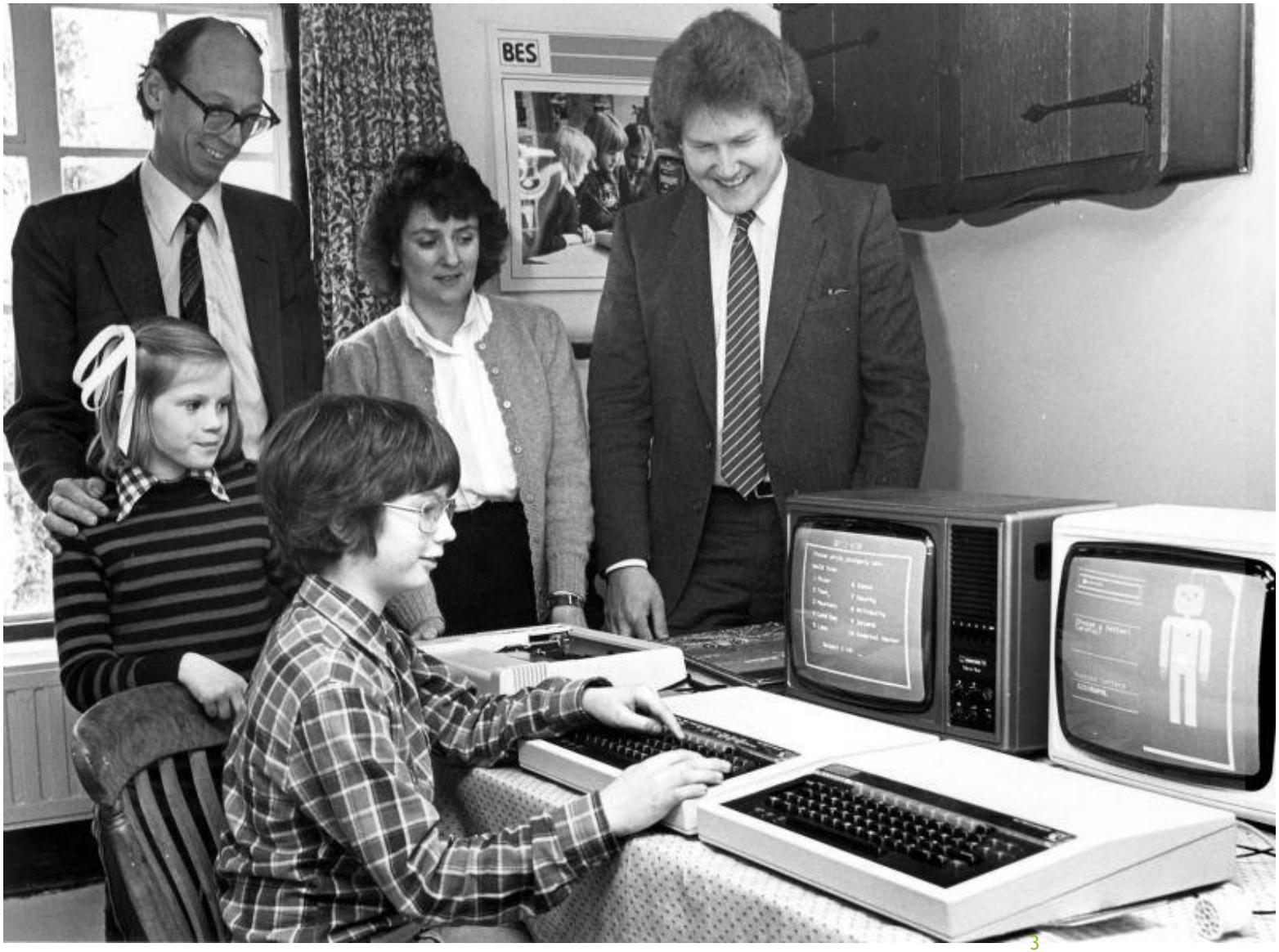
Computing

February 2016


BBC Computer
BASIC
>_
TEXT
MONITOR
On-Off
DECCA COLOUR



Kings Worthy Primary, 1983

30 years on…

From ICT to Computing…
2014 National Curriculum

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.

Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

2014 National Curriculum

The national curriculum for computing aims to ensure that all pupils:

- 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.

