Lots of the activities and discussion topics in these teacher’s notes are deliberately left open to encourage pupils to develop independent thinking around the book. This will help pupils build confidence in their ability to problem solve as individuals and also as part of a group.
The Front Cover
What does the image of Ada Lovelace on the book suggest to you?
What do you think she is holding?

The Blurb
What do you think ‘a noble household means’?
What does a computer programmer do?
What do you find interesting or surprising in the blurb?

The Endpapers
Why do you think the illustrator chose to use this design?

Have a guess as to when Ada Lovelace was born, using clues from the illustration. You can check your answer in the Facts and Photos section at the end of the book.

Why do you think the illustrator has composed the picture with Ada and her mother on one page and her father, Lord Byron, on the other?
Ada's father left England when she was very little and never returned. Her mother was away a lot, too. So young Ada spent a lot of time at her grandparents’ house. A cat called Mrs Puff kept her company. Left alone, Ada's imagination took flight. She started to dream of machines with wings that could move in any direction.

When Ada's mother came to visit, she didn't like her imaginary inventions. She wanted her to concentrate on maths and logic – and nothing else!

Algebra

What clues are given in the text and picture as to how Ada felt as a child?

Why do you think her mother was away a lot?

What words could you use to describe Ada’s childhood? You could use a thesaurus to increase your choice of words.

Having time to think is very important. Sometimes people think it can be boring, but what did Ada use her time to do?

What do you think might have triggered these thoughts?

Take some time so that you can think and let your thoughts drift … in what direction does your imagination take you?

What does the author’s use of the word ‘visit’ convey?

How do you think Ada felt when her mother rejected her imaginary inventions?

What does the term ‘logic’ mean?

In pairs, create a conversation between Ada and her mother, where Ada is keen to share her enthusiasms and her mother tries to redirect her to maths and logic.

Do you think it is right or wrong for parents to direct their children’s thinking? Make a list of pros and cons before you have a class discussion.

Useful sentence starters, when discussing:

• I think …
• Perhaps …
• On the one hand… On the other …
• However, …
• I see what you mean, but don’t you think…
• Possibly …
When she was fourteen, Ada became sick. She had to spend a lot of time resting in bed, but she kept studying, inventing and dreaming.

After three long years, Ada got better. She went to London and was introduced to a famous mathematician called Charles Babbage.

Mr Babbage told Ada he was building a big machine that could add together sums – called a calculator.

Luckily, Ada liked numbers and was very good at solving mathematical problems.

What are the frames with coloured beads used for?
Why do you think people use these?
What do you think Mrs Puff thinks of the abacus?

What do you think Ada found difficult at this time? (Look at the illustrations for a clue.)

What do you think you would do to occupy yourself, if you had a long illness?
Do you think you would study, invent and dream? Why / why not?

How old was Ada, when she was better?

Can you think of any mathematicians who are alive and famous today?

What type of people tend to be famous in modern times?
Why do you think this is?
Do you think this is good or bad, or a mix of the two?
What do you think Ada will do next?

What is most surprising in this illustration of the calculator?
Why do you think this is?
The calculator could do sums so quickly, it was like magic. Most people couldn’t understand how it worked. But Ada was fascinated!

She wrote a code made up of numbers, that would tell the calculator what to do. Ada didn’t know it, but she had just invented the language that computers use today.

Why do you think the illustrator chose to show men with question marks?

Why do you think the calculator seemed ‘like magic’?

What is the illustrator conveying in these portraits of Ada?

What indications are there in this illustration that Ada lived a long time ago?

Why do you think Ada was able to create a code?

What is strange about this illustration?

Why do you think the coding system is referred to as a ‘language’?
Little Ada, who loved both numbers and poetry, had become the world's first computer programmer. She showed that when you use science and imagination, your dreams can take flight.

Why do you think it was important that Ada loved both numbers and poetry?

Discuss whether you think arts and sciences help each other in developing ideas.

How many ways can you think of that Ada’s invention of computer language helps us in the modern world? Create a class display where you can add more ideas as they occur to you.

What does the writer mean when she uses the image ‘your dreams can take flight’?

What dreams do you have?
Using the bird cut-out below, write your dreams on it and think of the steps you will have to take in order to achieve your own flight.
Be bold, be brave, dream BIG!
Discover inspirational lives from around the world.