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BATTLE OF THE BEETLES

M. G. Leonard

CHAPTER-BY-CHAPTER RESOURCES

CREATED BY: Scott Evans • thereaderteacher.com

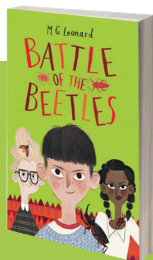


chickenhousebooks.com

Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
Front cover (Illustrated by Elisabet Portabella)	<ul style="list-style-type: none"> Ask children to look at the front cover: Building on the last book, what do you think this one will be about? How does the cover look similar or different from the last two? What things can you see on the front cover? Why do you think the book has the title <i>Battle of the Beetles</i>? What kind of story will it be? What genre do you think it belongs to? Who might enjoy it? Based on the cover, who might you recommend it to? Why? Now read the blurb – were any of your predictions correct? 	Write what children can observe (I can see...); what they can infer (I think... because...); and what they want to question about the cover (I wonder if/what...? etc.).	ART • Draw alternative covers for the book
Message from Chicken House	<ul style="list-style-type: none"> Upon hearing this message from the book's publisher, what does this add to your predictions about the cover and the story? Does what Barry Cunningham said make you think/feel the same? What literary devices have been used by Barry to make the reader think about upcoming events in the book? (Rhetorical questions) Why do you think the publisher uniquely chooses to put these messages in the front of their books? 	After reading the story, write your own messages of reflection about the book to other readers in the school to recommend it to them.	DRAMA • Record your messages and attach them to books in the classroom or school library using QR codes for other children to scan to see video recommendations.
Quote from Charles Darwin & David Attenborough	<ul style="list-style-type: none"> Who is David Attenborough? Who is Charles Darwin? Why is David Attenborough called a 'Sir'? Why do you think the author has chosen these quotes to start the book? What do you think the quotes mean? 	Find other quotes by Sir David Attenborough. Discuss their significance. Write own quotes to describe the book, opinions about science/life today.	HISTORY • Research the life of Sir David Attenborough. Watch clips from his documentaries. Write a biography about him, why he is a significant person and his achievements.



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
			DRAMA • Take on the role of Sir David Attenborough and create their own films about living things and their habitats.
1	<ul style="list-style-type: none"> From what you know about events in history, what is a 'plague'? Why do you think the author has chosen to start the story with 'I've got the Sunday papers'? What were Darkus and Virginia wearing? Can you define the word 'tyrannical' and explain why it is effective to describe Lucretia Cutter? Do you think Lucretia Cutter is a genius or a monster? Give evidence to support your thinking. What's the effect of Robby saying 'his son's going to get swatted'? What do the police need to gain entry to a property? 	<p>Write a newspaper report using the headline BEETLE PLAGUE! FOOD RATIONED! to start.</p> <p>Write an alternative newspaper report attributing Lucretia Cutter's 'genius' to her rather than her team of male scientists.</p>	MISC • Virginia says, 'People always think the best scientists are men.' Discuss gender stereotypes with your class. Read books such as <i>Women in Science: 50 Fearless Pioneers Who Changed the World</i> by Rachel Ignotofsky to learn more. Darkus says, 'People believe what they read in the papers.' Discuss the concept of fake news with your class.
2	<ul style="list-style-type: none"> Why does Bartholomew Cuttle like having the bag on his head? Give examples of how Barty works out where the helicopter is flying. Find and copy a phrase on page 15 that shows that Lucretia Cutter still likes Barty Cuttle. Why does Barty keep his face blank? 	Write an internal monologue, as Barty, sending his son a silent prayer of love.	GEOGRAPHY • Locate Albuquerque on a world map. Locate Mexico City on a world map. Which countries are they situated in? Which continent are they situated in?



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	<ul style="list-style-type: none"> Why does Lucretia Cutter choose to fly by helicopter and not by aeroplane? What does Lucretia Cutter mean when she says 'you will soon discover I am making all your wildest dreams come true'? (pg. 15) 		MATHS • Calculate the distance in miles between these places and their destination, the Amazon rainforest. Convert miles to kilometres.
3	<ul style="list-style-type: none"> Look at the title of this chapter. Can you work out what it means? Does it have links to what you have read before? What is somebody's 'Achilles heel'? Define a beetle's 'spiracles'. How is a beetle's blood similar to that of humans? How is it different? Find a word on page 18 that means 'to defeat thoroughly'. Why is it in italics? Why did Darkus shudder at the memory of Lucretia Cutter? Do you think if it came down to it, Darkus would be able to kill Lucretia Cutter? Why? Why not? Why does Lucretia Cutter use yellow ladybirds as her spies. Give at least two reasons to explain your thinking. What does the acronym ICE stand for? 	<p>There is a double meaning to the question that Virginia asks: 'Do beetles have hearts?' Write a paragraph discussing whether animals can feel emotions like humans do.</p>	SCIENCE • Learn more about beetle anatomy, particularly that of the Titan beetle using <i>The Beetle's Collector's Handbook</i> (pg. 31-32) to support your research. Measure the world's biggest beetle by size, find out where it lives, what it eats and whether it is endangered. READING • Locate Ecuador on a world map. Which continent is this country situated in? MATHS • Calculate the distance in miles between here and the UK.