2014 National Curriculum

3 main strands of computing:

- Digital Literacy
- Information Technology
- Computer Science

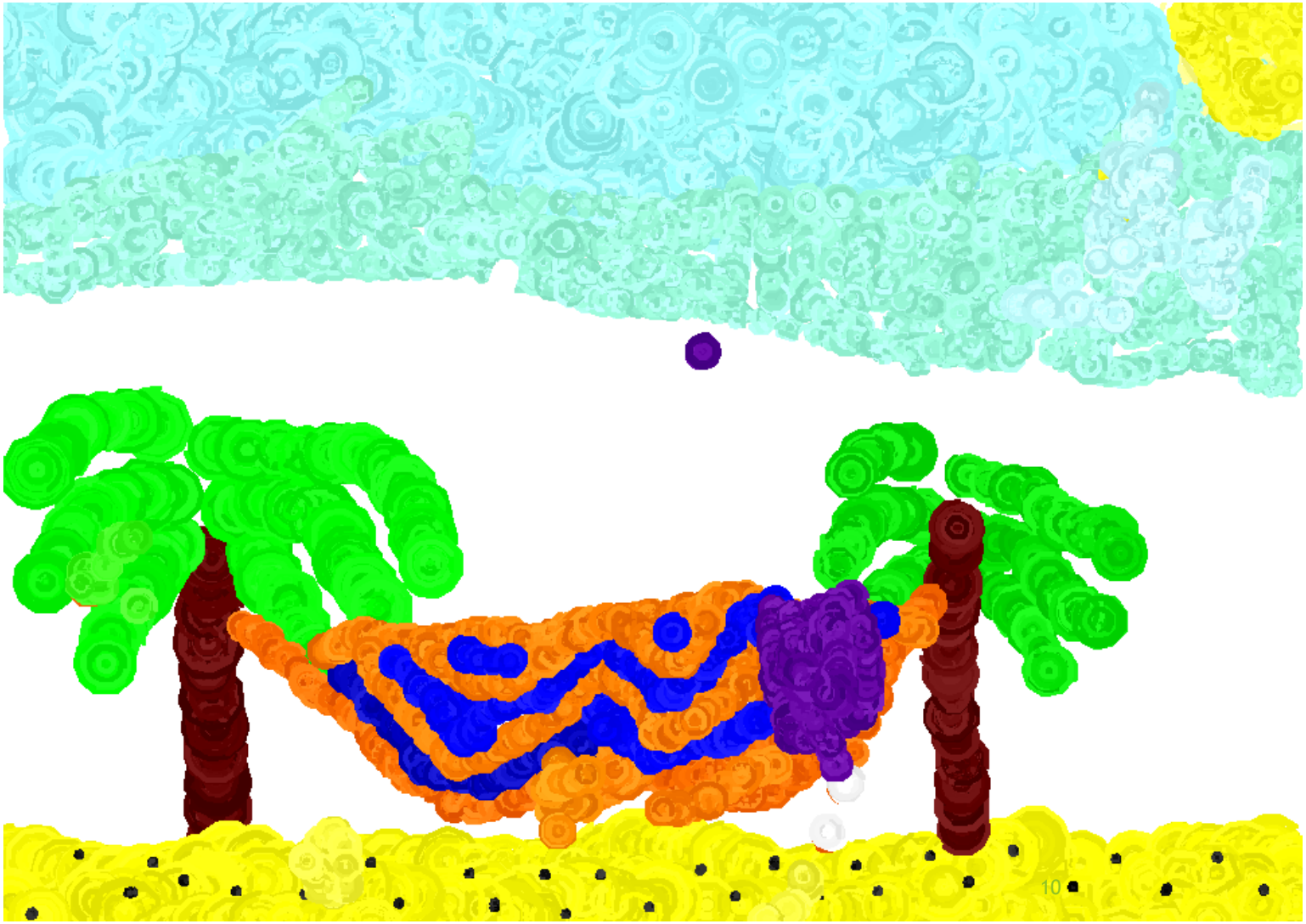
Digital Literacy

Creating text, graphics and data:

- Documents with words and pictures
- 2D images
- Photo editing
- Animation
- Graphs and charts
- Presentations

