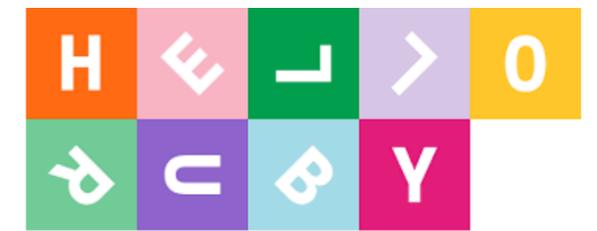




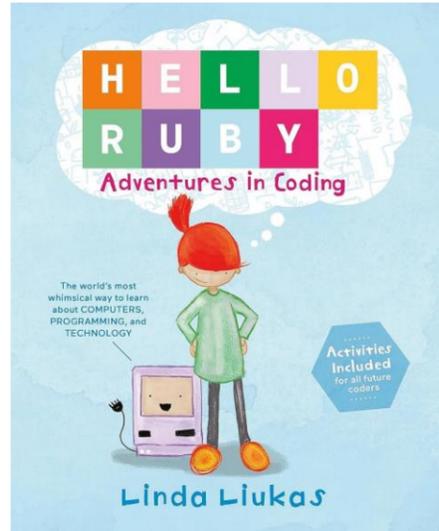
PROGRAMMING

Elm, Oak and Poplar

KNOWLEDGE ORGANISER



Who is Ruby?



Hello Ruby is a fun story about a little girl named Ruby who teaches you how computers work. You'll join her on adventures where you solve puzzles, give instructions, and think step-by-step, just like a computer! It's like playing a game where you learn how to think like a coder, and by the end, you'll be a little computer expert yourself!

Key Vocabulary

- **Algorithm** - An algorithm is like a recipe or a set of instructions for doing something.
- **Decompose** - To decompose means to break something big or complicated into smaller, easier parts.
- **Bug** - A **bug** in coding is a small mistake or problem in the code.
- **Debugging** - Debugging is like being a detective! If something in your program isn't working, you go through the steps to find out what went wrong and fix it.
- **Programs** - A program is like a set of instructions you give to a computer to tell it what to do.

Significant People

Ruby and Her Friends

Ruby

About me: I like learning new things and I hate giving up. I love to share my opinions. Want to hear a few? My dad is the best. I tell great jokes. I'm a mischief-maker and prefer my cupcakes without strawberries, please.

BirthDay: February 24
Interests: Maps, secret codes, and small talk
Pet Peeves: I hate confusion.

Favorite Expression: Why?
Secret Superpower: I can imagine impossible things.

Penguins

About us: We're very smart. But occasionally others think we're eccentric. We communicate with very short (and often rude) sentences. We love problems—especially breaking them into smaller pieces.

BirthDay: August 25
Interests: Patterned knits, riddles, and abbreviations
Pet Peeves: We hate being told what to do. And spaghetti.

Favorite Expression: Have choices.
Secret Superpower: We're older than the others.

Django

About me: I have a pet snake called Python. I'm very organized, persistent, and somewhat rigid. I like things that can be counted: odd, even, prime, cubed, rooted, backward, and forward. But I don't take myself too seriously.

BirthDay: February 20
Interests: The circus, philosophy, and pythonic things
Pet Peeves: People crowding around me when I stand in line

Favorite Expression: Simple is better than complex.
Secret Superpower: I always have a solution.

Snow Leopard

About me: I'm the most beautiful, polite, and well-mannered Snow Leopard I know. I often have fights with the Robots. (Which is kind of pointless, since we are similar in the end.)

BirthDay: June 8
Interests: Solitude, Zen, and Pilates
Pet Peeves: People think I'm tough, but I'm really cuddly.

Favorite Expression: Think different.
Secret Superpower: Boundless beauty

Robots

About us: We are playful and flexible and fast. We have hundreds of Robot siblings. We're never happier than when we're all building something together.

BirthDay: September 23
Interests: Cooking shows, the Penguins, and making more friends
Pet Peeves: We don't get all the fuss about being clean and consistent. Who cares?

Favorite Expression: Be together.
Secret Superpower: We might look small, but we grow up really fast.

Foxes

About us: We get really excited about new things. We love gardening and grow many kinds of plants and species (and sometimes bugs). We like being enthusiastic, friendly, and cheerful. But don't try to limit our freedom! (That's when we get really angry.)

BirthDay: November 7
Interests: Gardening, geckos, and nighttime
Pet Peeves: Always being safe!

Favorite Expression: Let's do it!
Secret Superpower: We can spin and somersault like no one else.

Key Knowledge

- I understand what algorithms are
- I can write simple algorithms
- I can debug simple algorithms
- I understand that algorithms are implemented as programs on digital devices
- I understand decomposition is breaking objects/processes down

FRUITS

Faith - Just like Ruby trusts that things will work out, faith helps us believe in good things, even if we can't see them.

Relationships - Ruby works with friends to solve problems. This shows us that it's important to help and care for others.

Uniqueness - Ruby is special, and so are you! Hello Ruby teaches us that everyone is different and that's a good thing.

Intellect - Ruby makes us think and solve puzzles, which helps our brains grow and become smarter.

Treat Others with Respect - Ruby is kind to her friends, and we learn that we should always be kind and listen to others.

Salvation - When Ruby solves a puzzle, it feels like a big win, just like how making good choices can make us happy and proud.