are unknown. Our reporter, Anna Quinn, has attempted to contact the family

DAILY COG

STARTLING JAILBREAK FROM PENTONVILLE PRISON

London, morning edition, 16th June 1897. One penny

Reported by Anna Quinn

 Infamous escapologist and thief Jack Door broke out of prison last night, and has been on the loose ever since. Patriarch of the notorious Door family, renowned for their theatrical divination and escapology routines that wowed crowds across Europe, Mr Door was serving a life sentence for masterminding the theft of the Blood Moon Diamond. The priceless jewel, owned by Queen Victoria, was stolen from the forehead of her mechanical elephant – the Elephanta – during a royal command performance fifteen years ago.

Last week Mr Door was moved from the high security of Millbank Prison, where he was kept in solitary confinement under constant supervision, to a standard single cell at Pentonville Jail, pending an appeal hearing. He absconded from there sometime between the hours of twelve and three a.m. The police have found no further trace of him, apart from his calling card – the Jack of Diamonds – discovered pinned to the gate after the great escape.

In Cogheart you meet journalist Anna Quinn who writes for *THE DAILY COG*. Anna was inspired by real life Victorian Nellie Bly. Nellie was the world's first female investigative

reporter, who went undercover in a Women's Lunatic Asylum to prove the patients were being mistreated, then travelled round the world in 72 days to break the fictional world record set by Phileas Fogg in *Around the World in 80 Days*.

Imagine you are a Victorian newspaper reporter and you had to write a report on the events of Cogheart, or simply the events of the last chapter you read in class.

Before you go ahead and start here are some things to consider:

- **HEADLINE:** do you have an eye-catching headline that sums up the story?
- **BYLINE:** The writers name and their speciality, e.g. Anna Quinn, crime reporter.
- **PLACELINE:** Where the story begins, and takes place.
- **LEAD:** the opening section, that gives the MOST important information of the story.
- **BODY:** the rest of the story, told succinctly, with the most important details coming first. Told using simple true statements.
- **QUOTATIONS:** What someone says about the story, preferably an eyewitness, can add an authentic 'at the scene' feel to your information.

Guided reading Session One - Prologue & Chapter 1

(All Guided reading questions set by Natasha Ball.)

Word analysis

1. On page 7, it says,

Just then, Dragonfly's rudder shifted, and she pitched...

What does the word pitched mean?

2. On page 10 it tells us that the escape pod left the airship. It says

As John watched it through the open hatch, shrinking away in the sky...

Why is the pod shrinking?

3. Chapter 1 starts by telling us that Lily trudged along at the back of a line of girls.

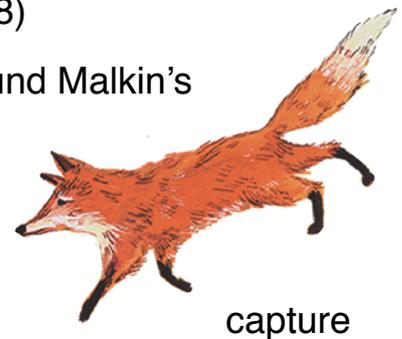
What does the word trudged tell us about how Lily feels?



4. Page 12 tells us The Kraken is obsessed with posture.
Which phrase is closest in meaning to the word obsessed?
a) liked a lot c) always on their mind
b) completely hated d) couldn't care less
5. On page 15 the Kraken uses a word to describe Lily's penny dreadfuls which means she thinks they are nonsense. What is the word?
6. On page 23 Lily wants to hit Lucretia. What does it mean when it says, she ground her teeth?

Fact retrieval

1. Why does Malkin let out a bark of alarm? (page 8)
2. What does John stuff into the leather pouch around Malkin's neck? (page 9)
3. Why does John put a key on a chain and hang it around Malkin's neck? (page 9)
4. In Lily's penny dreadful where did Varney the heroine? (page 11)
5. What causes Lily to trip and step on Gemma's foot? (page 13)
6. What happened that meant Lily was sent to Miss Scrimshaw's Academy? (page 17)
7. What does the school motto Vincit Omnia Veritas, mean? (page 24)
8. Why is the stool in the coal bunker precarious? (page 26)



Inference

1. In what ways does the author make the silver airship seem dangerous? Give at least 2 examples from the text on pages 7 & 8.
2. What do we find out about John's personality on page 9? Give at least 2 features of his character with evidence from the text.
3. What do you think the thin figure did to John at the end of the prologue?

4. How are the girls in Lily's department class made to seem different from Lily? Give examples from the text on pages 12 & 13.
5. Do you think Lily's Pa would like Miss Scrimshaw's Academy? Explain why using evidence from the text.
6. How can you tell from Lily's conversation with Molly the mechanical maid, that Lily cares about mechanicals more than the other girls do? Give examples from pages 20 – 22.



7. How does the author make the coal bunker seem an unpleasant place? Look at page 26 for examples.

Deep thought

Cogheart is written in the third person narrative. Discuss how the story might have been different if it had been told in the first person from Malkin's point of view.

What do you think we might have learnt or seen in these first opening chapters?

Have a go at rewriting the prologue as if it is Malkin recalling the airship disaster

Session One **Answers**

Word analysis

1. On page 7, it says,

Just then, Dragonfly's rudder shifted, and she pitched...

What does the word pitched mean? **Up and down movement in the air**

2. On page 10 it tells us that the escape pod left the airship. It says

As John watched it through the open hatch, shrinking away in the sky...

Why is the pod shrinking? **The pod is shrinking as it moves away into the distance. It looks smaller because of perspective**



- Chapter 1 starts by telling us that Lily trudged along at the back of a line of girls.

What does the word trudged tell us about how Lily feels? **Trudging means to walk slowly and with heavy steps, Lily walks like this because she doesn't want to be in deportment class with these girls, she would rather be reading her penny dreadful**

- Page 12 tells us The Kraken is obsessed with posture.

Which phrase is closest in meaning to the word obsessed?

- liked a lot
 - completely hated
 - always on their mind
 - couldn't care less
- On page 15 the Kraken uses a word to describe Lily's penny dreadfuls which means she thinks they are nonsense. What is the word?
bunkum
 - On page 23 Lily wants to hit Lucretia. What does it mean when it says, she ground her teeth? **Lily clenches her teeth together because she is so angry with Lucretia it is as if she is trying to contain herself and hold her words in.**

Fact retrieval

- Why does Malkin let out a bark of alarm? (page 8) **As the stench of burning gas filled the flight deck.**
- What does John stuff into the leather pouch around Malkin's neck? (page 9) **a battered envelope**
- Why does John put a key on a chain and hang it around Malkin's neck? (page 9) **so that someone will be able to wind Malkin when John is not there**
- In Lily's penny dreadful where did Varney capture the heroine? (page 11) **in the disused attic of an Italian boarding school**
- What causes Lily to trip and step on Gemma's foot? (page 13) **Lily tripped on her untied shoelace after the Kraken had shouted stop**

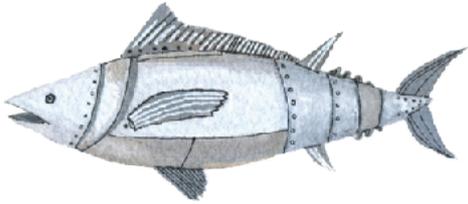
6. What happened that meant Lily was sent to Miss Scrimshaw's Academy? (page 17) **Lily's father had chosen to send her after she had frustrated a number of governesses**
7. What does the school motto Vincit Omnia Veritas, mean? (page 24) **truth conquers all**
8. Why is the stool in the coal bunker precarious? (page 26) **it was wonky because it has one rotten leg**



Inference

1. In what ways does the author make the silver airship seem dangerous? Give at least 2 examples from the text on pages 7 & 8. **it has sharp metal spikes stuck out from her hull, it fires a harpoon**
2. What do we find out about John's personality on page 9? Give at least 2 features of his character with evidence from the text. **He is brave, he stays in the ship to try and guide it down safely, He loves his daughter Lily, he asks Malkin to tell her, He is secretive, he want Lily not to tell anyone.**
3. What do you think the thin figure did to John at the end of the prologue? **He knocked John out because he feels pain and then everything goes black as if he is unconscious.**
4. How are the girls in Lily's deportment class made to seem different from Lily? Give examples from the text on pages 12 & 13. **The girls all have many books balanced on their heads in deportment, Lily can only just about manage 1. Lily is the only one who is reading, Lily thinks it because they can't do two things as one. The other girls have fancy hairstyles.**
5. Do you think Lily's Pa would like Miss Scrimshaw's Academy? Explain why using evidence from the text. **Lily's Pa would not like it because he sends the penny dreadfuls to Lily and he believes you should read a lot wider than deportment manuals to get an exceptional education, he would think many of the lessons at Miss Scrimshaw's pointless.**
6. How can you tell from Lily's conversation with Molly the mechanical maid, that Lily cares about mechanicals more than the other girls do? Give examples from pages 20 – 22.

Lily helps Molly with how to cover up the dyed sheets and helps her put them on. She also hands her a handkerchief when she is crying. Lily offers to write to the school board when Molly thinks she will be melted down. Lucretia grabs the sheets and throws them on the floor and calls her stupid. Lily calls Molly a friend and Lucretia laughs saying mechs aren't living.



7. How does the author make the coal bunker seem an unpleasant place? Look at page 26 for examples. It is dark, the coal is icy, something unknown crawls across her ankle and she hears faint scuttlings that could be earwigs, spiders, mice or rats. She sees a dismembered arm.

Guided reading Session Two - Chapter 2 & 3

Word analysis

1. On page 27 it says that the hulking engines of the airship chugged in unison. What does the word unison mean in this sentence?
 - a) making a deep noise
 - b) together
 - c) separately
 - d) aggressively
2. He skirted around a deep gully filled with rainwater (page 29). What does the word skirted mean?
3. On page 31, find the paragraph that starts 'He jumped a trickling stream...' Which word has the same meaning as next and joined to?
4. What word on page 34 tells us that Malkin is unable to walk well?
5. On page 36, Robert recognises the airship as a military model. What does the word military mean?
6. What does the man have sewn into the raw sockets of his eyes on page 40?



7. What two adjectives are used to describe the clock that Robert overwinds on page 44?
8. What word or phrase is used to describe how an animal has opened the shed door on page 46?

Fact retrieval

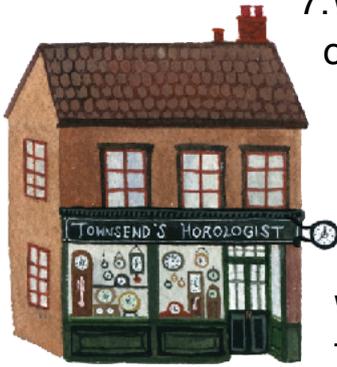
1. Why does Malkin curse the damp, boggy ground on page 28?
2. How many men does Malkin think there are following him on page 29? Why does he think this?
3. What makes Malkin feel queasy at the bottom of page 29?
4. What are the advantages of walking on field described at the top of page 32?
5. What are the disadvantages of walking on this same field?
6. What wakes Robert from his sleep at the beginning of chapter 3?
7. On page 36 we learn that Robert is very interested in airships. Can you find two pieces of evidence in the text to prove this?