Graphics – Year 1 – 2Paint

Graphics – Year 2 – 2Paint a Picture



Publishing

Year 2 – 2Publish

London News
September 4th 1666

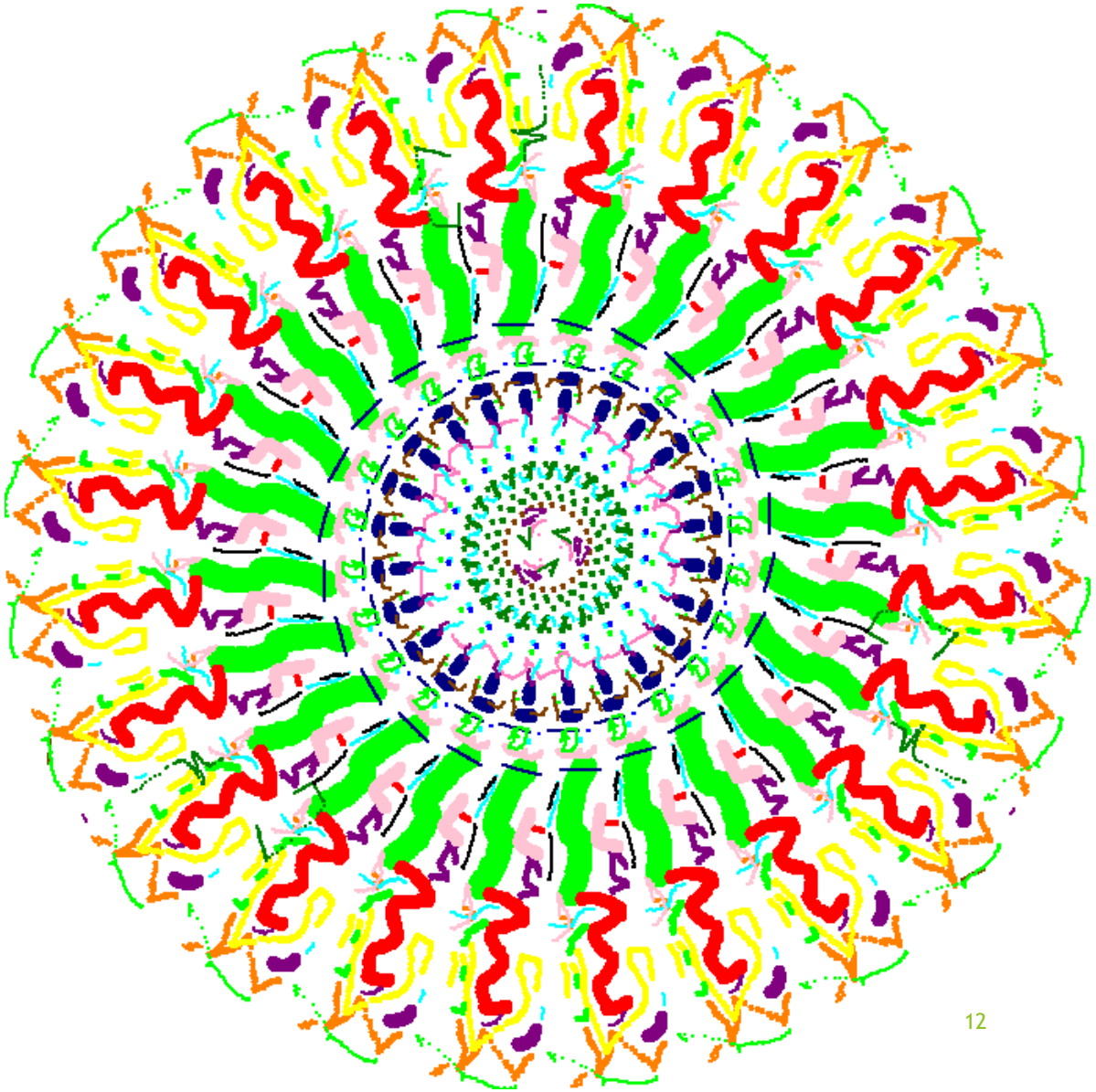
London Is Still Burning!

The first thing I heard was people screaming and shouting "FIRE" so I jumped out of bed got my slippers on and stomped over.Then I saw huge,sparkling embers.

