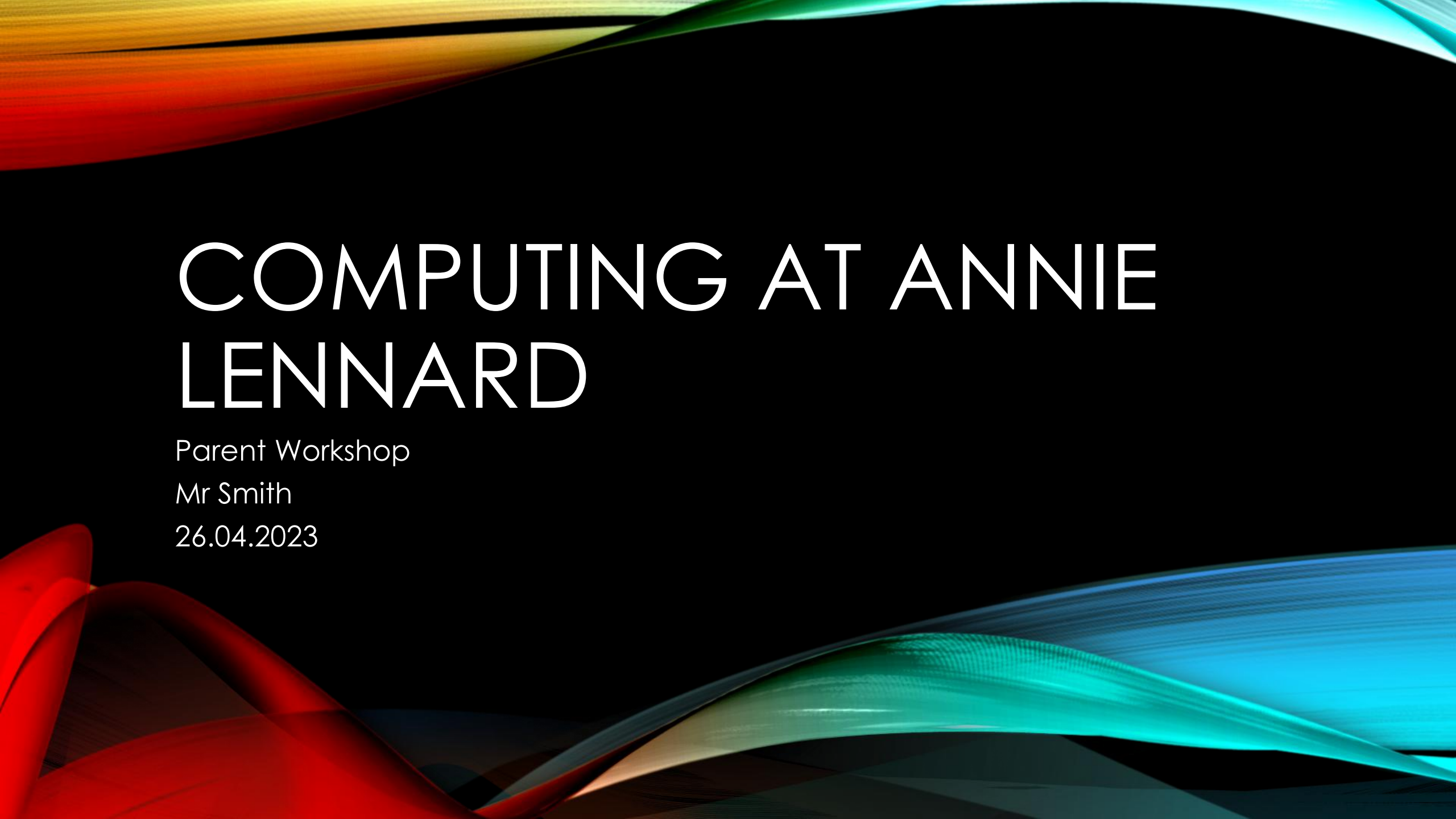




COMPUTING AT ANNIE LENNARD

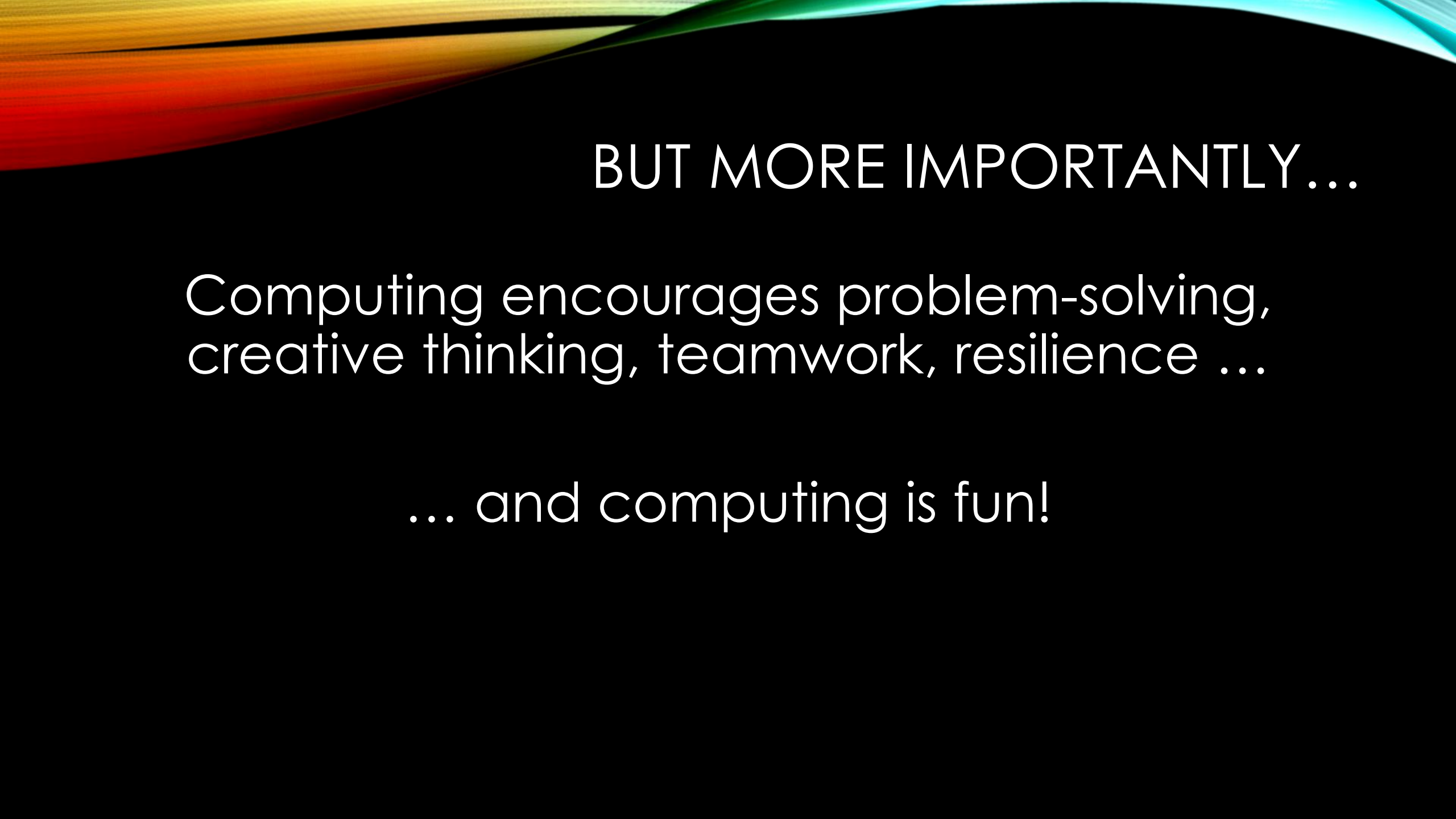
Parent Workshop

Mr Smith

26.04.2023

WHY WE TEACH COMPUTING

- Computers are at the centre of our lives.
- How many devices in your house now include computers?
- Computer science is a critically important, influential, and growing, part of the UK (and world) economy. People with relevant skills are highly sought after, and are in short supply.
- In response to these challenges, the computing curriculum changed in 2014 from a curriculum focussed on 'ICT skills' to a more rigorous curriculum focussed on computer science / coding.



BUT MORE IMPORTANTLY...

Computing encourages problem-solving,
creative thinking, teamwork, resilience ...

... and computing is fun!