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
			SCIENCE • Discover Sumaco Napo-Galeras National Park. Learn more about the importance of national parks and the part they play in conservation. Write a travel brochure.
4	<ul style="list-style-type: none"> Who is Henrik Lenka? Can you recall this character's name from a previous book? 'He hasn't changed then...' (pg. 28) What does this suggest about Henrik's character? What could he have done before? What job does Henrik Lenka now do for Lucretia Cutter? What is foliage? What does Lucretia Cutter mean when she says that Gerard must stay away from Novak because he is 'sentimental'? (pg. 29) Find phrases within the chapter that show that Barty and Henrik do not get along with each other. 	Write a continuation of the conversation between Bartholomew Cuttle and Henrik Lenka after Barty said, 'It's been a long time.'	ART • Draw what you think the Biome looks like, according to the way M. G. Leonard describes it in this chapter. Draw what you think Henrik Lenka looks like, according to the way M. G. Leonard describes him in this chapter. Label your sketch.



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- Read to the end of page 33. Why do you think the Biome is a hexagonal shape?
- List all the types of animals that Barty can see in the Arcadia dome.
- Define 'eviscerating' (pg. 34).
- What does the illustration add to this chapter? What is the significance of Barty being lower down than Lucretia?
- What does 'on the contrary' mean?
- Why do you think Bartholomew immediately takes a liking to Spencer?
- List all the adjectives used to describe the laboratory and the Biome.
- How many beetles did Lucretia Cutter send to Australia as a gift?
- Why does Barty think that the President of America will not bow down to what Lucretia Cutter wants to happen?

Write a diary entry, as Bartholomew Cuttle, describing all the sights he has seen in the Arcadia dome.

GEOGRAPHY • Find out more about the indigenous tribes of the rainforest, where they live and their history.

MATHS • Investigate the power and pattern of the hexagon in construction. Look at why the honey bee uses it in the building of honeycombs.

ART • Create hexagonal tessellation patterns and link to the art of Escher.

SCIENCE • Research sources of renewable energy, such as tidal & solar power. Create a presentation about the advantages/disadvantages of each.

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- What does it mean to snore 'raucously'? Can you act this out?
- How much money do they think they are owed by Lucretia Cutter?
- Who might the 'half-man, half-skeleton, dressed in a white lab coat' have been?
- What was Pickering terrified by, as he kept watch whilst

Write a survival guide to help Humphrey and Pickering survive in the rainforest.

SCIENCE • Learn more about the animals that are native to the rainforest such as howler monkeys and jaguars. Discover



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	<p>Humphrey slept?</p> <ul style="list-style-type: none"> Where did they return after not being able to sleep in the rainforest? What does 'foraging for food' mean? Why do they think they are being watched? 		<p>which layer of the rainforest they live in, what they eat and their conservation status.</p> <p>MATHS • Create rainforest animal Top Trumps with categories such as 'size', 'age', 'fear factor' etc.</p>
7	<ul style="list-style-type: none"> What is Bertolt's nickname? How many fireflies was Bertolt carrying? Find the phrase on page 54 that shows that Barbara Wallace is very proud of her daughter, Virginia. The security officer starts to bark at Uncle Max. What does this tell you? How did Uncle Max help to get the beetles through security? Give at least two examples. What does 'chirruping' sound like? What makes this chapter funny? What do you think the author's opinion is of governments and organisations? 	<p>Imagine you are the security guard. Write a short recount or diary entry of the events of this chapter from their perspective, including when Uncle Max tried to get through security.</p>	<p>P4C • Is it right for leaders and governments to bomb someone to stop them from doing something bad?</p>



