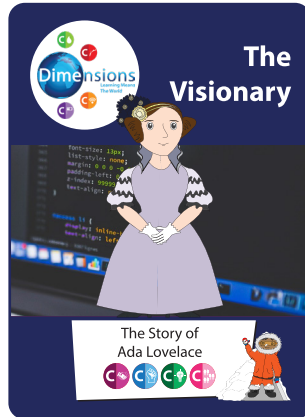
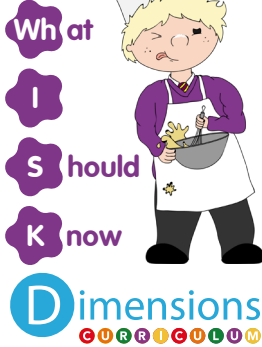


Pathfinders - The Visionary



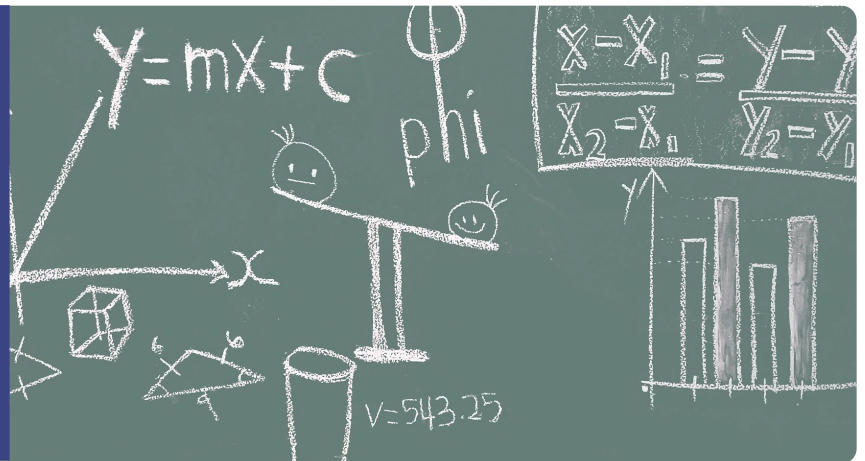
Overview

"The Visionary" is a competency-based thematic unit with a history focus, telling the inspirational story of Ada Lovelace. She is famous for her inventions and developments in technology and became known as the first computer programmer. We will learn, through her life story, all about her achievements and ongoing legacy.

Who?

Who was Ada Lovelace?

- Ada Lovelace was a Victorian lady whose father was a very famous poet (Lord Byron) and mother was a mathematician (Annabella Milbanke). She wanted her daughter, Ada, to be taught maths, logic and science, which at that time was very unusual.



When?

When did Ada Lovelace live?

- Ada was born in 1815. she grew up in the Victorian era when lots of new machines were invented. During this time, women were not expected to have great ideas, but Ada did!

Why?

Why is Ada Lovelace famous?

- Ada is known as the first computer programmer. She showed great courage by continuing her work despite the fact that, as a woman, she was looked down on. Hardly any women worked in technology and mathematics. She was very imaginative and full of new ideas, and these helped to advance the computer science community.

What?

What did Ada Lovelace invent?

- Ada invented a flying machine when she was only 12! She also wrote down how codes could be created for Babbage's Analytical Engine (this was never built but would have been the world's first computer) to handle letters and symbols as well as numbers. She also designed a method for the engine to repeat a series of instructions. This is called looping and computer programs use it today!



Pathfinders - The Visionary

How to...

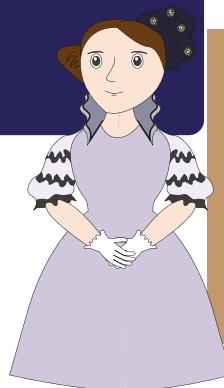
How to create an algorithm

- Algorithms are a set of instructions to complete a task. Computers need precise instructions for each step.
Choose a simple task to create an algorithm for e.g. brushing your teeth, taking a shower, making a sandwich. Make sure each step is clear. Check it by following your algorithm before giving it to one of your friends to follow.



Knowledge and Understanding

- To know and be able to retell the life story of Ada Lovelace
- To know what the main achievements of Ada Lovelace were
- To understand the contribution Ada Lovelace made to computer programming
- To understand the way in which the past impacts on the present
- To understand the importance of courage, commitment and community



Vocabulary

Algorithms: instructions that are carried out by a machine

Calculator: a small electronic device for solving maths problems

Computer programme: a series of instructions that tell a computer to perform an action

Invention: the process of creating or making up something

Mathematician: someone who studies maths as a job

Mechanical engineering: designing and building machines

Technology: the use of science in solving problems and inventing

Victorian era: the time when Victoria was queen

$$f(x) = \frac{4x}{n\pi} \cos\left(\frac{n\pi x}{2}\right)$$
$$f(x) = \frac{4x}{n\pi} \cos\left(\frac{n\pi x}{2}\right) + \frac{8x}{n\pi}$$
$$f(x) = \frac{4x}{n\pi} \cos\left(\frac{n\pi x}{2}\right) + \frac{8x}{n\pi} + \frac{16x}{n\pi}$$