Inference

1. On page 29 the men are described as descending from the airship like a swarm. What does this tell us?
2. Why does Malkin say the phrase 'thank tock' at the beginning of page 30? What do you think it means?
3. Would you describe Robert as adventurous? Can you use evidence from chapter 3 to back up your opinion?
4. Why is Robert surprised that the fox seemed to be reading the sign for his da's shop on page 37. What do we know as readers that explains this?
5. What evidence is there on page 38 that Robert loves the clock shop?

6. Robert finds a cog on page 38 that tells him to fox was clockwork. What else can you imply about the fox from the cog?



7. What does it mean when the text explains Thaddeus 'took on work for cost'? What might this tell us about the kind of man he is?

Deep thought

We find out in the last chapter that Robert's father, Thaddeus, is a horologist. His son, Robert wishes he would fix other mechanisms such as airships or mechanicals. If you were Thaddeus what would you like to be asked to fix? Be as imaginative as you like? Can you explain why you as Thaddeus would be so excited by this new project?

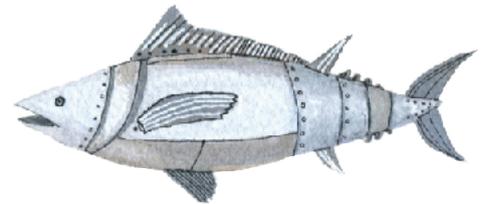
Session Two **Answers**

Word analysis

1. On page 27 it says that the hulking engines of the airship chugged in unison. What does the word unison mean in this sentence? **together**
 - a) making a deep noise
 - b) together
 - c) separately
 - d) aggressively
2. He skirted around a deep gully filled with rainwater (page 29). What does the word skirted mean? **to go around the edge of**
3. On page 31, find the paragraph that starts 'He jumped a trickling stream...' Which word has the same meaning as next and joined to? **adjoining**
4. What word on page 34 tells us that Malkin is unable to walk well? **hobbling**
5. On page 36, Robert recognises the airship as a military model. What does the word military mean? **relating to soldiers or armed forces**

6. What does the man have sewn into the raw sockets of his eyes on page 40? **silver mirrors**
7. What two adjectives are used to describe the clock that Robert overwinds on page 44? **valuable, carriage**
8. What word or phrase is used to describe how an animal has opened the shed door on page 46? **gnawed with toothmarks**

Fact retrieval



1. Why does Malkin curse the damp, boggy ground on page 28? **he was leaving paw prints that could be easily tracked**
2. How many men does Malkin think there are following him on page 29? Why does he think this? **at least 5, he could see three lamps but he knew there would be another leading the dog and others carrying weapons**
3. What makes Malkin feel queasy at the bottom of page 29? **The thought that John had been burnt to death in the airship**
4. What are the advantages of walking on field described at the top of page 32? **frosted topsoil would leave no paw prints, fog would hide him**
5. What are the disadvantages of walking on this same field? **he could easily be seen on the open ground**
6. What wakes Robert from his sleep at the beginning of chapter 3? **a noise outside disturbed him**
7. On page 36 we learn that Robert is very interested in airships. Can you find two pieces of evidence in the text to prove this? **he knew every flight schedule by heart, whenever he wasn't working he visited the local air station, one day he'd vowed to go up there.**

Inference

1. On page 29 the men are described as descending from the airship like a swarm. What does this tell us? **there were lots of them because a swarm is a large, dense group**

2. Why does Malkin say the phrase ‘thank tock’ at the beginning of page 30? What do you think it means? **he says it to express his relief, a human might say thank goodness but he says thank tock because he is mechanised.**
3. Would you describe Robert as adventurous? Can you use evidence from chapter 3 to back up your opinion? **Yes, when he hears a noise outside he goes out to investigate, also even though the 4 men have a vicious mechdog and rifles, Robert still lies to protect the fox. No, although he wants to go up in an airship, he is scared of heights.**
4. Why is Robert surprised that the fox seemed to be reading the sign for his da’s shop on page 37. What do we know as readers that explains this? **A fox is an animal and real animals cannot read. They find their way with scents and tracks not by reading signs. We know that Malkin is mechanical and he is on a mission to find Lily in this village.**
5. What evidence is there on page 38 that Robert loves the clock shop? **The shape and sound of each clock felt as comforting as old friends.**
6. Robert finds a cog on page 38 that tells him the fox was clockwork. What else can you imply about the fox from the cog? **The cog was misshapen and covered with warm engine oil which tells us that the fox is injured and the oil is like the blood. As it is warm, the fox cannot be too far ahead.**
7. What does it mean when the text explains Thaddeus ‘took on work for cost’? What might this tell us about the kind of man he is? **This means that Thaddeus does not make any money, the payment is only for parts. This might show how generous Thaddeus is, that he is rich and doesn’t need the money or that he just loves mending the mechanical objects.**

Guided reading Session Three - Chapter 4 & 5

Word analysis

1. Why are Lily’s arms goose-fleshed on page 48?
2. On page 51, whilst Lily waits she wonders if they are in the office thinking of a new chastisement for her. Which



word has the same meaning as chastisement?

- a) homework
- b) exciting story
- c) name
- d) punishment

3. Miss Scrimshaw's office is described as expansive (page 53). What does this word tell you about the room?
4. When Lily and Madame Verdigris go to catch the airship, Lily's legs were buckling and her case felt heavy (page 58). What does the word buckling mean? Why does she feel like this?
5. On page 61, the mechanical porter doffs his hat at Lily. What does the word doff mean?
6. Lily is watching the man in her airship carriage on page 65. What word is used to describe that Lily is disgusted by the man?
7. On page 71, what word is used to describe Lily's untidy hair after she has fallen asleep?



Fact retrieval

1. What does Lily use to help her hear more clearly what is being discussed in the office on page 52?
2. What two things about Madame Verdigris, remind Lily of when her mother died on page 53?
3. What is the slogan of the Royal Dirigible Company? (page 57)
4. Where was the porter's brass plate? How is this linked to Lily? (pages 59 & 60)
5. On page 65, what word is used to describe the thin man who is half human half machine?
6. What two things on page 67 does Lily do to check if the man in her carriage is asleep?
7. How does Lily know Mr Roaches sweets have been in his pocket for weeks? (page 69)

Inference

1. At the start of Chapter 4, Lily thinks that no matter how hard her life gets, mechanicals had it worse. What happened to make her think this?
2. When Mrs McKraken opens the office door on page 52, her eyes bulge but then she smiles. Why do her eyes bulge and then why does she behave in the unusual way of a sympathetic smile?
3. Why does Madame Verdigris on page 56, suggest that they give Lily's clothes away to the poorhouse?
4. On page 58, Madame Verdigris says commuter zeps are most safe way to travel, not like private airships. Why do these words mean she has overstepped the mark?
5. Why, on page 68, does Lily grind her teeth, when Madame Verdigris introduces her as Lily Hartman to Mr Roach?
6. How does Madame Verdigris act when Lily asks her how Mr Roach knew her first name? Why do you think she acts this way?



Deep thought

Mrs Rust loves using exciting exclamations with a mechanical feel, such as “Cog-wheels and coat hangers!” and “Stopwatches and spinning tops!” Can you find any others in Chapter 5? Can you think of any of your own using mechanical parts?



Session Three - Answers

Word analysis

1. Why are Lily's arms goose-fleshed on page 48? **the coal bunker was freezer, Lily was cold**



2. On page 51, whilst Lily waits she wonders if they are in the office thinking of a new chastisement for her. Which word has the same meaning as chastisement? **punishment**

- a) homework c) name
b) exciting story d) punishment

3. Miss Scrimshaw's office is described as expansive (page 53). What does this word tell you about the room? **the room is very large**

4. When Lily and Madame Verdigris go to catch the airship, Lily's legs were buckling and her case felt heavy (page 58). What does the word buckling mean? Why does she feel like this? **Lily's legs gave way because she is fearful of taking the zep, it is probably triggering sad thoughts about her father's airship accident.**
5. On page 61, the mechanical porter doffs his hat at Lily. What does the word doff mean? **he raised his hat as a respectful greeting.**
6. Lily is watching the man in her airship carriage on page 65. What word is used to describe that Lily is disgusted by the man? **revulsion**
7. On page 71, what word is used to describe Lily's untidy hair after she has fallen asleep? **tousled hair**

Fact retrieval

1. What does Lily use to help her hear more clearly what is being discussed in the office on page 52? **a vase**
2. What two things about Madame Verdigris, remind Lily of when her mother died on page 53? **her black clothes and her concern**
3. What is the slogan of the Royal Dirigible Company? (page 57) **travel that's lighter than air**
4. Where was the porter's brass plate? How is this linked to Lily? (page 59 & 60) **one on his head and one on his forearm. He was made by Lily's father, John Hartman**
5. On page 65, what word is used to describe the thin man who is half human half machine? **hybrid**



6. What two things on page 67 does Lily do to check if the man in her carriage is asleep? **she coughed and then stuck her tongue out**

7. How does Lily know Mr Roaches sweets have been in his pocket for weeks? (page 69) **they were gooey and stuck (fused) to the paper bag**

Inference

1. At the start of Chapter 4, Lily thinks that no matter how hard her life gets, mechanicals had it worse. What happened to make her think this? **an unwanted mechanical had been chopped up and thrown into the coal bunker**
2. When Mrs McKraken opens the office door on page 52, her eyes bulge but then she smiles. Why do her eyes bulge and then why does she behave in the unusual way of a sympathetic smile? **her eyes bulge because she is cross that Lily is putting the vase to the wall to hear what they are discussing but then she smiles sympathetically because Lily is about to find out her Father is missing, presumed dead**
3. Why does Madame Verdigris on page 56, suggest that they give Lily's clothes away to the poorhouse? **they might be expensive to send on and the girls at the school would not want them**
4. On page 58, Madame Verdigris says commuter zeps are most safe way to travel, not like private airships. Why do these words mean she has overstepped the mark? **Lily's Father may well be dead after an accident in his private airship and this shows she did not consider Lily's feelings.**
5. Why, on page 68, does Lily grind her teeth, when Madame Verdigris introduces her as Lily Hartman to Mr Roach? **Madame Verdigris has just told Lily not to introduce herself to anyone.**
6. How does Madame Verdigris act when Lily asks her how Mr Roach knew her first name? Why do you think she acts this way? **she laughed and says Lily must have misheard. She does this because she does not want Lily to know that she already knows Mr Roach**

Guided reading Session Four - Chapter 6 & 7



Word analysis

1. At the beginning of chapter 6, when Robert looks at the fox's injury he sees the '...parts had fused together in a lump.' What does the word fused mean here?
2. On page 85, Roberts da says if there aren't enough cogs and springs, they can filch them from other clocks. Which word has the closest meaning to filch?
 - a) steal
 - b) open
 - c) digest
 - d) upside-down
3. On page 89, Thaddeus ruffles his son's hair with a calloused hand. What does this mean and why are his hands calloused?
4. On page 93, what word is used to describe how Mr Wingnut and Miss Tock will have their metal bodies destroyed?
5. What phrase does Professor Silverfish (page 98) use to describe when Lily requires him most?
6. On page 103, Mr Sunder polishes his glasses vigorously. What does the word vigorously mean?