Chapter

Comprehension Questions

Writing Opportunities

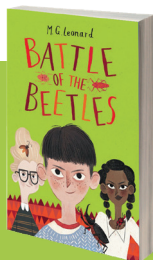
Cross Curricular Opportunities

8

- Where is the International Congress of Entomology taking place?
- What is Darkus thinking and feeling when he looks out at the auditorium?
- Why did what they were trying to do now feel impossible to Darkus?
- What does 'preposterous' mean in relation to Lucretia Cutter's claims?
- Why does the room break out in heated chatter after hearing that Dr Lucy Johnstone is the real name of Lucretia Cutter?
- 'It would be ignorant to dismiss wisdom because it comes from a young mind.' (pg. 66). What does this mean? What do you think the author is trying to teach the reader here?
- Why does the military man try to heckle the children on stage?
- Which word does the author repeatedly use on page 68 when describing how Darkus is feeling? Is this effective? Why?

Pretend you are a reporter at the conference. Write a newspaper report about the speech you heard from Professor Appleyard and the performance you have just seen from Darkus, Bertolt and Virginia.

SCIENCE • 'I'm afraid entomology is an often overlooked science' (pg. 62). Discuss with your class, draw posters and create presentations on how to raise the profile of entomology in science. Collaborate with local amateurs, groups, societies and professionals and invite them in to school to work together. Understand more about genes and what genetically modified crops are in relation to the genetically modified beetles Lucretia Cutter is creating. Explore the constellations of the night sky, including the Plough, the Great Bear and Orion.



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Writing Opportunities

Cross Curricular Opportunities

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- Find phrases to show how Darkus feels when he hears Dr Ishikawa was in the audience.
- What does it mean to 'treat someone like a Jedi'?
- What are 'pheromones'?
- Which word on page 74 suggests that Bertolt is feeling downhearted after he gives an idea?
- Virginia gives Darkus an *I told you so* look. Can you explain and show what this looks like?
- Predict how the thingamabob works.
- 'You are the Beetle Boy. Only you know what that means.' What do you think Dr Ishikawa is trying to tell him?

Write a set of instructions to make the thingamabob work.

SCIENCE • Dr Ishikawa gives some great advice to Darkus about things that scientists do including, 'Think. Observe. Be curious. Ask questions.' Can you list more examples of what a good scientist does?

Learn more about predators within the rainforest. Which animals are the predators of beetles? Find out more about different predators, prey and food chains within the Amazon rainforest.

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- Why do you think the author has waited until now - ten chapters in - to focus on Novak?
- Why does Novak wish she could turn back time?
- Throughout the chapter, Novak talks about her 'beetle senses'. Find two examples of these and how they are different to human senses.

Write a diary entry from Novak after the events of this chapter.

SCIENCE • Find out more about the respiratory system of a human, involving the heart and lungs. Compare it to a beetle's.



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
	<ul style="list-style-type: none"> Novak does not like her beetle body. Do you agree? How does the author create a sense of hope and optimism in this chapter? Refer to examples from the text. What do you think might happen next? 		
11	<ul style="list-style-type: none"> Does this chapter's title remind you of a chapter with the same name in a previous book? Why has the author chosen to repeat this? Novak said, 'I don't have a mother.' (pg. 86). Do you think she is right to say this with the way Lucretia Cutter treats her? What type of beetle is Scud? Why did Spencer pass out after they put a funny-smelling cloth over his mouth? What do you learn about Spencer in this chapter? What role do you think he will play in the story? Look at page 91. Find a phrase that shows Spencer is pleased by Novak's news about the beetles. What does 'nil by mouth' mean? How is the relationship between Spencer and Novak developing within this chapter? Use examples from the text to support your opinion. 	Rewrite the scene where Novak and Spencer are talking, but do it from the perspective of Spencer.	SCIENCE • Research and write an explanation on the pupation stage of the beetle life cycle using sub-headings, technical vocabulary and a glossary to explain. Try to include diagrams with labels and pictures with captions to make it as factual as you can.



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Comprehension Questions

Writing Opportunities

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- What is an 'astronomical clock'?
- What does 'reverberated' mean?
- Even though Darkus is resilient, he doubts himself. Can you find evidence in this chapter that supports this statement?
- Where do they have to fly to first before going to Ecuador? Why?
- Why does the author choose to describe fear as 'gnawing at his insides' on page 95?
- Does Darkus remind you of any characters in other books you've read?
- Who looks after Darkus at the end of this chapter?

Write the events of this chapter from the perspective of Bertolt.

HISTORY • Learn more about the history and landmarks of Prague. Discover details about the Prague Astronomer Clock, Old Town Hall and Charles Bridge.

