Ada Lovelace Day - School Resource Pack

Introduction

Ada Lovelace Day aims to raise the profile of women in science, technology, engineering and maths (STEM), by encouraging people around the world to talk about the women whose work they admire. This international day of celebration helps people learn about the achievements of women in STEM, inspiring others and creating new role models for young and old alike.

To help celebrate Ada Lovelace Day, Code Club have created a resource pack for schools. This pack contains:

- **An assembly plan** celebrating Ada Lovelace Day.
- **Ada's Poetry Generator** - A project that introduces children to programming concepts by writing a program to generate poetry containing random words and phrases.

Who was Ada Lovelace?

Ada Lovelace is widely held to have been the first computer programmer. Close friends with inventor Charles Babbage, Lovelace was intrigued by his Analytical Engine and in 1842 she translated a description of it by Italian mathematician Luigi Menabrea. Babbage asked her to expand the article, "as she understood [it] so well", and this was when she wrote several early 'computer programs'. Ada Lovelace died of cancer at 36, her potential tragically unfulfilled.

Using this resource pack

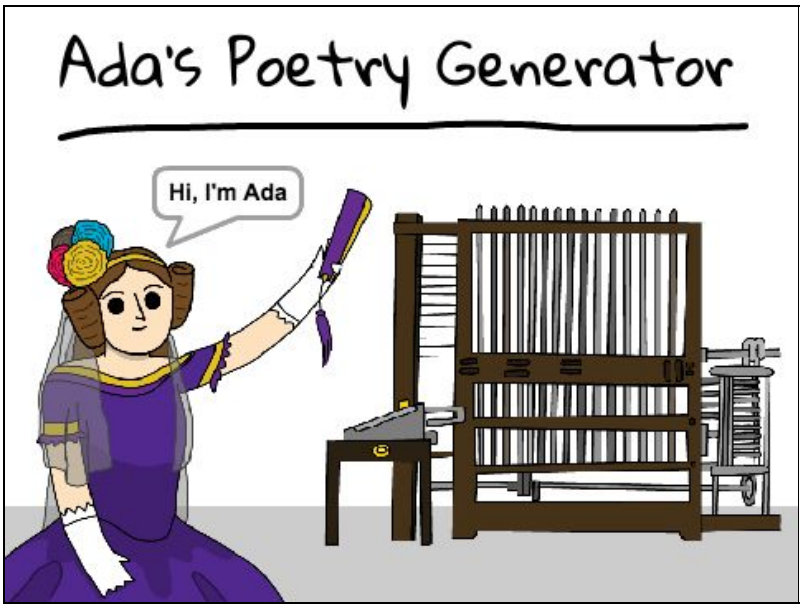
We've produced a ready to use assembly plan, which will allow whole schools to celebrate Ada Lovelace Day. The assembly plan focusses on:

- Reflecting on the significance of computer science;
- Understanding the story of Ada Lovelace and her achievements;
- Sharing stories of women in technology today;
- Considering the future, and problems that can be solved by computer science.

Inspired by Ada's *"poetical science"* approach to her study of mathematics, we've also produced a Scratch project which teaches children how to create their own poetry generating machine!

Scratch is a graphical programming language, in which you can drag and combine code blocks to create animations, games and other fun programs. You can learn more about scratch at jumpto.cc/scratch-resources.

"Ada's Poetry Generator" is a project in which children will learn how to produce poetry containing random words and phrases. **The project can be found at** jumpto.cc/poetry.



As well as developing core skills such as planning, problem solving and collaboration, the project also introduces the following programming concepts:

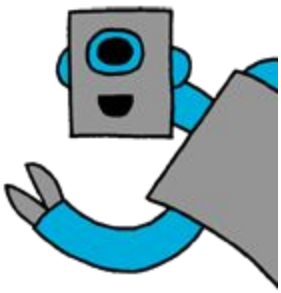
- Sequencing instructions;
- Variables;
- Repetition (loops);
- Lists, and random list items.

Children can complete this project in school or at home. The project includes step-by-step instructions for creating a basic poetry generator, as well as challenges to consolidate learning and encourage exploration and creativity.

The project also includes volunteer notes explaining how to use the project, and a completed poetry generator to demonstrate to children.

Share your work!

We'd love to view and share a selection of the best Ada projects and poems. If children would like the chance to see their work shared on our social media sites, they can upload their creations to the Scratch website using a Scratch account, and tag them with '**ALD15**'. You can also share your children's creations with us directly on Twitter by tweeting us (@CodeClub).



About Code Club

A Code Club is an after school coding club for children to learn and practise their digital making skills.

We provide fantastic resources aimed at children aged 9 - 11, giving them the skills to create websites, animations and games in weekly Code Clubs run by teachers and volunteers.

Code Club is a great way to inspire children to pursue digital making activities, whether that's in their spare time, in school or as a career. We want them to gain skills that are useful to them - not only learning to program, but also learning about computational thinking, problem solving, planning, designing and collaboration.

Starting a Code Club is easy and free! To start a Code Club in your school, you will need the following:

1. A club space which is safe and suitable for children;
2. A group of children aged 9 - 11 who are keen on digital making;
3. Computers: one for each child is best, but programming in pairs can work well too
4. Software: most clubs start with Scratch, which is free to download or can be used online. There's a setup guide at jumpto.cc/scratch-resources.
5. Code Club projects: most clubs prefer to print these, or the children can follow them on screen. Projects are available at codeclubprojects.org.

You will need to register your Code Club on our website at codeclub.org.uk/register. Once you have done that, you can search for an enthusiastic volunteer to help you, or let us know that you are running the club yourself.

This pack was produced with the kind support of ARM, one of Code Club's Strategic Partners.