The Computational Thinkers

concepts



Logic

Predicting & analysing



Evaluation

Making judgements



Algorithms

Making steps & rules



Patterns

Spotting & using similarities



Decomposition

Breaking down into parts



Abstraction

Removing unnecessary detail



approaches



Tinkering

Changing things to see what happens



Creating

Designing & making



Debugging

Finding & fixing errors



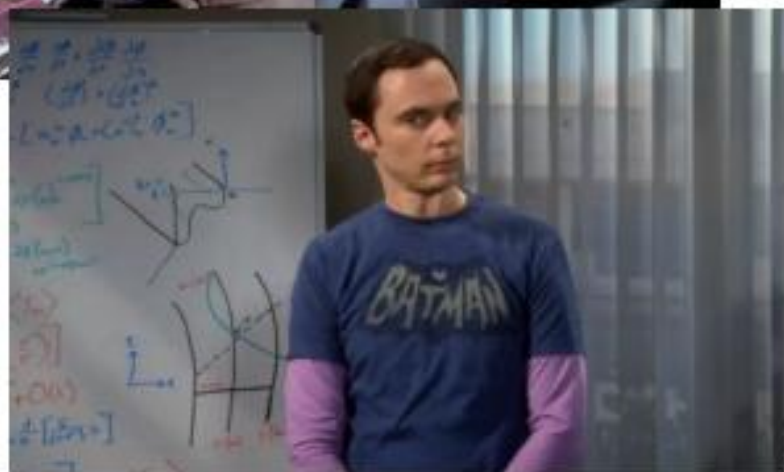
Persevering

Keeping going



Collaborating

Working together





Tsion Behailu, Software engineer,
Google



Victoria Nneji, Robotics research
scientist, Duke University



John Henry Thompson, Software
developer and Director,
Macromedia



Sundar Pichai, CEO, Google



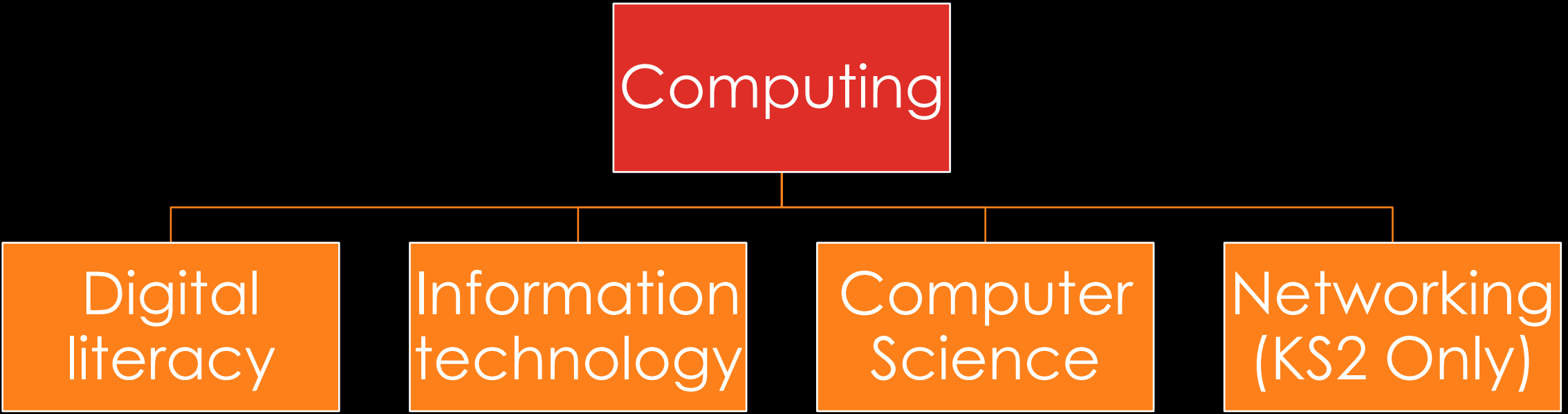
Satya Nadella, CEO,
Microsoft



Sheryl Sandberg, COO, Facebook

NATIONAL CURRICULUM

Computing



```
graph TD; Computing[Computing] --- HorizontalLine[ ]; HorizontalLine --- DigitalLiteracy[Digital literacy]; HorizontalLine --- InformationTechnology[Information technology]; HorizontalLine --- ComputerScience[Computer Science]; HorizontalLine --- Networking[Networking (KS2 Only)];
```

Digital
literacy

Information
technology

Computer
Science

Networking
(KS2 Only)