GEOGRAPHY • Find out about the river flowing underneath it. Plot the flight using a world map first flying from Lisbon, on to Caracas and then to Quinto.
MATHS • How many time zones do you cross? Work out time differences between the places.

13

- Where is Darkus keeping Baxter safe?
- How are they going to go deeper into the jungle after travelling by car?
- Bertolt worries that there are no seatbelts in the jeep. What does this suggest about his character?
- How does Baxter show he is listening to what Darkus is saying?
- Look at page 102. Find a simile that describes Darkus'

Write a description of the rainforest using evidence from the chapter. Try to be as detailed as you can. What image does it create in your mind?

HISTORY • Find out about the Yumbo people who lived in Quinto before the Incas. Learn more about the Incan Empire and its rise and fall; its people; its ancient cities and its links to the Andes mountain range.



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Comprehension Questions

Writing Opportunities

Cross Curricular Opportunities

14

thoughts. What image is the author trying to create?

- What is a 'vibrato'?
- 'But humans can be very stupid.' (pg. 108). What might Motty be referring to here?

GEOGRAPHY • Investigate why at the Equator there is a limited range of seasons linked to the tilt of the Earth. Compare this to the United Kingdom where we typically are used to having four. Discuss different climatic zones such as temperate, tropical, polar and boreal.

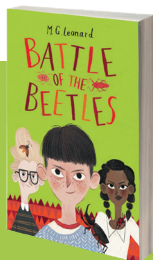
- The animals are hurling things at Humphrey and taunting him. How do you think the author wants us to feel towards him?
- Find two adjectives on page 111 to describe the jungle. Use a dictionary to define the words if you wish.
- Why do they still care a lot about their appearance even though they've been in the jungle for over two weeks without a wash?
- After Humphrey's teeth get knocked out, what does he start speaking like?
- What were their bodies covered in where they'd been bitten?
- Why might Pickering think that he saw the face of a blonde woman? Who might it have been?

Write the backstory of Pickering with his funny bicycle with the trailer and him selling all the rubbish he picked off the streets.

GEOGRAPHY • Research river life in the Amazon rainforest. Design and create your own river model depicting a river scene in the rainforest, out of paper, clay or sand. Complete it with models of animals such as caimans. Can you make different courses; deltas, banks and tributaries? Can you show the source, oxbow lakes and meanders?



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
15	<ul style="list-style-type: none"> Why would Pickering smile to himself knowing Humphrey would feel panic after squeezing himself under? How are Humphrey and Pickering similar? How are they different? Give at least one example of each. Read to the end of page 121. Predict what is in the pool with them. The author describes Humphrey exploding into an 'incandescent rage'. What does she mean by this? Can you show a partner? How does the author create an atmosphere of mystery in this chapter? Is she successful? Read to the end of the chapter. What do you think will happen next? 	<p>Read to the end of page 119. Summarise Pickering's thoughts as he looks down at the drop into darkness by writing a Post-It note of no more than 30 words.</p> <p>Humphrey and Pickering didn't know that beetles could swim. Write a list of unusual facts about beetles to surprise your friends, parents... and even your teachers. Try to include at least 10.</p>	<p>MUSIC • Work in a group to use percussion instruments, sounds and body percussion to compose a piece of music to soundtrack this chapter. Think about musical terms such as tempo, dynamics and pitch, especially when Humphrey and Pickering are unsure of which animals are in the pool with them.</p>
16	<ul style="list-style-type: none"> Why did they refrain from telling their guide their final destination? How does the author use descriptive language on page 127 to create an atmosphere? Give examples. Why do they call the Amazon 'the most diverse place on earth' (pg. 128)? Who do you think the locals are referring to when they are whispering about a 'witch' who is living deep in the forest? Why did their enthusiasm for recognising sights within the jungle begin to get less and less? 	<p>Write a set of instructions for how to set up camp, involving building a shelter and putting up a hammock.</p>	<p>MISC • Learn how to give simple first aid to your classmates such as the recovery position. Try out some shelter building in your school grounds. Can you put up a hammock like Darkus?</p>