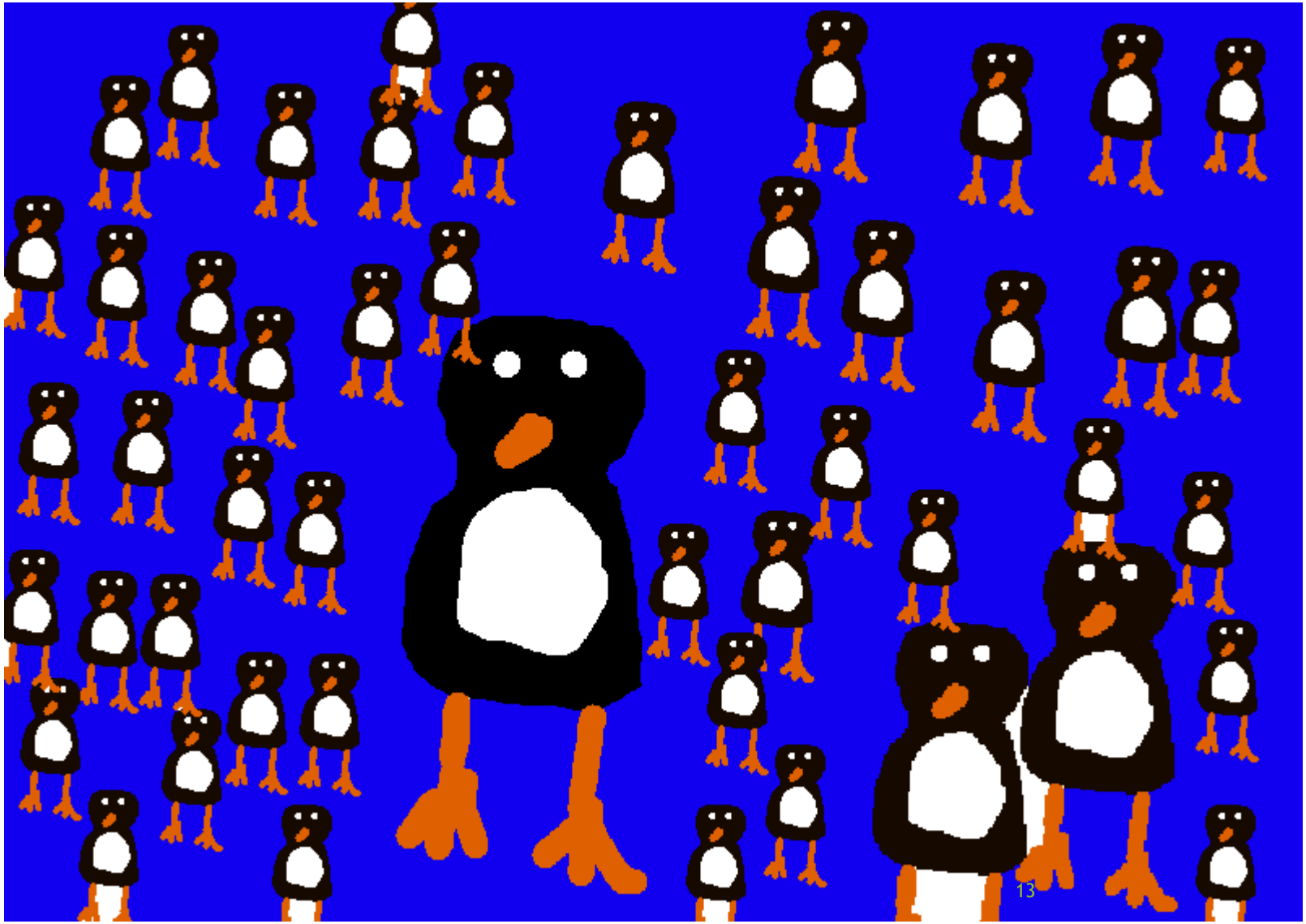
London is still burning from the great fire.Thomas Farriner said the fire started the day before yesterday and it started all because of him. The fire has already burnt down 3000 house's.

One morning in 1666 the 2ed of September I was quietly sleeping when head people shouting "fire fire" I was very confused, so I leaped out of my cosy, warm bed and went to my small window. I could see burning houses.