Fact retrieval

1. On page 83, Thaddeus suggest two reasons why Lily's father might have sent her to boarding school. What are they?
2. What does Thaddeus say on page 84 is needed to win great battles?
3. On page 86 what does Robert fear?
4. What signal does Madame Verdigris give on page 99 to indicate they are ready to discuss with the lawyer what will happen to Lily?
5. What are mechanicals not allowed to be in charge



of according to Mr Sunder the lawyer on page 102?

6. Where does Professor Silverfish live?

Inference

1. In what ways do we find on page 83 that Lily and Robert's upbringing are similar? Can you give two ways with examples?
2. On page 88 Robert's eyes widen after his Father tells him what he did at Brackenbridge Manor. How does Robert feel about what he has just heard?
3. What does the fact that Robert and his father work till 3am mending the fox, mean about how they feel?
4. What does Lily mean on page 95 when she says about Mrs Rust and Madame Verdigris 'if you had to guess which of the two had feelings, Lily knew who she'd choose.'
5. What clues can you give that show Lily is pleased to see her godfather, Professor Silverfish? Pages 97-98
6. On page 100, Mr Sunder gives an embarrassed cough. Can you explain why he might feel this way using evidence from the text?

Deep thought

We meet lots of different characters in the book – including mechanical characters, such as Mr Wingnut and Mrs Rust. Thaddeus explains that: “one thing I do know is this...feelings and intuition, love and compassion, those are the things make a soul, not blood and bones or machine parts.” Thinking about the characters in the book, discuss what you think this quotation means with a friend. Do you think these mechanicals have feelings?



Session Four - Answers

Word analysis

1. At the beginning of chapter 6, when Robert looks at the fox's injury he sees the '...parts had fused together in a lump.' What does the word fused mean here? **joined**
2. On page 85, Roberts da says if there aren't enough cogs and springs, they can filch them from other clocks. Which word has the closest meaning to filch? **steal**
 - a) steal
 - b) open
 - c) digest
 - d) upside-down
3. On page 89, Thaddeus ruffles his son's hair with a calloused hand. What does this mean and why are his hands calloused? **an area of hardened skin because he works with his hands all the time**
4. On page 93, what word is used to describe how Mr Wingnut and Miss Tock will have their metal bodies destroyed? **corrode**
5. What phrase does Professor Silverfish (page 98) use to describe when Lily requires him most? **your hour of need**
6. On page 103, Mr Sunder polishes his glasses vigorously. What does the word vigorously mean? **with strength, effort or energy**



Fact retrieval

1. On page 83, Thaddeus suggest two reasons why Lily's father might have sent her to boarding school. What are they? **because he was overprotective, because her mother had died**
2. What does Thaddeus say on page 84 is needed to win great battles? **a brave heart**
3. On page 86 what does Robert fear? **doing something clumsy**

4. What signal does Madame Verdigris give on page 99 to indicate they are ready to discuss with the lawyer what will happen to Lily? **a discreet cough**
5. What are mechanicals not allowed to be in charge of according to Mr Sunder the lawyer on page 102? **a steam vehicle, an airship or indeed a child**
6. Where does Professor Silverfish live? **9 Riverside Walk, Chelsea**

Inference

1. In what ways do we find on page 83 that Lily and Robert's upbringing are similar? Can you give two ways with examples? **Both had grown up without a Mother, Lily's had died and Robert's Ma had gone off somewhere. Both families had secrets of some kind. Thaddeus says Lily's father is overprotective and yet he won't tell Robert what happened to his own Mother.**
2. On page 88 Robert's eyes widen after his Father tells him what he did at Brackenbridge Manor. How does Robert feel about what he has just heard? **Robert is surprised and impressed that he father had helped fix mechanicals and Brackenbridge. He is also disappointed that his father did not tell him.**
3. What does the fact that Robert and his father work till 3am mending the fox, mean about how they feel? **They are set on getting it finished because they are intrigued by the fox and how he arrived at the shop. Thaddeus might be interested in the complexities of the mechanical fox. They know the fox has a letter for Lily, they think it must be important**
4. What does Lily mean on page 95 when she says about Mrs Rust and Madame Verdigris 'if you had to guess which of the two had feelings, Lily knew who she'd choose.' **Mrs Rust had empathy with Lily's situation, she was warm-hearted and understanding. Madame Verdigris was non of these things**
5. What clues can you give that show Lily is pleased to see her godfather, Professor Silverfish? Pages 97-98 **when she first saw him she broke**



into a broad smile, she looks horrified when she sees his metal heart and finds out that he has been unwell.

6. On page 100, Mr Sunder gives an embarrassed cough. Can you explain why he might feel this way using evidence from the text? **he is embarrassed that Madame Verdigris is rushing him, he cannot do his job properly and she is being insensitive to Lily's pain.**

Guided reading Session Five - Chapter 8 & 9



Word analysis

1. On page 109, the thin man thrusts his cane into the umbrella stand. What does this tell you about how he did it?
2. On page 112 the canary is described as being an unrepairable mess. Which phrase best describes Mrs Chivers' mechanical bird?
 - a) has lost all its feathers
 - b) unfixable jumble
 - c) would be difficult to mend
 - d) upset and dangerous
3. Look at the paragraph that starts, after a while there was a low sound... on page 114. What word has the same meaning as the word echoed?
4. On page 117, the fox is described as lapsing in silent contemplation. What word is the best antonym for contemplation?
 - a) forget
 - b) sleep
 - c) search
 - d) chase
5. On page 123, in the paragraph that starts, 'As you prefer,'... Which word is a synonym for lopsided?
6. At the end on the same page, Madame Verdigris tells Lily that she is no longer a young lady of means. What does this phrase mean?



Fact retrieval

1. What time was it when Robert lit the lamp because the light was fading on page 109
2. The thin man has entered the clockmaker's shop, what stopped Robert from hearing him? (page 109)
3. On page 113, what reason does Robert give his father to explain the destroyed mechanical canary?
4. What reason does Malkin give Robert on page 117 that explains why he has been so grumpy and rude?
5. On page 121, why were the mechanicals gradually disappearing?
6. On page 124, Madame explains a mistake that Mrs Rust made. What did she do?



Inference

1. When on page 109, Mr Roach enters the clockmaker's shop, why do you think his colleague, Mr Mould stays outside?
2. How is Robert feeling when he swallows the prickly dryness at the back of his throat on page 112?
3. Does the mechanical fox react in the way Robert expects when he winds him up on pages 114 & 115? Use evidence from the text to explain why.
4. Malkin is unsure of the message that John has asked him to give Lily. Can you explain the difference in meaning between the two messages on page 119?
5. On Page 124, Madame Verdigris describes Mrs Rush pouring oil into her soup? Do you believe her? Why?
6. What do you think is in the polished rosewood box? Why do you think this?

Deep thought

Even though Malkin, the mechanical fox, is grumpy and sarcastic, he is still a brilliant friend. If you could have any mechanical animal, what would it be and why?

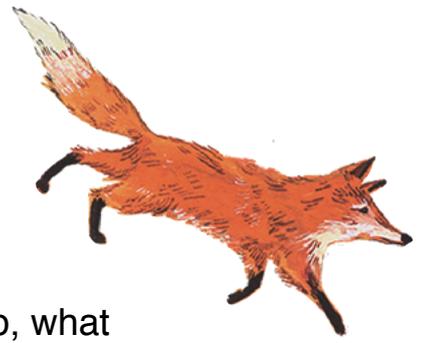
Session Five - Answers



Word analysis

1. On page 109, the thin man thrusts his cane into the umbrella stand. What does this tell you about how he did it? **He put his cane in aggressively.**
2. On page 112 the canary is described as being an unrepairable mess. Which phrase best describes Mrs Chivers' mechanical bird?
b) unfixable jumble
 - a) has lost all its feathers
 - c) would be difficult to mend
 - b) unfixable jumble
 - d) upset and dangerous
3. Look at the paragraph that starts, after a while there was a low sound... on page 114. What word has the same meaning as the word echoed? **reverberated**
4. On page 117, the fox is described as lapsing in silent contemplation. What word is the best antonym for contemplation? **forget**
 - a) forget
 - c) search
 - b) sleep
 - d) chase
5. On page 123, in the paragraph that starts, 'As you prefer,' ... Which word is a synonym for lopsided? **unevenly**
6. At the end on the same page, Madame Verdigris tells Lily that she is no longer a young lady of means. What does this phrase mean?
well off or rich

Fact retrieval



1. What time was it when Robert lit the lamp because the light was fading on page 109
4pm
2. The thin man has entered the clockmaker's shop, what stopped Robert from hearing him? (page 109) **the chime of the clocks**
3. On page 113, what reason does Robert give his father to explain the destroyed mechanical canary? **he'd dropped the thing**
4. What reason does Malkin give Robert on page 117 that explains why he has been so grumpy and rude? **this injury's given me the jitters**
5. On page 121, why were the mechanicals gradually disappearing?
they are hidden under the frosty white surface- it is snowing
6. On page 124, Madame explains a mistake that Mrs Rust made. What did she do?
poured engine oil in her soup instead of cream

Inference

1. When on page 109, Mr Roach enters the clockmaker's shop, why do you think his colleague, Mr Mould stays outside? **He is making sure Mr Roach and Robert are not disturbed, that no one else is around.**
2. How is Robert feeling when he swallows the prickly dryness at the back of his throat on page 112? **Robert is frightened of Mr Roach and what he will do to Robert if he finds out he has lied to him about Malkin the mechanical fox.**
3. Does the mechanical fox react in the way Robert expects when he winds him up on pages 114 & 115? Use evidence from the text to explain why. **Malkin growls whereas Robert flashes him a smile. Robert expects he will be grateful or at least pleased that he and his father have brought him back to 'life'.**

4. Malkin is unsure of the message that John has asked him to give Lily. Can you explain the difference in meaning between the two messages on page 119? **The secret is in the safe will tell Lily exactly where to find it – safe is used as a noun. This secret is safe tells Lily the secret has not yet been found but not where it is. Safe is used as an adjective.**
5. On Page 124, Madame Verdigris describes Mrs Rust pouring oil into her soup? Do you believe her? Why? **Yes- Mrs Rust is more than a simple mechanical and it capable of disliking Madame Verdigris and wanting to poison her. No- Madame Verdigris is lying to make Lily believe Mrs Rust is dangerous. In the story we heard, no mech is capable of harming a human.**
6. What do you think is in the polished rosewood box on page 127? Why do you think this? **Something very precious – the box is polished and the wood sounds rare and maybe expensive. Her father says it is an invention to keep secret. Maybe the way to make mechanicals just like humans.**

Guided reading Session Six - Chapter 10 & 11

Word analysis

1. In the telegram on page 131 the machine is described as a perpetual motion machine. Which has the closest meaning to perpetual motion?
a) always driving c) keep ticking
b) sometimes running d) continually moving
2. On page 132 Lily tries to summon her Mama to mind. What does the word summon mean in this phrase?
3. On page 135, what phrase tells us that for a moment Lily cannot see the men from the window?
4. In the last paragraph of chapter 10, Robert is described as having heavy frowning brows. What does the word frowning tell us?
5. What does the phrase friend or foe mean? Lily asks Robert this at the beginning of chapter 11.