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
17	<ul style="list-style-type: none"> What smell started to awaken the other campmates? What is a 'machete' used for? Read the chapter title and to the end of page 135. Predict what an 'escarabajo gigante' is. Why do you think the beetle's horn was sheared off? Why did Virginia's voice start to crack? Is Uncle Max a good expedition leader? Find evidence in the text to support your reasons. Read to the end of page 139. Predict who this reappearing figure with blonde hair might be. Why did they call it a 'dinobeetle'? 	Write a diary entry about the events in this chapter from the perspective of Emma Lamb.	ART • Draw what you think the dinobeetle looks like, from the information that the author has provided in this chapter. Use the internet or <i>The Beetle Collector's Handbook</i> to research Hercules beetles. Make this version as supersized as you can.
18	<ul style="list-style-type: none"> When will the children set off on their hike to find Darkus' dad? Why does Virginia think that they should keep Bertolt with them when entering the Biome? Why does Bertolt think that he could be the one to be able to open the door? What is a 'Plan B'? Find and copy two phrases on page 147 that suggest Emma Lamb knows a lot about who Humphrey and Pickering are. Describe to a partner the two ways the group plan on getting into the Biome. 	Write two plans, one using the thingamabob to enter the Biome and one using the river. Decide which plan you think is best and explain your thinking.	ART • Emma Lamb describes the Biome like a 'greenhouse'. Build your own school greenhouse and grow your own produce within. Discuss why a greenhouse is more effective when gardening.



Chapter

Comprehension Questions

Writing Opportunities

Cross Curricular Opportunities

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- What is a 'mezzanine' floor?
- List three things that Barty can see on page 149.
- Lucretia Cutter says that Barty has an 'inability to kill'. Do you think this could be foreshadowing something that is yet to come in the story?
- How many humans have survived pupation?
- Lucretia Cutter asks Barty, 'Is everything so black and white to you?'. Explain the meaning of this phrase and why it is so apt whilst playing the piano.
- Do you think that Lucretia Cutter is right in her quest to re-wild the world and put the environment before mankind?
- What do you think the author's opinion is of climate change? Why?

Write a script debating both sides of the argument about climate change in your classroom.

Write a persuasive letter to the Prime Minister discussing the causes of climate change and encouraging them to take action before it's too late.

P4C • Do you believe animals have souls? What about other living things like trees? What about non-living things? Discuss a range of global issues such as extinction, climate change, population growth and plastic in the oceans with your class. Using Diamond 9, list them in order of importance from most worrying to least worrying. Give reasons for your thinking. Teacher to play devil's advocate to test reasoning.

20

- Why was Darkus' backpack packed and ready to go? To go where?
- How does Darkus get a source of light in the rainforest?
- What does it mean when Virginia grins at Darkus maddeningly? Can you do this to a partner?
- Give two examples why Virginia thinks Darkus is getting weirder and weirder.
- Define the phrase 'under siege' (pg. 161).
- How many different species of snake are there in the Amazon?

Ask the children to create a semantic map by noting down as many words or phrases associated with feeling fear or being scared in the jungle as they can think of and then finding common connections between them, e.g. 'blood-curdling squeal' (pg. 166),

SCIENCE • Research the tapir, its appearance, its attributes, its relationship to horses and rhinoceroses, its diet and its conservation status. Make a digital presentation about this unique animal.



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
	<ul style="list-style-type: none"> How does the author create tension within this chapter? Find a simile on page 169 that describes the domed building of the Biome. Why is this particularly effective in the reader's mind? 	'tightly pursed lips' (pg. 163) are all linked to the mouth.	MISC • Darkus and Virginia talk about using a compass. Learn how to use a compass and its directions to navigate around your school grounds.
21	<ul style="list-style-type: none"> Why did Spencer give the tiniest wink to Novak? What is the 'pinnacle' of something? Why is the word 'traitor' repeated throughout this chapter? First by Novak and then said by Bartholomew Cuttle. What is a queen's 'consort'? Can you explain what a 'holometoboly' (pg. 175) might be? What impression does the author want you to have of Henrik Lenka? How do you know? Is Novak right to trust Spencer and Bartholomew in this chapter? Do you think they are going to help her? Give evidence from the text to support your opinion. 	Write a diary entry from Novak recounting the events from this chapter.	DRAMA • Using drama, re-create this scene in the style of Novak's acting. Use as much creative licence as you need.



Chapter

Comprehension Questions

Writing Opportunities

Cross Curricular Opportunities

22

- Why might Henrik Lenka have attacked Dr Vikhrov?
- How did Bartholomew Cuttle use his coat to try to stem the bleeding?
- Read to the end of page 182. Predict whether Dr Vikhrov will die or not.
- Which type of beetle genome did Henrik Lenka use for the pupation?
- Why did Novak not want to see what had happened to Henrik Lenka?
- What does 'tranquilize' mean?

Write the scene again from the perspective of Dr Vikhrov.