THE NATIONAL CURRICULUM

- The National Curriculum targets for both KS1 and KS2 can be separated into three separate strands.
- **Information technology** explores basic computing skills, such as word processing skills, and allow for the children to develop the skills they need to be able to understand how technology works and how they can use it for different purposes.
- **Computer science and digital literacy** is where children develop the skill of using a computer to help solve problems. This strand also covers coding in which the children will develop skills of how to write algorithms and how they can debug any errors that arise. I
- In KS2, this strand also includes developing an **understanding of networks** and how they work, such as how the internet provides multiple opportunities for communication and collaboration. Digital literacy covers online safety, ensuring children know the possible risks and are using technology safely.
- In EYFS, there are no explicit computing targets, however computing can link to other aspects of the EYFS curriculum.

HOW THIS IS TAUGHT IN SCHOOL

- All year groups in KS1 and KS2 have a timetabled hour each week to teach the skills and knowledge required,
- However, this doesn't have to always be the case. Most of the statements within the information technology stand can be covered through other subjects within the curriculum.
- However, it needs to be made clear that the computing lesson still has a place within the curriculum as computer science will need a more explicit teaching approach. Also, apps and or tools within various programmes will benefit from the explicit teaching before it is used across other areas of the curriculum.
- Computing in EYFS takes place throughout the day when opportunities become available and through planned teacher activities.

EYFS Targets

EYFS targets will be ongoing across each child's journey through Nursery and Reception. There are also some year group specific targets (coded below)

Personal, Social and Emotional Development

I can wait a short amount of time for something I want eg: a computer loading / an App to work

I know how to complete a familiar task independently and with support will try new things. For example, playing a touch screen game on an iPad or Interactive Whiteboard.

I can select tools and resources that I need to complete a task of my own choosing.

I can say a simple set of instructions (algorithm)

I can type letters using a keyboard on an iPad to create words

Online Safety (Links to Education for a Connected World document)

I know how to be safe online at home and school

I can describe ways that some people can be unkind online.

I know how myself and others may feel if someone is unkind online.

I can give examples of how I (might) use technology to communicate with people I know.

I can talk about how I can use the internet to find things out.

I know that work I create belongs to me.

I can name my work so that others know it belongs to me.

Physical Development

I know how to use the home button and lock screen on an iPad

I know how to use my fingers on a touch screen, and control a touchpad on a computer.

I can listen to sounds or music using headphones

Understanding the World

I know how to use a camera to take pictures on an iPad

I can select and use technology for particular purposes.

I know how technology is used in my own home and in school.

I know that technology has changed since my adults were young.

Expressive Art and Design

Children can safely use a range of technology for a purpose such as create a digital drawing with support.

Nursery focus - targets

Reception focus - targets

Ongoing development EYFS journey targets (repeated)

COMPUTING IN EARLY YEARS

Computing in Early Years



Photos from 'Computing in the Early Years' <https://www.computingschool.org.uk/teaching-resources/2021/march/computing-in-the-early-years-presentation-slides> used under a Creative Commons Licence.

EYFS TO KS1

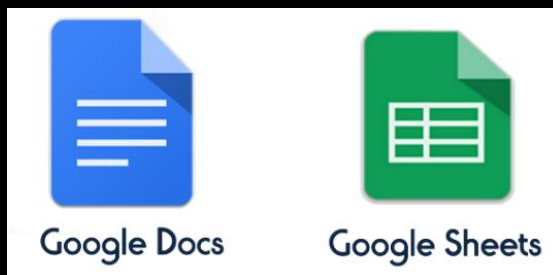
EYFS Target	Target progression in KS1
I can type letters using a keyboard on an iPad to create words.	I can confidently type words on a digital device to create simple sentences. (Y1)
I know how to use a camera to take pictures on an iPad	I can know what devices can be used to take photographs. (Y2) I can use a digital device to take a photograph. (Y2)
Children can safely use a range of technology for a purpose such as create a digital drawing with support.	I can use a computer on my own to paint a picture (Y1) I can make careful choices when painting a digital picture (Y1)
I can listen to sounds or music using headphones	To create music for a purpose (Y2)