6. On page 147 the trellis is described as ivy-encrusted. What does the word encrusted mean? Can you use it appropriately in a different sentence?

Fact retrieval

1. What has happened to all four of Lily's family's mechanicals on page 136?
2. What stops Lily from punching the wall paper in her room on page 140?
3. What word is used to show that Roach and Mould are part human and part machine? Look at page 146.
4. What does Lily remember just before she hides in her wardrobe with Robert on page 149?
5. What is the first thing that Robert does when Madame Verdigris opens the wardrobe on page 148?
6. On page 156 how does Robert cover up his mistake mentioning the girl?



Inference

1. On page 137, how does Lily know that what happened the night before was real and not a dream?
2. Why does Madame look hot and flustered on page 138?
3. Lily doesn't know at the end of chapter 10 who the boy on the drive is or whether he would help her. Why do you think she whistles to him anyway?
4. What makes the tips of Robert's ears burn on page 144? What has he done that is so stupid?
5. On page 147 Lily and Robert get through the house using the disguised door to the narrow servant's staircase. Why is the secret door there?
6. On page 151 Lily decides to trust Robert. Can you use evidence from the text to explain why you would or would not trust Robert?

Deep thought

Mrs Rust loves using exciting exclamations with a mechanical feel, such as “Cog-wheels and coat hangers!” and “Stopwatches and spinning tops!” Can you think of any of your own?

Session Six - Answers



Word analysis

1. In the telegram on page 131 the machine is described as a perpetual motion machine. Which has the closest meaning to perpetual motion? **d) continually moving**
 - a) always driving
 - b) sometimes running
 - c) keep ticking
 - d) continually moving
2. On page 132 Lily tries to summon her Mama to mind. What does the word summon mean in this phrase? **bring her to mind or recall her**
3. On page 135, what phrase tells us that for a moment Lily cannot see the men from the window? **rendered momentarily invisible**
4. In the last paragraph of chapter 10, Robert is described as having heavy frowning brows. What does the word frowning tell us? **Frowning brows tell us he is concentrating or disapproval. We know he is trying to find Lily's house.**
5. What does the phrase friend or foe mean? Lily asks Robert this at the beginning of chapter 11. **Are you someone to be trusted or not?**
6. On page 147 the trellis is described as ivy-encrusted. What does the word encrusted mean? Can you use it appropriately in a different sentence?

Fact retrieval

1. What has happened to all four of Lily's family's mechanicals on page 136? **thrown into the baggage compartment (boot) or the car**
2. What stops Lily from repeatedly punching the wall paper in her room on page 140? **She does it once and it makes her fist ache and her fingers numb**

3. What word is used to show that Roach and Mould are part human and part machine? Look at page 146. **hybrid**
4. What does Lily remember just before she hides in her wardrobe with Robert on page 149? **Professor Silverfish's card**
5. What is the first thing that Robert does when Madame Verdigris opens the wardrobe on page 150? **sneezes**
6. On page 156 how does Robert cover up his mistake mentioning the girl? **Firstly he says that Mr Mould had said girl first and then he says he must have misheard 'soul' as girl.**

Inference

1. On page 137, how does Lily know that what happened the night before was real and not a dream? **When she goes down to the kitchen and it is cold and bare, she know Mrs Rust has gone for real and that she did not dream that she was put into the car in the night.**
2. Why does Madame look hot and flustered on page 138? **Madame Verdigris has been searching Lily's room and Lily has caught her. The red and flustered look is a guilty one.**
3. Lily doesn't know at the end of chapter 10 who the boy on the drive is or whether he would help her. Why do you think she whistles to him anyway? **Lily has not got a lot to lose, everything she loves has gone- her Mother, her Father, the mechanicals- so she takes a risk.**
4. What makes the tips of Robert's ears burn on page 144? What has he done that is so stupid? **Robert is embarrassed and blushes all the way to the tips of his ears. He should not have mentioned her father as he is missing presumed dead. Robert knows he has been insensitive.**
5. On page 147 Lily and Robert get through the house using the disguised door to the narrow servant's staircase. Why is the secret door there? **Her father is likely to have installed it as his work on mechanicals was highly secret and desired by others.**
6. On page 151 Lily decides to trust Robert. Can you use evidence from the text to explain why you would or would not trust Robert? **Robert has come to the house with a message about Malkin who she knows she can trust. He has been frightened of Madame Verdigris when they hide in the wardrobe and he knows Roach and Mould are bad news.**

Robert seems to have common enemies with Lily. The proverb is 'the enemy of my enemy is my friend'

Cogheart Vocabulary

On her website teacher Jen Willis suggests using vocabulary from Cogheart in your daily word sessions with year 5 class:

<https://perpetuallylearningsite.wordpress.com/2017/08/18/cogheart-english-ops/>

"I was keen to read Cogheart not only with writing ideas in mind, but also explicit opportunities for vocabulary instruction. This means knowing exactly which rich words would be arising in order to explore and exploit them. I therefore noted any unusual, interesting or challenging words that would add to a typical Year Five's vocabulary. Bunzl provided an abundance of descriptive gems to choose from! I intend to use these in daily word sessions – it just makes sense to choose words that the children will then hear later that day in our daily reading!

Obviously, I won't use all of the words and some may not be suitable for your class – but I thought including the list here may be worthwhile to provide choice and suggestions. You will also note that some of the words are duplicated and this was deliberate – revisiting and hearing vocabulary in different contexts is essential."

Prologue: bristled juddered tarnished silhouetted

Chp 1: poised dubious precarious putrid sneer haughty dismembered

Chp 2: murky fiendish derelict ferociously

Chp 3: resembled perilously vague irrespective nimble strewn

Chp 4: miscreants exuberant trundle expansive obscured melodious sprawling

Chp 5: hybrid revulsion primitive fused ungraspable skeletal pondered

Chp 6: fused prising furrowed juddered

Chp 7: corrode brimmed contraption muffling

Chp 8: traipsed silhouetted involuntarily incensed mangy

Chp 9: Dawdling scant lingered



Chp 10: erratically fragment

Chp 11: acrid encrusted beckoning sauntered distorted divulge

Chp 12: brim vagabond

Chp 13: groggily nimble engulf frantic apex protruding

Chp 14: stealth derelict copse seeped

Chp 15: ominously gnawed scant

Chp 16: distinct assertive juddered ravenously

Chp 17: loomed taut interior pursuers extinguished derelict hubbub dithering

Chp 18: encrusted slunk distaste ushering dour overwhelmingly dredged

Chp 19: tarnish fractured anguished embedded exasperated obscured

Chp 20: subterranean clinically motley-looking lurched flanked lolling calcified

Chp 21: jostled crevice slaloming tethered

Chp 22: winced lolled fragment

Chp 23: suffuse tessellating persistent functioning skewing abyss flailing shards rallied
inquisitive prestigious veritable

Chp 24: accustomed flailing writhed careened debris juddering fumbled

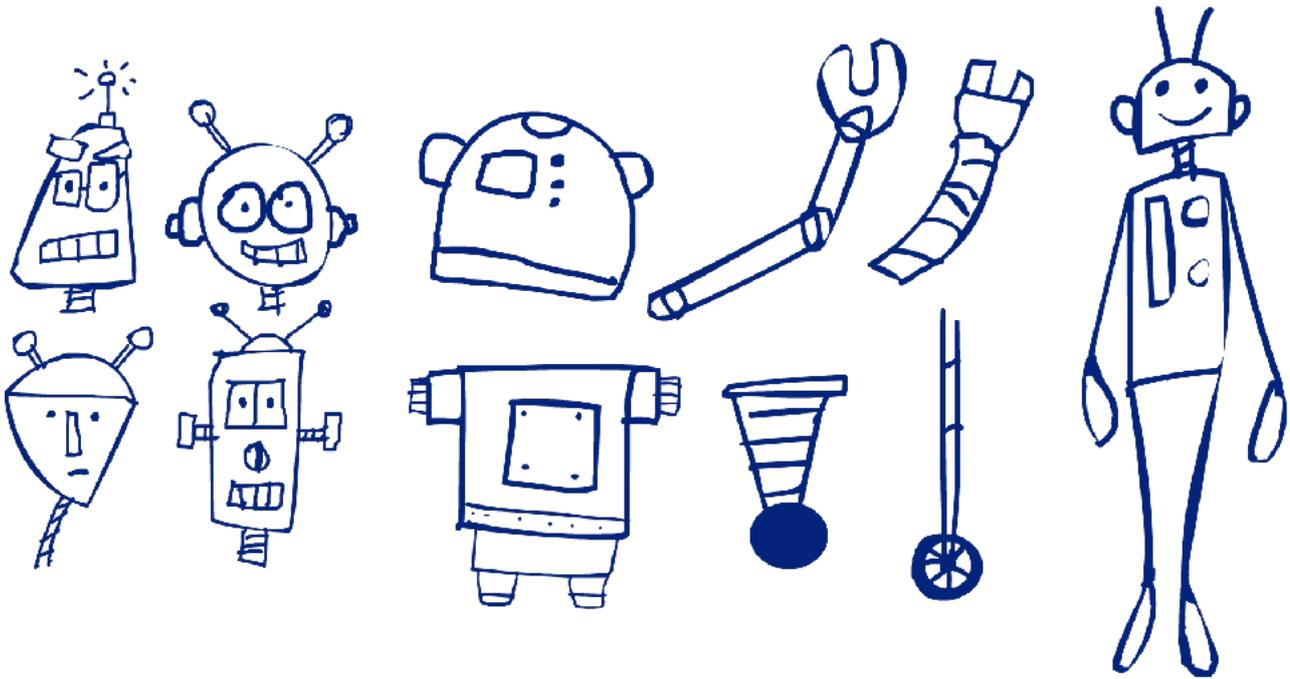
Chp 25: pulsed hunkered myriad gargantuan teetering abyss nimbly lolloped haltingly