ART • From the information provided about Dr Lenka's pupation, draw what you think he looks like, labelling the parts of his new transformed body.

23

- Look at the title of this chapter. What do you think 'The Hatchery' relates to?
- Read pages 188 and 189. Name two jobs that a beetle's antennae do.
- What do it mean to feel 'exhilarated'?
- Why do you think Darkus and Virginia feel different in this part of the Biome?
- How long ago was the Palaeozoic era?
- What percentage of the atmosphere was oxygen in the Palaeozoic era?

Write a story set in the Palaeozoic era of giant insects on land.

HISTORY • Discover more about the Earth's history during the Palaeozoic era such as the supercontinent Pangaea, the meaning of its name (early life) and how the era ended with the greatest extinction event.



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
24	<ul style="list-style-type: none"> Define the following words: translucent, protruding, vicious. Use them in sentences of your own to show your understanding. What does the phrase 'gentle giants' mean? Give at least two examples of Virginia's body language that shows she is not comfortable being in the larvae farm. What does the saying, 'That's a face only a mother could love' (pg. 198) mean? How does it apply to Darkus' situation? Read the last sentence of the chapter. Describe Darkus' reaction to the giant beetles. Why do you think he said he will react in this way? 	In your own words, describe the scene of the giant beetle larvae as if you were seeing it for yourself.	MATHS • Darkus compares one of the giant beasts to the size of a walrus. Find out the size (length and width) of a walrus. Measure it out in the classroom, or the hall to visualise the scale.
25	<ul style="list-style-type: none"> How do we know that Baxter is feeling nervous about the TV monitors in the white room? Where would you rather be: in the Biome helping Darkus like Virginia or tucked up in camp like Bertolt? Explain your reasons to a partner. Why is the scene described as 'macabre' (pg. 200)? Where are male monkey beetles only found? What is a beetle borg? How does this chapter end with a cliffhanger? Predict what will happen next. 	Beetle cyborgs sound a little like drones. Write a story, set in the future, about beetle cyborgs acting as surveillance over the country.	P4C • 'No beetle started out bad.' Does the same logic and thinking apply for humans? Are humans born bad or do they turn bad? Discuss your thinking. Relate to Lucretia Cutter in this book. If you could make a clone of yourself, what would you make it do for you?



Chapter

Comprehension Questions

Writing Opportunities

Cross Curricular Opportunities

26

- Look at the title of this chapter. What is a 'decoy'?
- What does Lucretia Cutter mean when she says 'I might save the news for when it will have the most... impact'? (pg. 206).
- Which literary device does the author employ in the above sentence for effect? Why?
- Who was in the cell with a black compound eye and scaly face that was replaced by an ice-blue eye? (Lenka)
- Within the last two chapters, the author describes the beetle's antennae doing lots of different things like quivering and shivering. Why does she use this body language as a way of showing how the beetles are feeling?
- Predict how Henrik Lenka may influence future events in the book.

Write a diary entry about the events in this chapter from the perspective of Virginia.

MATHS • On page 211, Virginia explains that each cell must be an equilateral triangle. Understand more about this type of triangle such as its number of equal length sides and number of equal angles and other types of triangle including isosceles, scale and right-angled.

27

- What does 'lurid' mean when describing a colour?
- What do you learn about Pickering from this passage when it talks about his fears of Lucretia Cutter being attracted towards Humphrey?
- Do you think Lucretia Cutter will have a delighted expression on her face? When have you ever seen her have this type of expression in any of the three books?
- Define the saying, 'good riddance' (pg. 219).
- Why do you think the author includes paragraphs about

Write an emotional diary entry from the perspective of Pickering about missing Humphrey.

ART • With pencils, pens, paint or other art materials, can you create a 'lurid green colour'? Describe what makes it lurid.



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
	<p>Pickering missing Humphrey? What effect does it have?</p> <ul style="list-style-type: none"> How would you describe the relationship between Humphrey and Pickering? Find words and phrases in the text to support your thinking. 		
28	<ul style="list-style-type: none"> Read to the end of page 224. Summarise how Darkus feels in one word. Explain your choice of word. Which direction does Emma Lamb tell Darkus that he must go in to escape? Who let Bertolt and Uncle Max into the Biome? Do you think Darkus should have stuck with his original plan of going into the Biome solo or was it better that he went into the Biome as a team? Why? Who is in Team Beetle? Look at the illustration on page 229. Who do you think this is a picture of? Why is it included? 	Write a motto for Team Beetle motivating the members of the team to success.	GEOGRAPHY • Using the information in this chapter and previous chapter, draw the map that Emma Lamb would have had of the Biome, explaining the different tunnels.
29	<ul style="list-style-type: none"> What is a 'squadron'? How is linked to the next word in the sentence, 'soldier'? Why does Darkus give Bertolt a hug instead of a dead arm? What does this suggest about their relationship? Explain the phrase 'silent conversation' (pg. 232). 	Bertolt describes Humphrey as roaring 'like an angry bull' (pg. 235) against Henrik Lenka. From what you know about him, write a list of other similes to compare	DRAMA • Take on the role of the beetles and act out how they communicate with each other using their antennae such as wagging them in 'silent conversation'. Create your own antennae or use a hairband.