OVERVIEW OF TOPICS

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Word Processing/Typing	Data Handling - sorting and comparing	Media (Image) – Digital Painting	Computer Science – Computational thinking/ Coding and programming		Time to consolidate skills
Year 2	Word Processing/Typing	Data Handling - Pictograms	Media (Image) - Photography	Computer Science – Computational thinking/ Coding and programming		Media (Sound and Video) – Creating Music
Year 3	Word Processing/Typing	Data Handling – Branching Database	Media (Sound and Video) - Animation	Computer Science – Computational thinking/ Coding and programming		Networks
Year 4	Word Processing/Typing	Media (Image) – Editing and altering images	Media (Sound and Video) - Audio	Computer Science – Computational thinking/ Coding and programming		Networks
Year 5	Word Processing/Typing	Data Handling - databases	Media (Sound and Video) – Video documentaries	Computer Science – Computational thinking/ Coding and programming		Networks
Year 6	Word Processing/Typing	Data Handling - Spreadsheets	Media (Image) – 3D modelling	Computer Science – Computational thinking/ Coding and programming		Networks

PROGRAMMES USED ACROSS KS1 AND KS2

purple
mash



And many many more...

PROGRESSION OF CODING SKILLS

A variable is a **way of storing information in a computer program**. Think of a variable like a container and the name of the variable as the label on the container which shows us what is inside. Variables are used in coding and programming to help coders understand, remember, and use the information in the program.

events or criteria being met.

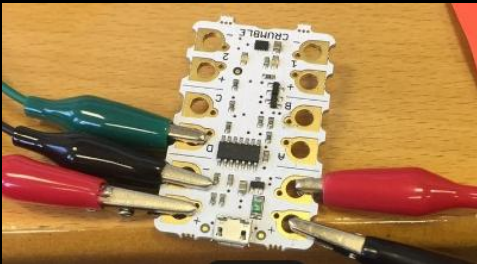
Repetition is often also referred to as **loops**. In computer programming, repetition is the process of looping or repeating sections of a computer program.

There are different types of loop. The most basic is where a set of instructions is repeated a set number of times. Another type of loop repeats continuously until a certain condition is met.

Increasing complexity

from <http://code-it.co.uk/progression>

PHYSICAL COMPUTING – YEAR 5 AND YEAR 6

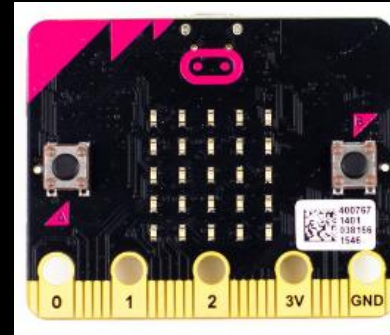


- Year 1 and 2 - BeeBots



- Year 5 – Crumbles

- Year 6 – Micro-bits

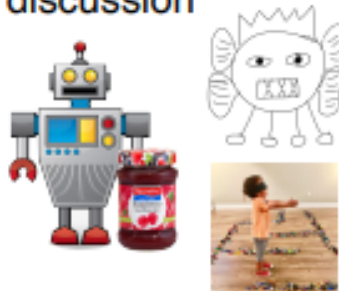


- Don't need to just be focussed in these year groups. They can also be used in other year groups across school.

How can we introduce new computing concepts to the children?

Simple abstract (Unplugged)

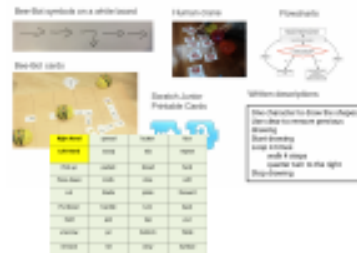
- Learning concepts through role play, drama, drawing, discussion



Natural
language,
imprecise

Concrete

- Working with physical models or other representations of algorithms: cut-out code snippets, symbol cards, written descriptions.



Natural
language,
precise

Abstract (Code)

- Implementing algorithms in a programming language



Technical
language,
precise

UNPLUGGED ACTIVITIES



Right Hand	spread	butter	fast
Left Hand	scoop	tub	
Pick up	peckert	bread	
Press down	knife	slice	
cut	blade	plate	
Put down	handle	turn	
hold	jam	top	
unscrew	jar	bottom	
remove	lid	slow	