Ch 26: incongruous reverie grudgingly morbid slathered pristine resonant burden



Creative Projects

Design Your Own Mechanical Robot

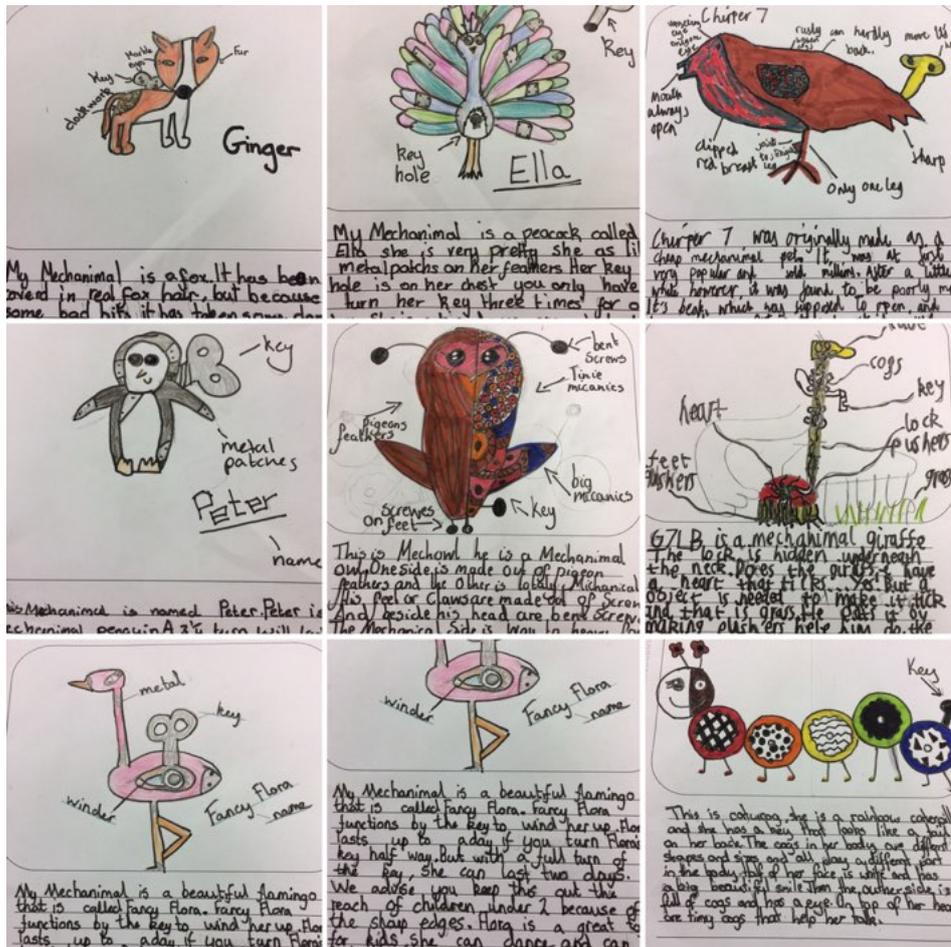


In *Cogheart* Lily's father John Hartman is a designer of mechanical robots and mechanimals, he creates clockwork characters, who live with and work for Lily's family, and who she regards as friends. There's the cook: Mrs Rust, the housemaid: Miss Tock, the butler: Mr Wingnut, and the driver and odd-jobs robot, Captain Springer.

Why don't you have a go at designing your own clockwork mechanical robot, or mechanimal? You can use simple shapes like circles, squares, rectangles and triangles to create their head, body and arm shapes. They could have legs or wheels or even different attachable elements for different functions. Write a short description of your robot to explain...

- What can your robot do?
- Does it have any special features?
- Does it work automatically, or do you have to wind it?
- Was it designed to do a job that makes life easier for humans?
- How does it feel about that if it can it think for itself?
- Or does it only do things it's been programmed for?
- Does it have a personality? What is that like?

Design Your Own Mechanical



A mechanical is a mechanical-animal a bit like Malkin in Cogheart. They are mechanical pets who you need to wind up to make go, and they have their own skills and personalities. Here are some amazing drawings of mechanicals designed by the children of Comley park school.

Have a go at designing your own mechanical now and then write a short description of it.

- If you could have any kind of mechanical animal what would it be?
- What's its name? Can it talk?
- What's its personality like?
- What are it's special skills and abilities?
- Can it do anything a normal robot can't do?
- Is it a pet or more like a wild animal?

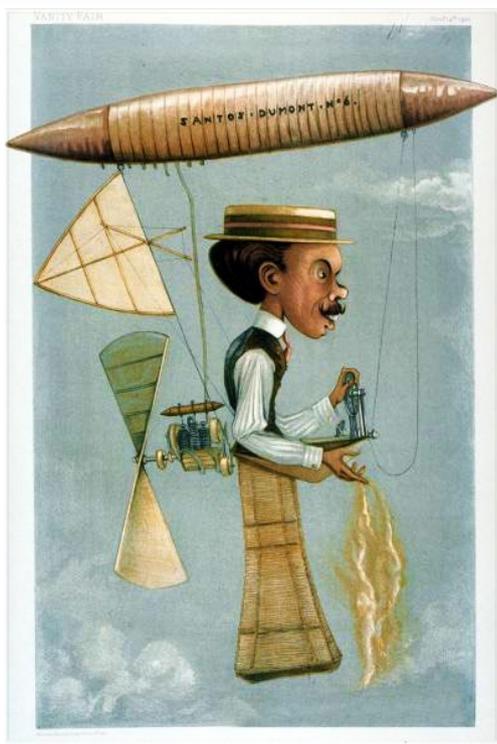
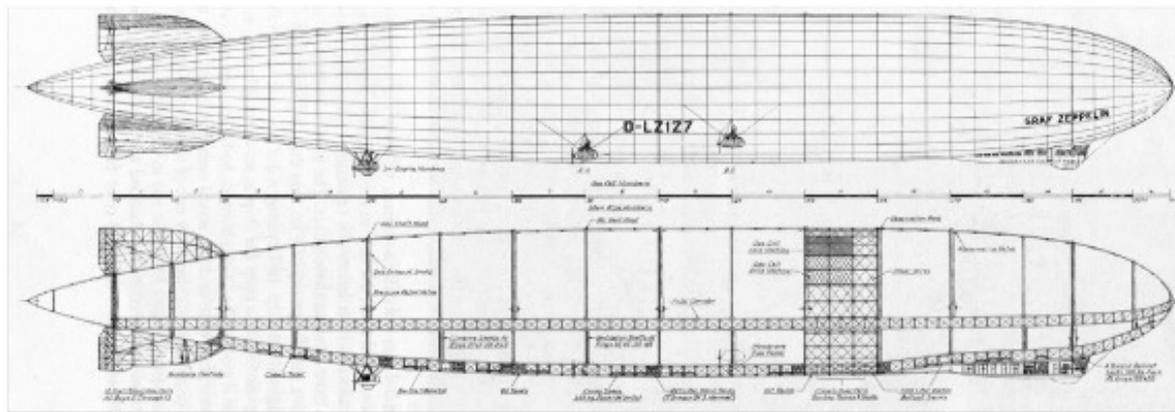
Researching real life airships

Cogheart and Moonlocket are set in a fictional Victorian world at the end of the 19th Century, an alternative reality where technology has advanced much quicker than it did during that actual period of history. In my stories people travel everywhere by airship, even though commercial airships weren't actually invented until the 20th century.

In actual fact, the last big airships were built some time in the 1930s. The most famous was a massive German zeppelin called the Hindenburg, which caught fire and crashed in 1937. Many people were killed in that accident, and afterwards airships stopped being built. But recently some aerospace companies have been trying to bring back modern, safer airships. If they succeed, I would love to fly on one.

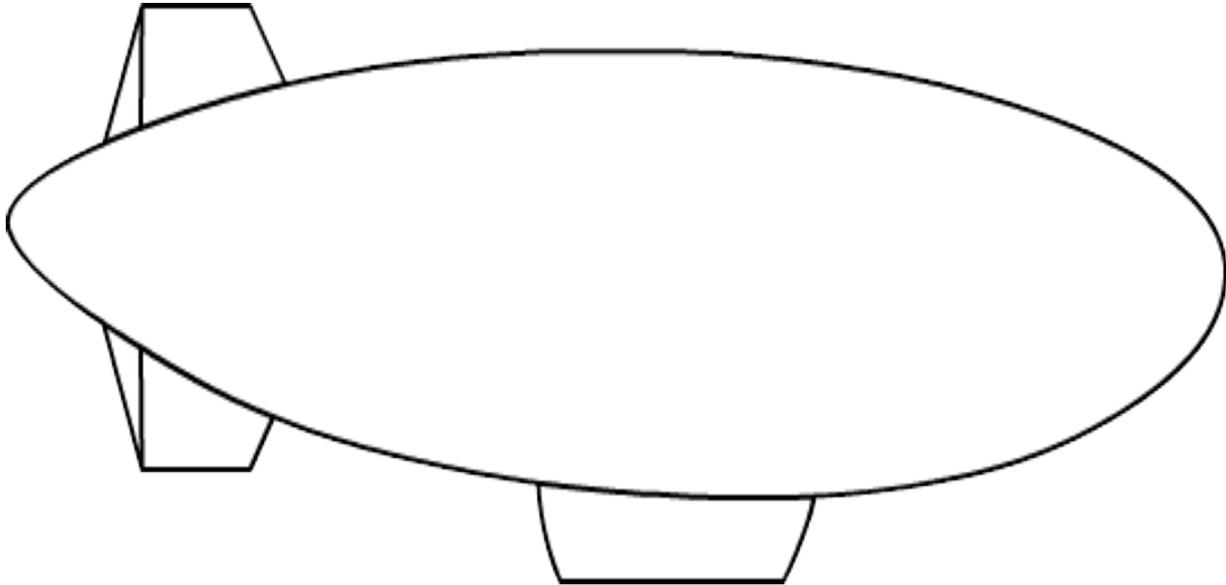
Here are some pictures of airships and events to do with airships that I researched for my story. Can you work out which tag goes with which picture?

- A plaque at 61 Farringdon Rd London commemorating a WW1 Zeppelin raid
- Graf Zeppelin profile drawing, showing rings, gas cells, and major elements
- The *Hindenburg* begins to fall, with the mooring mast in the foreground.
- Albert Santos Dumont and one of his early airships.
- The Airlander 10 - a hybrid modern airship



Why don't you see what more you can find out more about these airships online or in history books? You could even do your own airship research project...