Chapter

Comprehension Questions

Writing Opportunities

Cross Curricular Opportunities

30

- How do Bertolt and Max show their levels of genius in different ways?
- How do you think Team Beetle will destroy Lucretia Cutter's cloned pupae?
- Read to the end of page 234. Predict what happened to Mawling.
- What is the 'infirmary'?

him to that of other things. Write the next part of the story, describing Darkus' plan of what to do next.

- How much is Lucretia Cutter's helicopter worth?
- What does it mean to 'commandeer' something?
- What amount is the normal percentage level of oxygen in the air?
- Find and copy a word on page 241 that is most similar in meaning to 'done in a shy or timid way'.
- Darkus says 'You shouldn't ever hide who you are' (pg. 242). What is Darkus trying to teach the reader here?
- What does the saying, 'time is of the essence' mean?

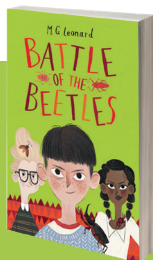
Imagine you are Emma Lamb, the reporter. Write notes of what you can see to help when it comes to writing up the crazy story for the newspaper. Learn more about how newspaper reports use shorthand and try it out.

GEOGRAPHY • Research the amounts of different types of gases in the atmosphere including oxygen. Which is the most abundant? Why?

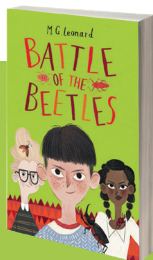
HISTORY • Uncle Max describes Dr Lenka using a mask that looks like a 'First World War horses' gas mask.' Learn about the need for why people used them. See if you can borrow one from a historical organisation to experience in the classroom.



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
31	<ul style="list-style-type: none"> How did Darkus recognise that this was Spencer Crips? What do you think they do in a 'dissection' lab? What advice had Professor Appleyard given them about killing the beetles? Predict how Darkus might use the harpoon gun in a future chapter. Explain what it means when Darkus says the gun felt 'reassuringly heavy' (pg. 251). What do you notice about the end of Chapter 31 and the beginning of Chapter 32? Why is the event structured like this over two chapters? 	Write a story map with notes and sketches to show the key events during this chapter.	P4C • If you had to, would you use the gun to kill Lucretia Cutter? Give reasons for your opinion.
32	<ul style="list-style-type: none"> Read to the end of page 255. Who do you think is the more powerful character: Lucretia Cutter or Darkus? Why? Read to the end of the chapter. How has your opinion changed? Use evidence from the text to support your thinking. Lucretia Cutter says 'I would not call him "just" a child' about Darkus. What do you think the author is trying to say about children in this chapter? Look at page 254 and 255. Can you use clues from the text to work out what the Anthropocene is? Read to the end of page 255. How does the author make you sympathise with Lucretia Cutter? Do you feel sorry for her? 	<p>Summarise the events of this chapter by writing them from the perspective of Lucretia Cutter.</p> <p>Write an alternative perspective from Ling Ling. How do they differ?</p>	P4C • Lucretia Cutter argues 'Isn't it just as bad to kill an elephant as it is to kill a human?' Do you agree with this statement? Why? Why not?