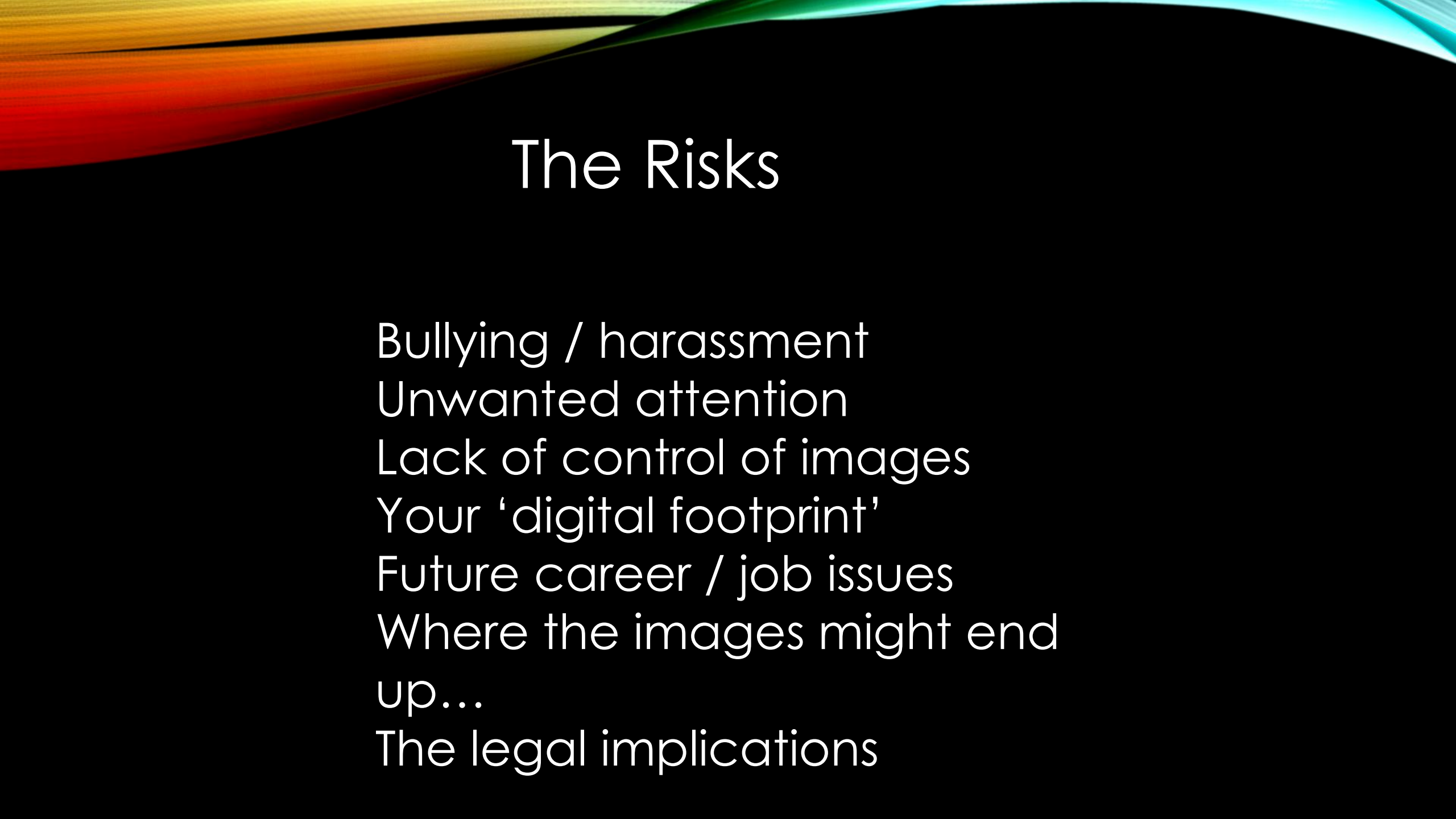
HOW PARENTS CAN HELP WITH COMPUTING AT HOME

- Expose children to safely use a range of technologies that are appropriate with an adult.
- Games on sites such as Purple Mash can help develop skills
- <https://www.barefootcomputing.org/homelearning> - Help with coding
- [Code Club \(raspberrypi.org\)](https://www.raspberrypi.org/codeclub) – Coding activities (KS2)
- Linking things you do at home to algorithms (e.g making breakfast, getting ready for school, etc)

ONLINE SAFETY

- Key aspect of computing curriculum
- Part of safeguarding our children
- Exposed to weekly through online safety starters
- Dedicated online safety lessons once each half term