Design your own zep or airship



Use this rough outline to help you design your own airship. Embellish the drawing by adding your own features. Once you have your design you might use it to try and make a real model of an airship out of balloons or old washing up liquid bottles. Here are some things to consider in your design:

- What can your airship do?
- Does it have any special features?
- What type of engines and propellers does it have?
- Does it have any secondary compartments or hanging elements?
- Does it have sails and a flag like a ship?
- A look our pod on top or underneath?
- Does it have weapons?
- Does it have a design along the side, or on the fins like an airplane?

Name your airship

Here are the names of some of the airships featured in Cogheart. Can you see what they have in common?

- *Dragonfly*
- *Damsel*fly
- *Ladybird*
- *Behemoth*.

They're all flying insects. Except for Behemoth – which means monster – I chose that name to denote the airship's size. But it still contains the word *moth* – which is a type of flying insect.

Now you know how airships are named in my story, can you think of a name for yours?

Describe your airship

Here's the description of Anna's airship Ladybird from the story:

“A bulging patchwork balloon, tethered to the ground by an iron anchor, bobbed jauntily in the breeze. Rigged to the hull of its weathered wooden gondola were scraps of rusted wreckage – pots, pans, buckets, boxes, baskets and bundles of wood – that clanked and clattered together in a syncopated rhythm, like a motley wind chime. One word was stencilled on the airship's prow in white paint: *Ladybird*.”

You can see it has lots of specific descriptive words for the objects Anna has collected and it lists other items that have been attached to the airship over time.

Write a description of your airship, paying particular attention to the individual features that make it unique.

.....

.....

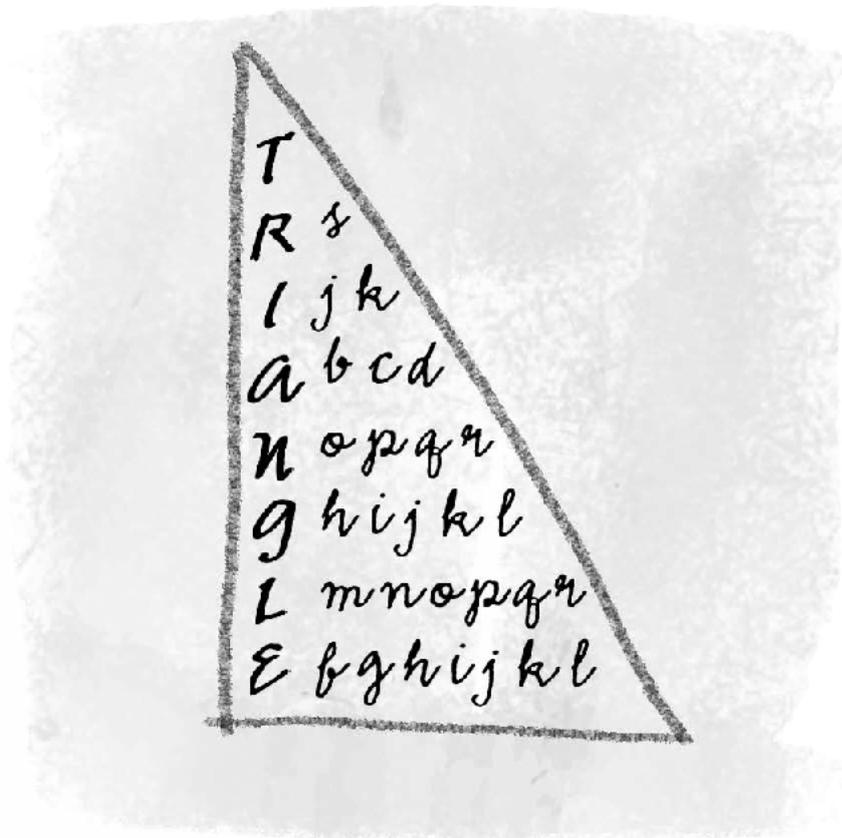
.....

.....

.....

Learn a Secret Code from Moonlocket

Robert leaned closer, peering at the page as Lily read the instructions. “You draw a right-angled triangle and place your word down the straight side, see? Then add letters to fill the space of the triangle after it; **with each line you add one more letter.**” She wrote a word down the page to demonstrate:



“When you’ve finished, you read the code off the angled side, so *triangle* becomes *tskdrtrl* – understand?”

This is the secret code Robert and Lily discover in *Moonlocket*, that helps them solve the mystery in *Moonlocket*. See if you can write your own word using this secret code. It’s actually quite a complicated secret code to get the hang of because it changes depending on the letter order. But there are lots of other secret codes you can try. Search online for simple secret codes, and cyphers, and you too can write secret messages to your friends.

Write a story with a McGuffin in

What is a McGuffin you ask? Well I shall tell you...

A McGuffin is a nonsense term invented by the filmmaker Alfred Hitchcock as a name for the '*special object*' that all the characters in an adventure story are after and that they must get hold of on pain of death. You can hear him talking about McGuffins in a brilliant animation [here...](#)

All kinds of mystery, thriller and adventures stories use McGuffins to kick start their plots – for example,

- In Lord of the Rings the McGuffin is the ONE RING that Frodo must destroy before Sauron can get it back.
- In Indiana Jones the McGuffin is the valuable object that he must get hold of before the Nazis, ie. the HOLY GRAIL or the LOST ARK.
- In Harry Potter there are lots of different McGuffins - one or more in each book - the PHILOSOPHER'S STONE, the MIRROR OF ERISDE, the GOBLET OF FIRE, the HORCRUXES, the DEATHLY HALLOWS, and many others.

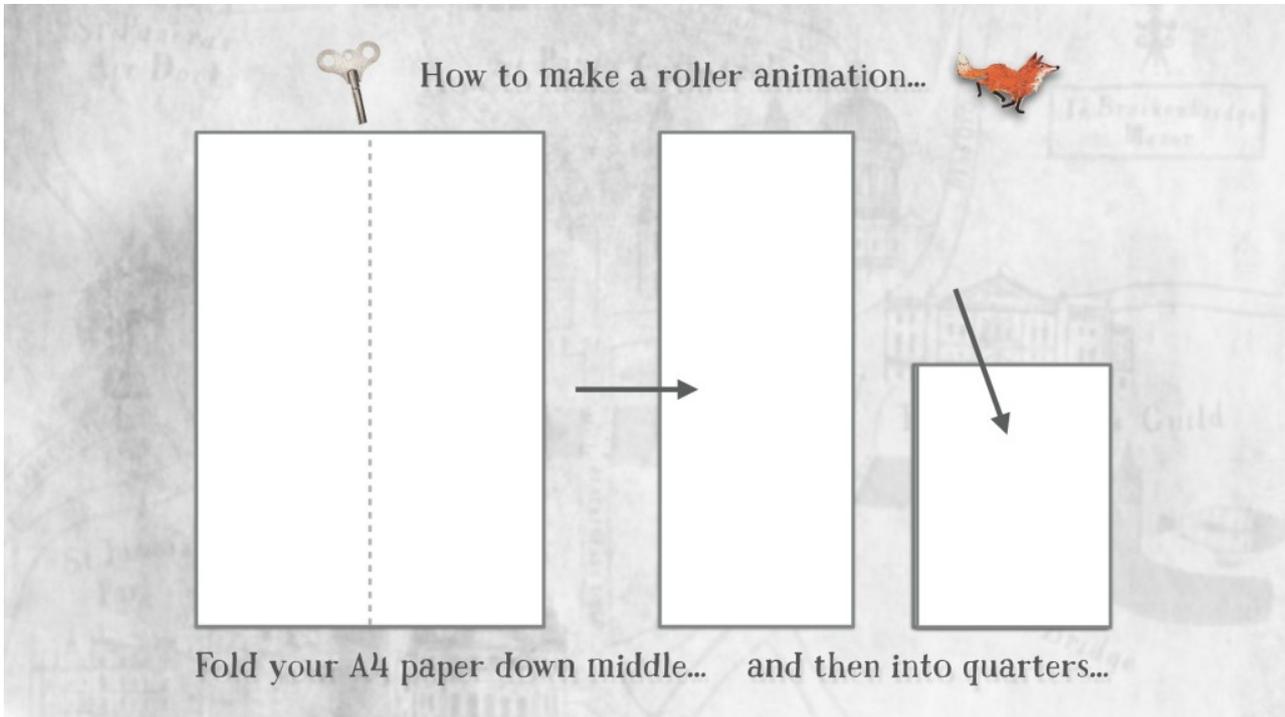
Can you guess what the McGuffin is in Cogheart, or Moonlocket? In both books - as is often the case with Indiana Jones and Harry Potter - the clue is in the title!

Write a story where the plot turns on a McGuffin that the good guys must stop the bad guys getting. To get you started here are some possible McGuffins to consider, though feel free to make up your own...

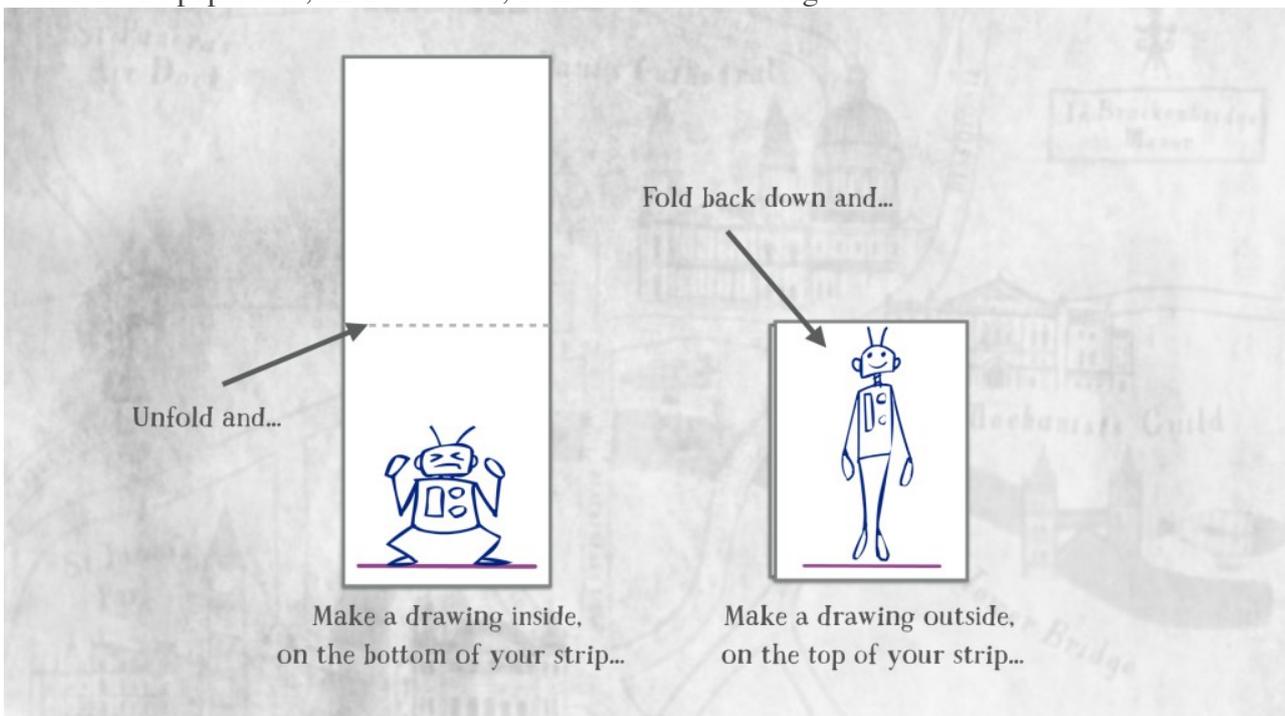
- An old key to an unknown lock.
- A pocket watch with special powers.
- A music box that plays a mysterious tune
- A diary, notebook or bundle of letters filled with secrets.
- A mysterious skull.
- A roll of undeveloped camera film.
- A book of magic.
- A scrap of paper with a message written in code.