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
	<p>Is she right about the world?</p> <ul style="list-style-type: none"> What was the name of the Goliath beetle that started the Fabre Project? Why does Lucretia Cutter describe Esme as an 'eco-warrior'? What does this phrase mean today? How does M. G. Leonard show that Ling Ling has a conscience? 		
33	<ul style="list-style-type: none"> How does the author make us feel sorry for Pickering at the start of this chapter? What does 'spasmed' mean? Why does Gerard speak French to Novak? Who delivers the killer blow to Lucretia Cutter? How? How did this change during the chapter? Do you believe Darkus when he tells his dad that 'it's all going to be OK now'? (pg. 273) Why? 	<p>Pickering describes Lucretia Cutter as a 'nasty, filthy, scrabbling, rancorous, loathsome' beast (pg. 269). Write a list of, at most, five adjectives to describe someone or something, progressively getting worse in nature each time.</p>	<p>DRAMA • Use drama to re-enact the events of this chapter.</p>
34	<ul style="list-style-type: none"> What is an 'exodus'? What is the significance of Lucretia Cutter now being 'pinned' to the wall? Why has the author used this verb? 'Soldiers and bombs can't stop insects'. (pg. 275) What does this phrase suggest about the power of Mother Nature? How does Darkus realise that Lucretia Cutter had been planning things for years? 	<p>Imagine you are turning this chapter of the book into a scene for a blockbuster film. Create a storyboard to show the main events and actions. Try thinking about camera angles too.</p>	<p>DRAMA • The climax to this story is particularly exciting. Discuss the following questions from a director's perspective. What special effects might they need to include and why? Which famous actors or actresses</p>



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
	<p>Is she right about the world?</p> <ul style="list-style-type: none"> What was the name of the Goliath beetle that started the Fabre Project? Why does Lucretia Cutter describe Esme as an 'eco-warrior'? What does this phrase mean today? How does M. G. Leonard show that Ling Ling has a conscience? 		<p>will be involved in the film and who would they play?</p> <p>What sort of music will they use for the soundtrack?</p> <p>Make a trailer for the film.</p>
35	<ul style="list-style-type: none"> Who will Novak live with at Towering Heights? What does being an 'heir' mean? Read to 'I can change the house to how I want it to be' (pg. 285). Predict what Novak will change at Towering Heights. Which school is Novak going to attend? Recall Gerard's back-story to a partner. What does Novak want to create to help build an appreciation for the beetles? How has Darkus' dad's emotions changed towards discussing Darkus' mother and her death? 	Write a story about what Humphrey and Pickering do with their quarter of a million pounds each.	<p>ART • Draw what you think the Beetle Zoo will look like, complete with research centre.</p> <p>DRAMA • Choreograph a dance sequence combining ballet positions with ninja moves. Imagine you are Ling Ling. Teach it to a partner who pretends to be Novak. Be as expressive as you can.</p>
36	<ul style="list-style-type: none"> What name is on the shop that Humphrey and Pickering now call home? Where is the shop located? Why had the shop gone out of business? What business does Pickering want the shop to be? What does Humphrey want the shop to be? Do you think the pair will come to an agreement or still be arguing? 	Write a diary entry from the perspective of Pickering and/or Humphrey, explaining the adventures they have been on and how they intend on spending their fortune.	DRAMA • Using props in the classroom, create Humphrey and Pickering's new home in the shop and act out a conversation between them. It could be an argument about whether it will



Chapter	Comprehension Questions	Writing Opportunities	Cross Curricular Opportunities
	<ul style="list-style-type: none"> Why does the author end the chapter by mentioning the empty tea mug? 		sell pies or antiques or it could be a nice or emotional conversation.
37	<ul style="list-style-type: none"> Look at the illustration of the children outside their school. How have each of the characters developed throughout the trilogy, in appearance and personality? Why is the nickname 'Beetle Girl' a very fitting choice for Novak? Did you like the ending? Why? Why not? What do you think might happen next to Darkus, Novak, Bertolt and Virginia? Which character in the story was your favourite? Why? Discuss your ideas with a partner. Do they agree with you? Now that you have read the books, try creating a timeline of the main events. Can you re-tell the story to a partner? In the acknowledgements at the back of the book, the author says that 'Beetles have changed me for the better'. Why do you think this might be? Do you think this book will encourage children to think more about the world around them? Explain your ideas fully. 	<p>The trilogy has concluded. Write an opening paragraph, in your own words, to a fourth book in the series if there would be one.</p> <p>Write an autobiography, re-telling Lucretia Cutter's life. What would the title of it be?</p> <p>Write a review of the three books in the series.</p>	<p>After reading...</p> <p>Create an entomologist's dictionary using words from the book.</p> <p>Consider how the trilogy is similar to other stories.</p> <p>Explore other forms of literature written about beetles and bugs. Ask children to share which themes they feel are most important in the story and why.</p> <p>Find out more about the author, contact her on Twitter @MGLnrd, visit her website and read her poem 'The Billion Bug Road'.</p> <p>Write your own beetle and mini-beast inspired poems.</p> <p>Visit Dr Sarah Beynon's Bug Farm in Pembrokeshire. if you are near.</p>