Graphics – Year 3 – Slice



Graphics – Year 3 – Stamps



PurpleMash 3D Game Design – Year 3

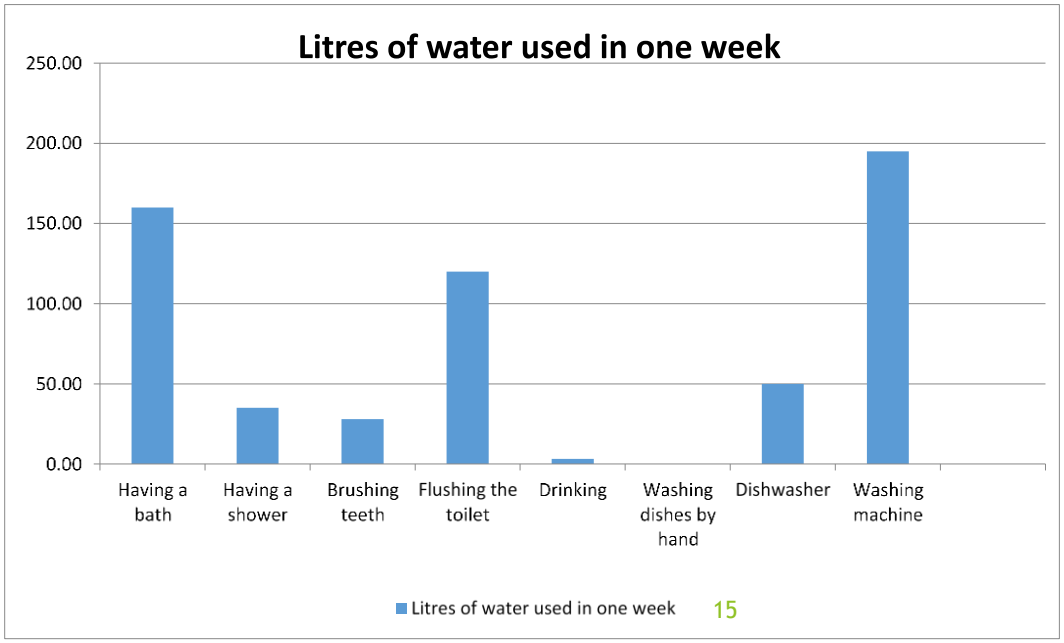
Data – Year 3

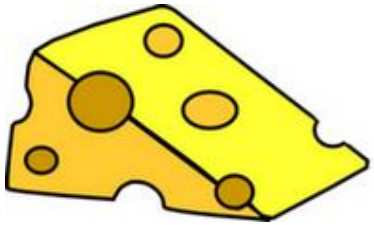
Excel

My water usage in one week

	How many times per week?	Litres of water	Litres of water used in one week
Having a bath	2	80	160.00
Having a shower	1	35	35.00
Brushing teeth	14	2	28.00
Flushing the toilet	12	10	120.00
Drinking	13	0.25	3.25
Washing dishes by hand	0	6	0.00
Dishwasher	2	25	50.00
Washing machine	3	65	195.00
			0.00

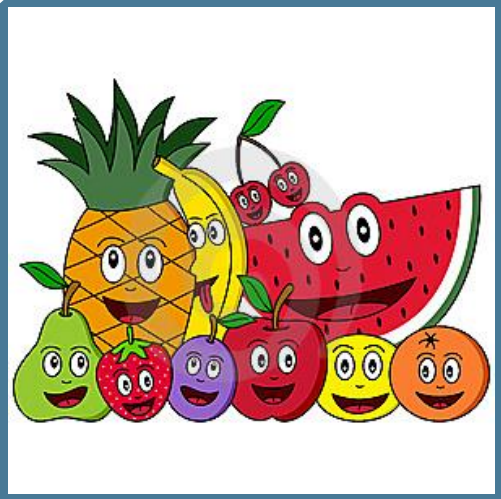
Total Litres Used		**591.25**
#number of people in the home	6	
Litres per person	98.54167	