Make a flip-book animation

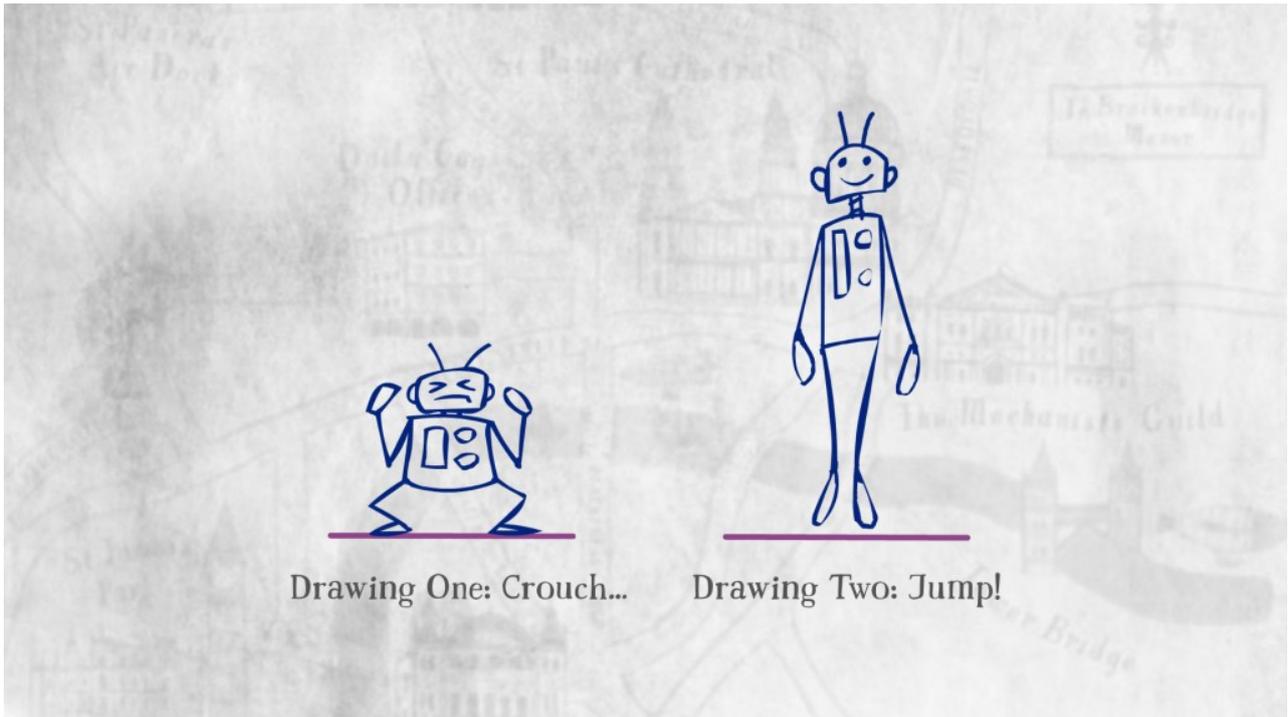
- You will need an A4 piece of paper and a long pencil.
- Fold your paper down the middle vertically, to make one long strip.
- Then fold it down the middle horizontally, to make a smaller square.



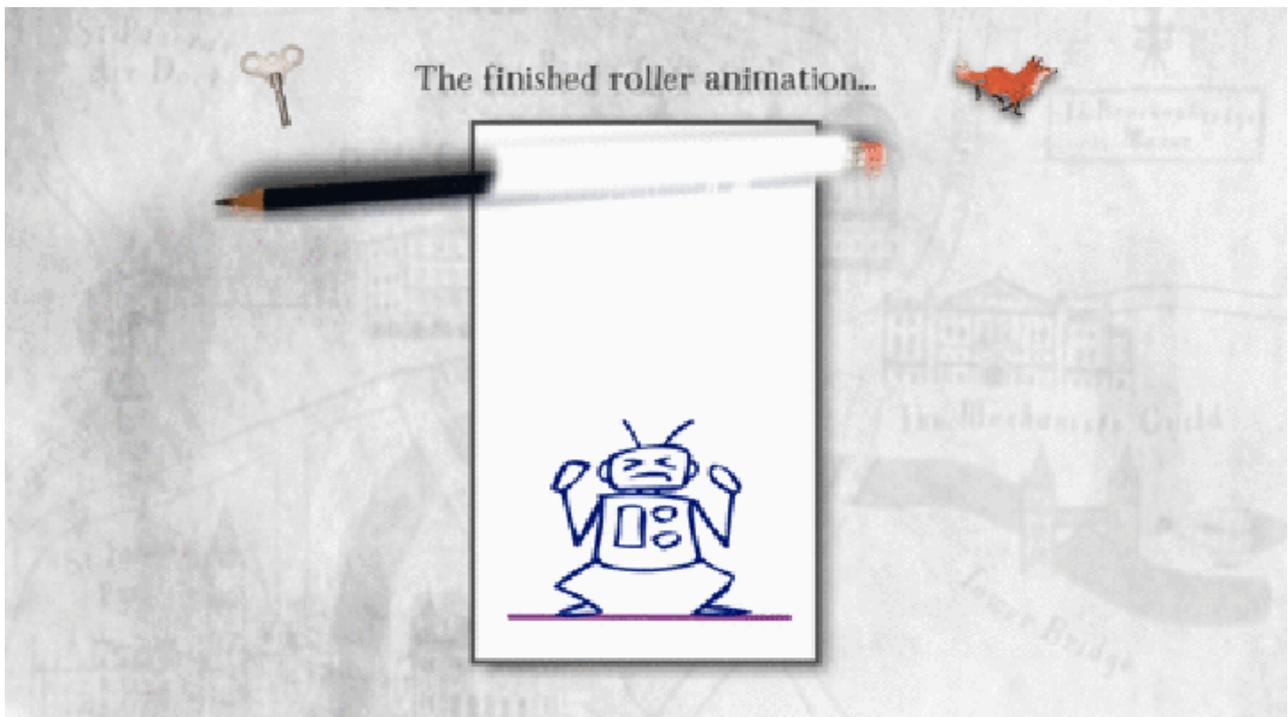
- Unfold the paper and on the inside bottom segment make a drawing.
- Refold the paper and, on the outside, make a second drawing.



- The drawings should show two different poses – like a crouch and a jump...



- Roll the top drawing up around your pencil, and then flip between the two...



Make a zoetrope - a victorian animation toy



What is a zoetrope?

A **zoetrope** is a Victorian animation toy that produce the illusion of motion by displaying a sequence of drawings that are each slightly different. When you spin the zoetrope they move, just like a film clip!

Okay, are you ready to make one?

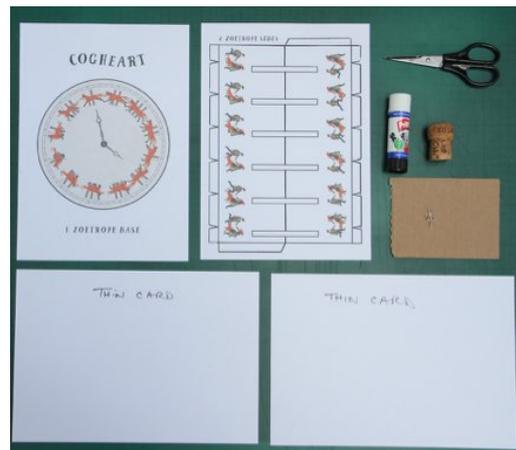
You are! Good!
Then let's get a bit Blue Peter...

First of all you will need to download the two pdf files and print them out:

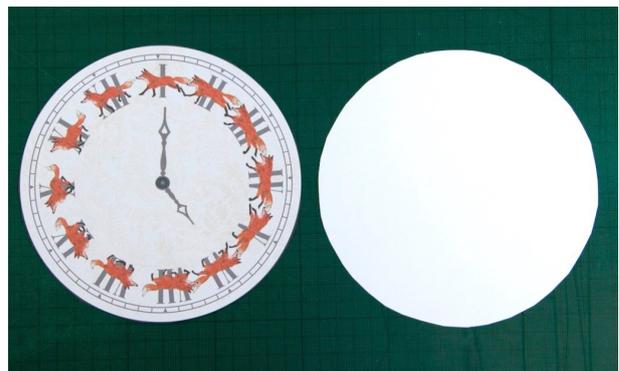
- [Zoetrope base](#)
- [Zoetrope sides](#)

1. Things you will also need:

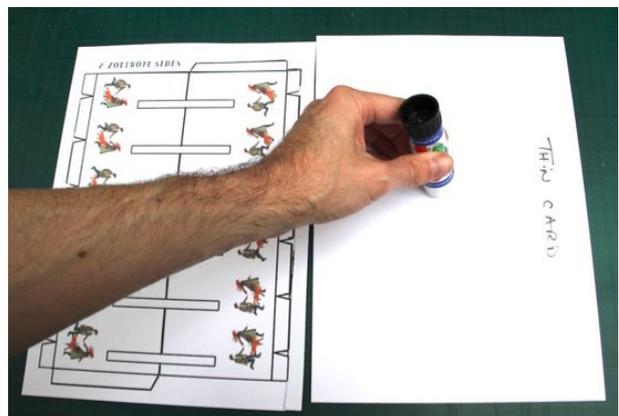
- 2 pieces of thin card
- A small piece of cardboard
- Some scissors
- A pritt-stick
- A push-pin
- A cork