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Digital Wellbeing (Mental Health Day)	Online Bullying (Anti-bullying week)	Internet Safety Day	Fake News and Information (April Fool's Day)	Privacy and Passwords (National Password Day)	Emojis and messaging (National Emoji Day)
3/10/22 – 7.10.22	14.11.22 – 18.11.22	8.2.22	27.3.23 - 31.3.23	1.5.23 – 5.5.23	10.7.23 – 14.7.23

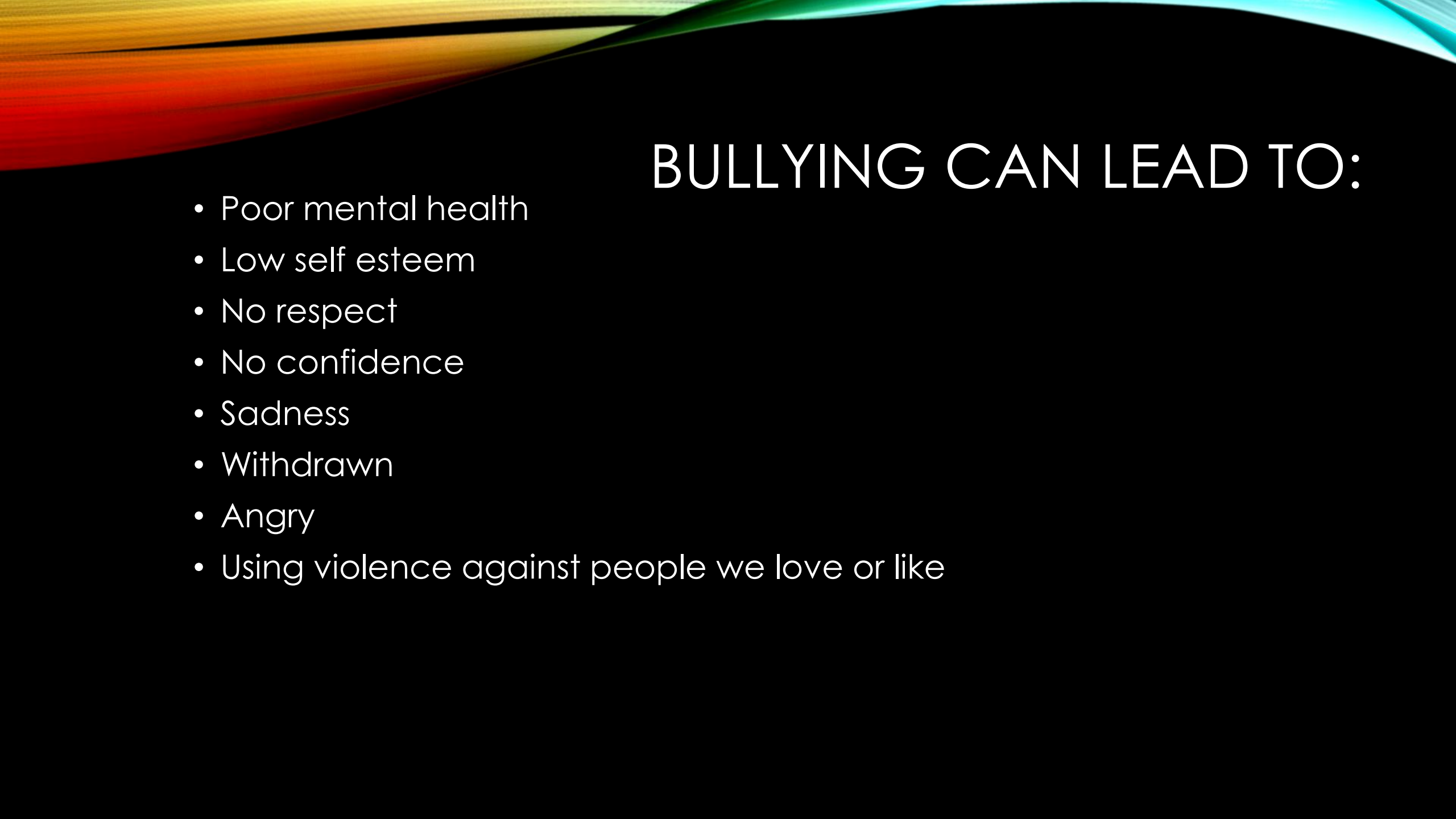


The Risks

Bullying / harassment
Unwanted attention
Lack of control of images
Your 'digital footprint'
Future career / job issues
Where the images might end
up...
The legal implications

So what can bullying
and in particular
bullying online lead
to?





