



UNDERSTANDING CODING_

WHAT IS CODE?

Code is the language that computers use. To tell a computer to do something, a program must be written using code to tell it exactly what to do and how to do it. It's what allows us to create apps, websites, and computer programs. In fact, it runs the world around us, from your smartphone or tablet to traffic lights, connected cars and beyond.

There are many different programming languages you can use to code. A few examples are:

- Python
- Java
- BASIC
- Scratch
- C++

These languages are made up of a series of statements, which form the instructions which tell the computer what to do.

LEARNING TO CODE

Coding and computing skills are relevant to just about any job you can imagine.

When you learn to code you're putting valuable problem-solving skills into practice. You're presented with a problem and by thinking logically and creatively you think about how to break it down into smaller, more manageable chunks to tackle it. This is a great transferable skill for future careers, and any job that requires logical reasoning, teamwork and creativity will value coding skills.

There's a huge demand for skilled tech professionals in the workplace. Even if you have never imagined yourself as a web developer or software engineer, having coding skills can lead to a wide variety of careers from fashion and football to journalism or finance.

WHERE TO FIND OUT MORE

There's a huge amount of resources available for free online to help you find out more about coding and computing. Have a look at the list on the next page for a few ideas.

Online Resources

BBC Bitesize KS3 Introduction to Programming:

<http://www.bbc.co.uk/education/guides/zts8d2p/revision/1>

code.org

<https://www.kodable.com/>

<https://www.codecademy.com/learn>

Coding clubs

<https://www.codeclub.org.uk/>

<https://coderdojo.com/>

<http://www.firetechcamp.com/>

Apps and software

<http://www.kodugamelab.com/>

<http://www.gethopscotch.com/>

<http://www.scratchjr.org/>

<https://beta.webmaker.org/#/>

Build your own computer/robot

<https://www.raspberrypi.org/>

<http://www.kano.me/>

<http://www.lego.com/en-us/mindstorms>

TV

<http://www.bbc.co.uk/cbbc/shows/appsolute-genius>

<http://www.bbc.co.uk/cbbc/shows/technobabble>



SUPPORTING YOUR CHILD'S CODING

By Vicki Shotbolt, CEO and Founder of The Parent Zone

With the new national curriculum for computing in place, you might be wondering how you can support your child. Computing lessons now have much more emphasis on understanding how computers and the internet work and improving digital literacy, including learning how to code. So, what is coding and how can you get involved?

Coding (also known as programming) involves designing, writing, testing and maintaining computer programs. It helps children to think both logically and creatively and to solve problems. Plus, it builds transferable skills for their future careers – not just for those who decide to become software developers, but for any job that requires logical reasoning, teamwork and creativity.

There are lots of ways you can do your bit to support what your child is learning at school in the new computing curriculum, even if coding is completely out of your comfort zone. Here are our top tips.



1. Find out a bit more about coding and its place in the classroom. The Guardian's ['Why every child should learn to code'](#) and ['Coding at school'](#) articles are a good place to start.



2. Ask your child's school what they are learning. The computing curriculum is new so it's reasonable to expect that their school will be sharing information about what and how they are going to teach.



3. Be enthusiastic about coding (even if you're not totally convinced) and try to learn some of the vocabulary associated with it. Above all, never fall into the trap of dismissing it just because it isn't something you will ever need – or want – to do yourself.



4. Teach your child some of the principles of coding without even going near a computer. One simple offline activity is to ask them to write a series of commands that would enable someone who is blindfolded to get from one room in their house to another. It's a great party game that teaches coding at the same time!



5. See if there is a coding club near you – some are free and some charge for their courses. [Code Club](#) is a nationwide network of free volunteer-led after school

coding clubs for children aged 9-11. Other coding clubs include [CoderDojo](#) and [Fire Tech Camp](#).



6. Make the most of apps and software like [Kodu](#), [Hopscotch](#) and [ScratchJr](#). If your child loves playing games, imagine how much they'll enjoy designing and building their own game!



7. Check out [Raspberry Pi](#), [Kano](#) and [LEGO Mindstorms](#), which let you build your own mini computer or robot.



8. Watch some of the new computing shows on CBBC together, like [Appsolute Genius](#) and [Technobabble](#).

Three tips for helping children discover careers in tech

1. Talk about their favourite technologies

In today's digital age, most young people know that tech can be used to connect with friends, play games, make movies and more. Ask your child to think about the role computing plays in everyday life – who designs the tech they use and how does it work? Getting them to think about the magic behind their favourite apps and devices might help them imagine a wider range of career possibilities.

2. Relate it to their other interests

Pursuing a career in tech doesn't mean giving up on your other passions. You can use computer skills in just about any field, so talk to your children about how computing might be relevant to their interests. If your child has always been artistic, for example, you can help them research what it takes to become a Web designer. If they're mad about sport, let them know that some universities are now offering degrees in computing and sports studies.

3. Check out a code club

If your child has already expressed an interest in computing, help them get started by finding a code club for young people. Many are free, so even if they're not quite sure what to expect there's no harm in checking it out! [Code Club](#) and [Fire Tech Camp](#) are good places to start.



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