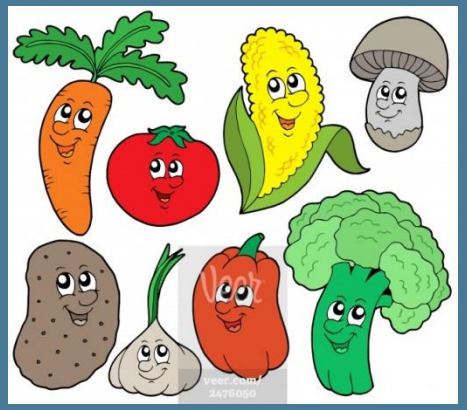




HEALTHY EATING QUIZ

THE QUIZ THAT GETS YOU EATING HEALTHY



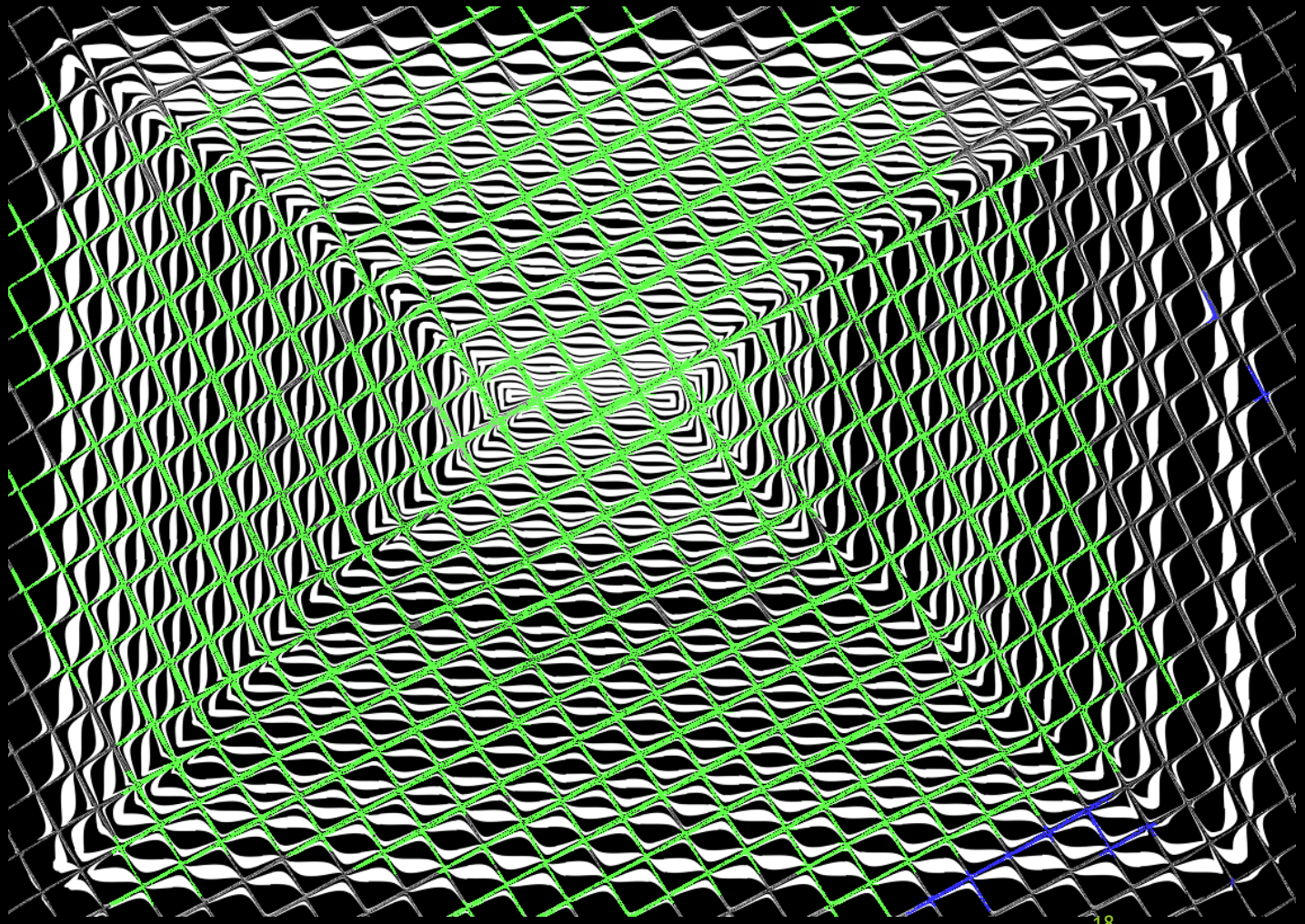


by Katie and Olivia

Presentation - Year 4

Animation – Year 4 - Pivot

Graphics – Year 5 – Paint.NET



Presentation – Year 6

Information Technology

- Using the hardware e.g. login to the network, save files in different places, find and open files, print, change options on printers
- Using the software – navigating the menus, selecting and using menus and tools
- Understanding network basics
- Using email and web browsers
- Learning how to find information using a search engine
- E-Safety

E-safety Curriculum

Internet Safety

Information Literacy

Privacy & Security

Relationships & Communication

Creative Credit & Copyright

Digital Footprint & Reputation

Cyberbullying

Self-image & Identity

Internet Access

School – internet access via Hampshire County Council with full filtering, no access to social media or You Tube.

Steps in using the Internet:

- Click on a given link
- Use Safe Search and Swiggle to search for information
- Search using Google – respecting copyright

E-safety Curriculum

Year 5

Kings Worthy Primary School is a medium sized school in the heart of Kings Worthy, Winchester, England. It has around 330 pupils and 25 staff. It is a state school for pupils aged from 4-11. At the school, pupils finish by taking their year six SATS exams. The school was established in 1953.

https://en.wikipedia.org/wiki/Kings_Worthy_Primary_School

E-safety Curriculum

Year 5

This is what happens when
you put food coloring in a lemon!