BULLYING CAN LEAD TO:

- Poor mental health
- Low self esteem
- No respect
- No confidence
- Sadness
- Withdrawn
- Angry
- Using violence against people we love or like



Is everyone at Annie Lennard digitally resilient?

- **Know when at risk**
- **Know what to do**
- **Learn from experience.....**
- **Recover from any difficulties or upsets.....**

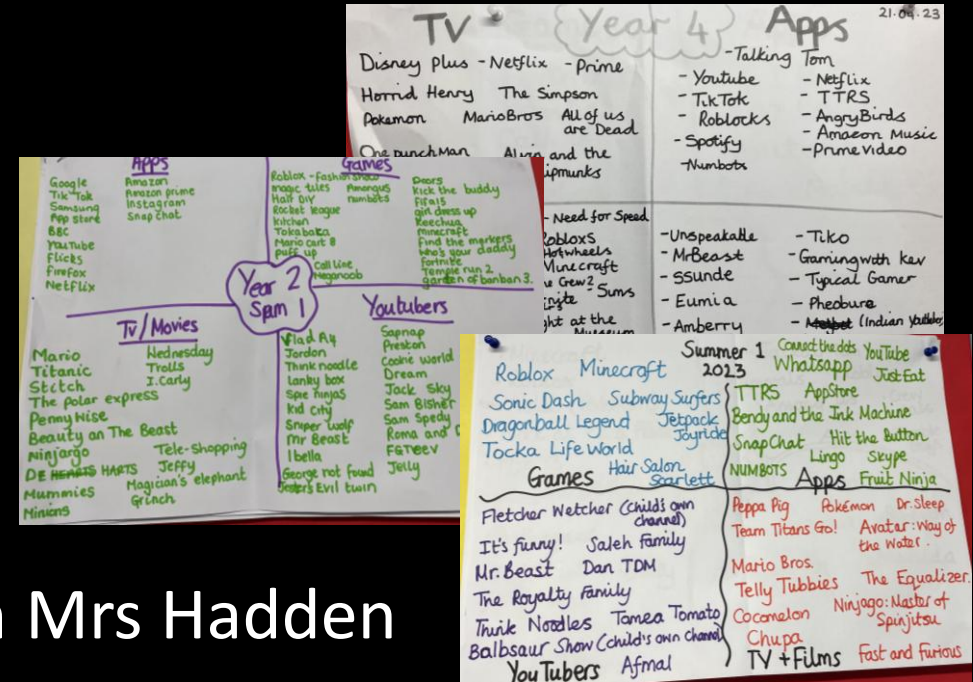


OUR MOTTO

At Annie Lennard
our children are at the heart
of our online safety
teaching.

WHAT WE DO IN SCHOOL

- Online Safety Mind Maps
- Working wall in the corridor
- Online Safety Champions
- Online Safety Starters
- Regular Staff Meetings
- Out reach to parents – website and through Mrs Hadden
- [Computing \(annielennardprimary.co.uk\)](http://annielennardprimary.co.uk)



HOW PARENTS CAN HELP WITH ONLINE SAFETY

- Parent Over Shoulder
- Ensure your constantly talking to your children about what they are doing online and how they can be digitally resilient.
- Research apps/programmes before allowing children to use them
- NSPCC Net Aware
- National Online Safety Posters
- Online Safety Board
- Annie Lennard School Website
- Staff at school

PARENT NEWSLETTER

- Found on the Annie Lennard website.
- One sent out at least once each half term.
- Will be tailored to what our children are doing online
- Hope to promote online learning in school



ONLINE SAFETY NEWSLETTER

June 2021

Welcome to this month's issue of our online safety newsletter! We hope that this continues to inform you on how you can help your children stay safe online and things you need to be aware of such as new apps, games, and more! We also hope to celebrate the amazing work that children in each year group have done with regards to online safety as well as set governor challenges that you and your child can take part in!



MR SMITH'S GAME WATCH

This month's game—**Fortnite!**

Is your child playing Fortnite? It appears to remain popular, so we thought we'd provide an update for you. It is rated PEGI 12 for frequent mild violence which means it is not suitable for persons under 12 years of age.

What is Fortnite?

There are different versions of Fortnite, including a free-to-play



GETTING HELP...





THANK YOU FOR LISTENING

Any Questions?