2. Cut out the print out of the clock face and cut one of the pieces of thin cards into a circle the same size...



3. Glue the back of the other piece of thin card... And stick the printout of the zoetrope sides to it...

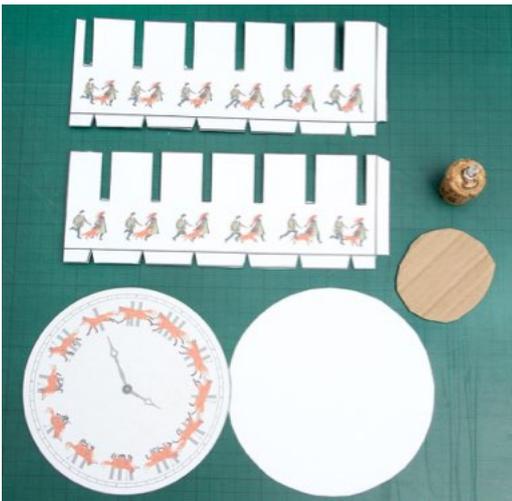


4. Then cut out the two zoetrope sides with your scissors...

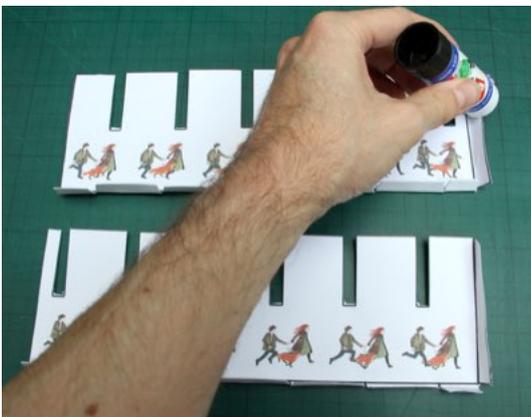


5. Finally cut a small circle from your piece of Cardboard.

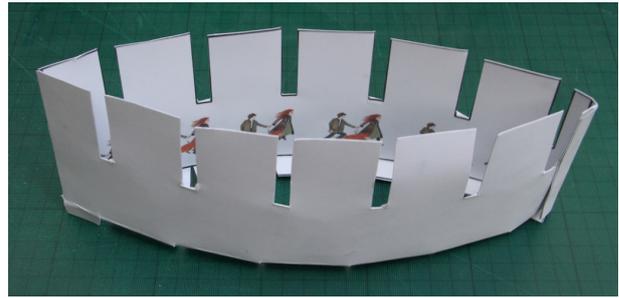
Now you've done all your cutting out, these are the pieces you should have...



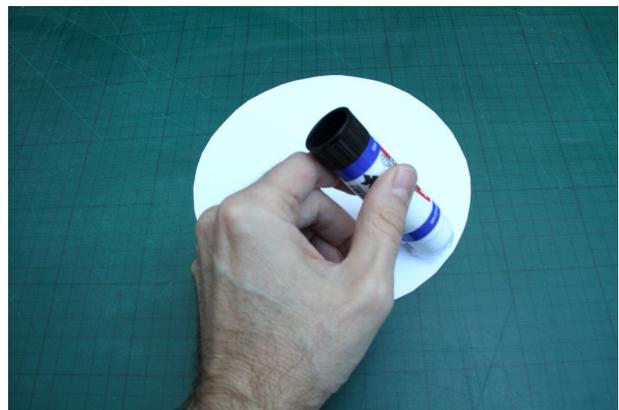
6. Fold up the flaps on the side pieces, and glue along the two end flaps...



7. Stick the two pieces together at one end, and then the other, so the form a shape like this...



8. Apply glue to the edges of the blank card circle...



9. Then glue the sides onto the top using the flaps, and sandwich the clock face on top...



10. When the glue has dried this is what it looks like...



11. Glue the circle of card to the bottom of the zoetrope, to make it extra strong...



12. Put the cork in the centre, underneath the zoetrope...

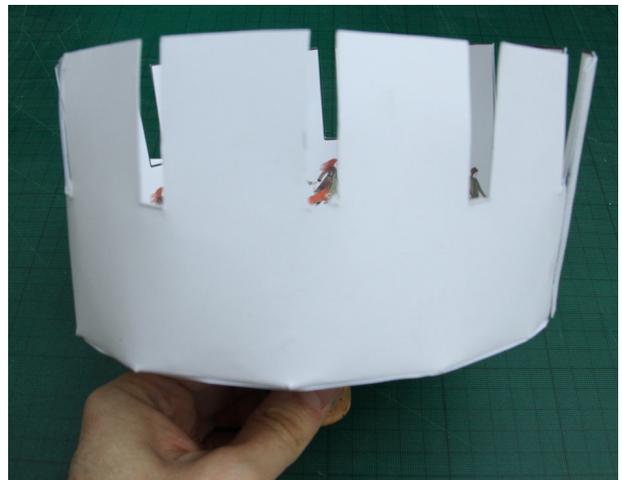


13. Turn it over and push the pin through the centre of the top into to cork underneath...

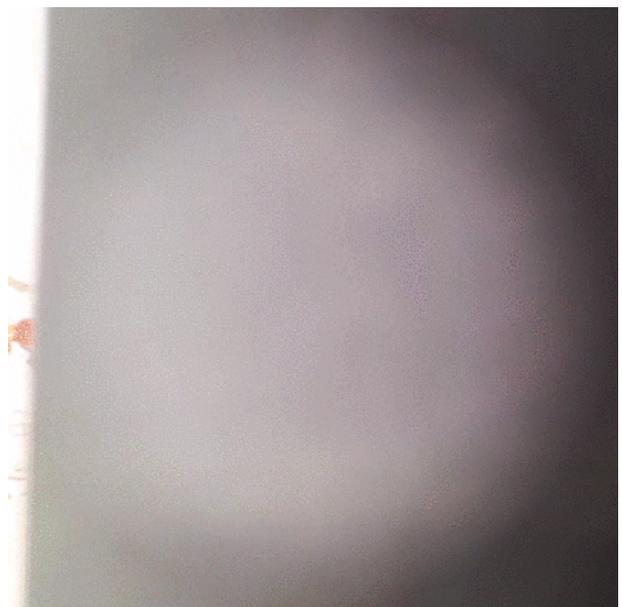


(Don't push it in too tight, because you want it to be able to spin.)

Now hold the zoetrope in one hand and spin it with the other...



Look through the slits as it spins and the animation should move...



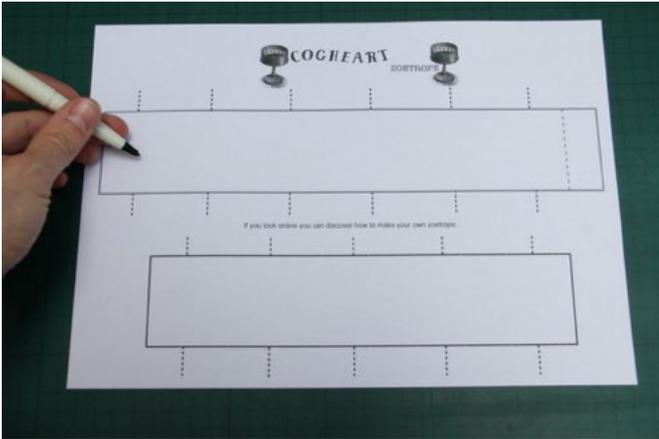
Make a zoetrope strip

There's also a blank sheet for drawing your own zoetrope strips here:

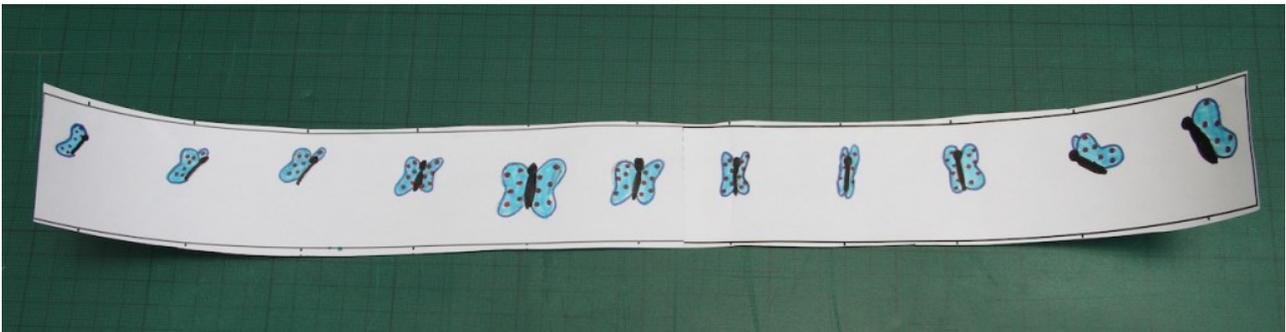
- [Blank zoetrope strip](#)

Download and print it out...

Then draw a frame along the axis of each line...



Cut out the two strips and stick them together into one long strip...



Put the strip inside the zoetrope, and spin it...





Post-reading

Cogheart Discussion Questions

* THESE QUESTIONS CONTAIN PLOT SPOILERS...

1. Describe this book in five words to a friend and explain your choices.
2. Lily's pa, John, invents incredible mechanical beings and mechanimals. Have you ever wished you could invent something, or had an idea for an invention? What was it?
3. We meet lots of different characters in the book – including mechanical characters, such as Mr Wingnut and Mrs Rust. Thaddeus explains that: “one thing I do know is this...feelings and intuition, love and compassion, those are the things make a soul, not blood and bones or machine parts.” Thinking about the characters in the book, discuss what you think this quotation means with a friend. Do you think these mechanicals have feelings?
4. Peter Bunzl uses lots of technical terms, such as the word “zeppelin”, which is a type of airship. Did you find any unfamiliar words in this novel? Take a look at the “dictionary of curious words” at the back of the book, and write down any others that you weren't sure of before looking them up.
5. Even though Malkin, the mechanical fox, is grumpy and sarcastic, he is still a brilliant friend. If you could have any mechanical animal, what would it be and why?

6. Robert's pa, Thaddeus, tells his son: "No one conquers fear easily, Robert. It takes a brave heart to win great battles." Can you pick out two events in the book where a character has to overcome a fear or worry? Think about a time that you conquered fear – what happened? How did you tackle your fear?
7. We discover at the end that Professor Silverfish is an enemy, rather than a friend. Did this come as a shock to you? Can you find any passages or hints in the text that Professor Silverfish might not be as trustworthy as Lily thinks he is?
8. Cogheart is written in the third person narrative. Discuss how the story might have been different if it had been told in the first person – from Lily's or Robert's, or even Malkin's point of view. What do you think we might have learnt or seen?
9. Mrs Rust loves using exciting exclamations with a mechanical feel, such as "Cog-wheels and coat hangers!" and "Stopwatches and spinning tops!" Can you think of any of your own?
10. Think about the title, "Cogheart". What did you think it meant before you started reading the book? Can you suggest any alternatives? Exercise: Draw or explain the cover for your alternative title.
11. Exercise: Write an article for The Daily Cog. Think about the story of how Lily comes to have the cogheart. Could you come up with a headline and an article that tells this incredible story?