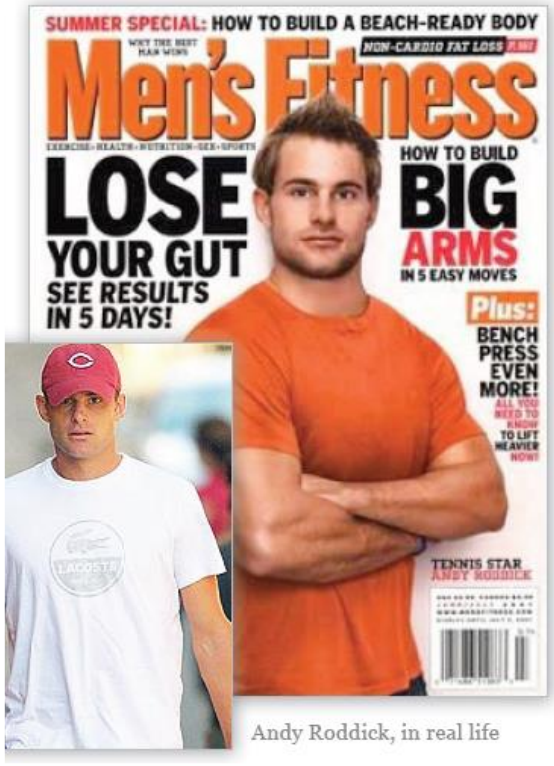
E-safety Curriculum

Year 5

Creative Credit & Copyright

Self-image & Identity

Cyberbullying



Andy Roddick, in real life

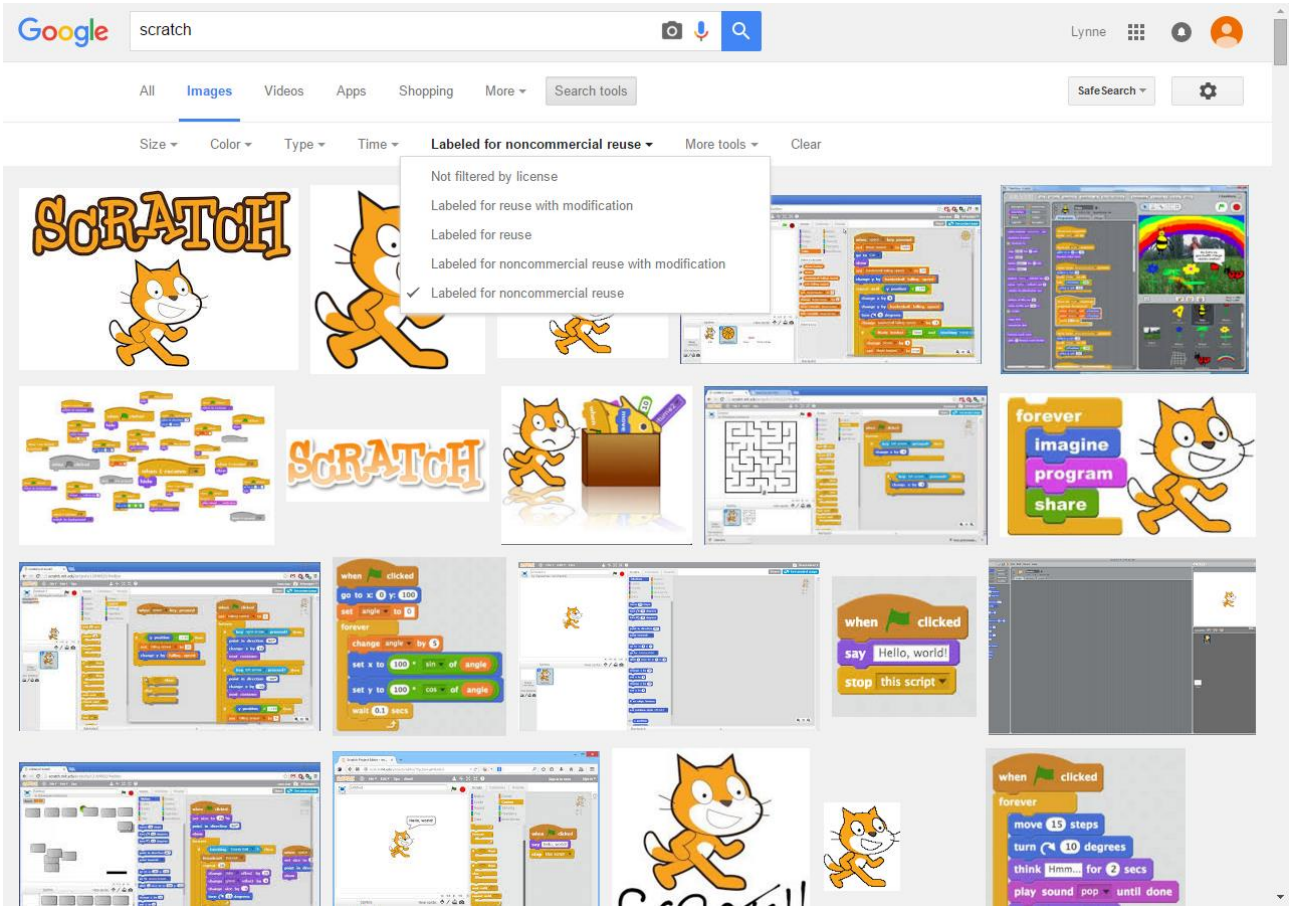
Discuss how the two photos of Andy are different.

