Boutcher C of E Primary School Subject Story
Computing

Intent

At Boutcher we understand that our children are of the digital age; constantly exposed to new and exciting technology. We want all children to leave Primary Education as confident and creative users of computing equipment and programmes who keep themselves safe in the digital world. We believe all children should be ready, able and excited by the prospect of working with new technology in the future. The National Curriculum for Computing aims to ensure that all children:

•can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation

•can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems

•can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems

•are responsible, competent, confident and creative users of information and communication technology

Implementation

At Boutcher we provide children with a robust and challenging curriculum mostly supported through Code.org. However, we initially prioritise educating children in how to use electronic devices safely and responsibly. The Code.org lessons provide children with concrete, practical experiences as well as plenty of opportunities to use a variety of digital devices to develop their new skills. Children are often encouraged to work in collaboration with another child when developing their problem-solving and analytical skills. Computing is an embedded part of the curriculum and children are provided with opportunities to carry out research, create reports and be creative digitally within designated computing lessons and also within other subject areas. Our curriculum is designed to support and extend children's interests and abilities in computing and we use computing as a vehicle to bring new experiences to our children. Those with a passion for computing are encouraged to develop it and build upon it.

Impact

•Children at Boutcher are aware of the dangers of the internet and understand the importance of online safety.
•Our children are excited by computing and inspired to develop their knowledge and skills further, ensuring they are prepared for our rapidly changing world.
•Children are equipped with the skills to access information and as a result they can become knowledge rich. They will also be to question information online and evaluate digital information.
•Our children are able to independently select and use software to accomplish goals, including collecting, analysing, evaluating and presenting data and information.

What can I expect to see in a Computing lesson at Boutcher?

•Children discovering and developing their knowledge and skills through interesting and engaging lessons where they learn through a variety of activities.
•Children working collaboratively to analyse and solve problems, engaging in useful discussions whilst developing their reasoning and digital literacy.
•Adults providing initial or responsive teaching inputs that support children's understanding and encouraging them to make links, become familiar with vocabulary and draw conclusions to difficult problems.

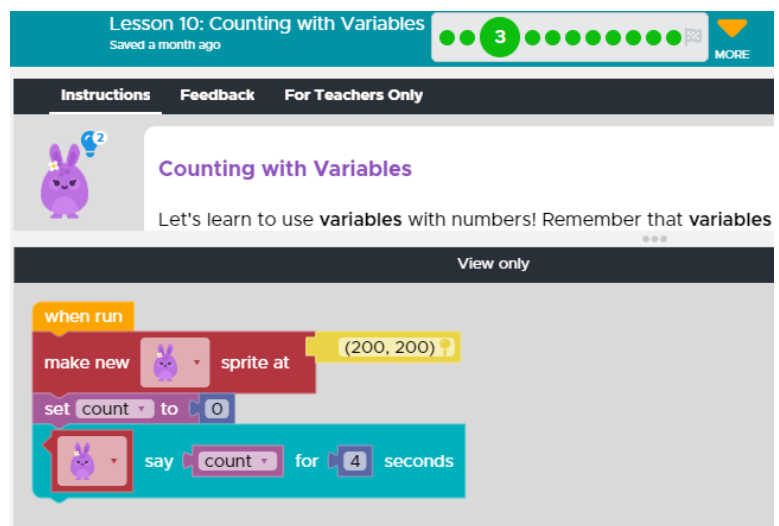# Examples of our outstanding learning

Children working collaboratively to discover information about a child who has not been careful with her digital footprint.

KPMG giving a dedicated online safety lesson to Year 6.

Children working independently on Code.org.

An example of a child building their coding skills.

What voice do pupils have?

Year 3 – *"I prefer paired-programming because it means probably that at least one of us will know how to figure it out. There are more ideas when there are two of us."*

Year 4 – "It's nice once you've done your e-safety lessons because you can start coding. That's the best bit of computing."

Year 6 – "*Code.org is really just problem-solving. It's frustrating when you can't do one but when you finally get it, it's quite satisfying."*

How do children's skills progress?
An example of a skills progression from Year 1 - 6

Algorithms					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To understand what algorithms are.	To understand how algorithms are implemented as programs on digital devices.	To use logical reasoning to explain how simple algorithms work.	To use logical reasoning to explain how simple algorithms work and detect errors.	To use logical reasoning to explain how simple algorithms work, detecting and correcting errors.	To use logical reasoning to explain how simple algorithms work, detecting and correcting errors in algorithms and programs.

What successes were there in the last few academic years?

- Children are able to access Google Classroom, navigating the website to upload their work.
- Front-loading internet safety at the start of each academic year to establish its importance amongst teachers and children.
- Additional internet safety is taught through the *Jigsaw* PSHE scheme across the year, complementing the discrete lessons.
- Code.org is now the established means of teaching coding and programming, which has led to increased continuity in representations and vocabulary across the school.
- Laptops and iPads have been relocated to be more accessible for use in classrooms - meaning they get greater use.
- Children across the school participated in safer Internet Day activities and developed their understanding of this crucial part of the computing syllabus.

What are the priorities in Computing?

- To increase teachers' confidence in delivering Code.org lessons by developing a more prescriptive approach, which involves teaching inputs that have a whole-class foci that aim to clarify terminology and how best to approach solving the tasks set.
- To develop our formative assessment processes so that children do not fall behind in their understanding or rely on their partners / teachers for support.
- To assess the extent to which our children know how to stay safe online through surveys.