Kings Worthy Primary School
Be The Best You Can Be

E-safety Curriculum

Year 5

Creative Credit & Copyright



E-safety

INFORMATION & ONLINE RESOURCES

1. UK SAFER INTERNET CENTRE

UK Safer Internet Centre: The European Commission appointed UK Safer Internet Centre is made up of three partners; **Childnet International**, the **South West Grid for Learning** and the **Internet Watch Foundation**. Together we raise awareness about internet safety, develop information materials and resources and organise high profile events such as Safer Internet Day. You can access a range of resources from across the UK, Europe and wider afield at www.saferinternet.org.uk/parents.

Childnet: Childnet International is a non-profit organisation working in partnership with others around the world to help make the internet a great and safe place for children. The Childnet website hosts all the online resources detailed below, as well as a number of recommended resources for young people, parents, carers and teachers. The Parents and Carers area also contains key advice, information on reporting and detailed information on a range of e-safety topics in the **Hot topics** section.
www.childnet.com

Registered UK Charity: 1080173

South West Grid for Learning: The South West Grid for Learning (SWGfL) is a not for profit, charitable trust dedicated to the advancement of education through information and communication technologies. They provide safe, supported broadband internet, teaching and learning services for 2,500 schools in the South West of England and e-safety education and training regionally, nationally and internationally. They provide professionals, parents and children with advice, resources and support to use internet technologies safely to enhance learning and maximise potential.
www.swgfl.org.uk

Registered UK Charity: 1120354

Internet Watch Foundation: The Internet Watch Foundation is the UK's hotline for reporting illegal content found on the internet. It deals specifically with child abuse and criminally obscene images hosted in the UK and internationally. The IWF works in partnership with the online industry, law enforcement, government, and international partners. It is a charity and a self-regulatory body with over 100 Members from the online industry.
www.iwf.org.uk

Registered UK Charity: 1112398

2. SAFER INTERNET DAY

Safer Internet Day: Celebrated globally every year, Safer Internet Day offers the opportunity offers the opportunity to highlight positive uses of technology and to explore the role we all play in helping to create a better and safer online community. It calls upon young people, parents, carers, teachers, social workers, law enforcement, companies, policymakers, and wider, to join together and play their part for a better internet. Ultimately, a better internet is up to us!
www.saferinternetday.org.uk

3. FACTSHEETS/INFORMATION FOR PARENTS & CARERS

Supporting Young People Online: A free guide created by Childnet providing Information and advice for parents and carers on supporting young people online. The advice is also available in 12 additional languages including Arabic, Hindi, Polish, Spanish, Urdu and Welsh.
www.childnet.com/resources/supporting-young-people-online

Information and Advice for Foster Carers/Adoptive Parents:
The UK Safer Internet Centre has worked together with Islington Council to create leaflets for foster carers and adoptive parents. The leaflets, which are free to download and easy to print, include top tips and conversation starters to help foster carers and adoptive parents get to grips with internet safety.
www.saferinternet.org.uk/fostering-adoption

Keeping Young Children Safe Online: Children love using technology and are learning to navigate websites, online games and consoles, and touch screen technology like iPads and smartphones from a younger and younger age. This advice contains top tips for parents and carers for keeping young children safe online.
www.childnet.com/resources/keeping-young-children-safe-online

Supporting young people online

Information and advice for parents and carers

Childnet International

The internet – an inspiring and positive place

The internet is an amazing resource which enables children and young people to connect, communicate and be creative in a number of different ways, on a range of devices. However, the internet is always changing, and being able to keep up to date with your children's use of technology can be a challenge. You may sometimes feel that your children have better technical skills than you do, however children and young people still need advice and protection when it comes to managing their lives online.

Issues that your child may encounter on the internet will vary depending on their age and online activities. We have grouped potential online risks into these 4 categories.

Conduct:
Children need to be aware of the impact that their online activity can have on both themselves and other people, and the digital footprint that they create on the internet. It's easy to feel anonymous online and it's important that children are aware of who is able to view, and potentially share, the information that they may have posted. When using the internet, it's important to keep personal information safe and not share it with strangers. Discuss with your child the importance of reporting inappropriate conversations, messages, images and behaviours and how this can be done.

Content:
Some online content is not suitable for children and may be hurtful or harmful. This is true for content accessed and viewed via social networks, online games, blogs and websites. It's important for children to consider the reliability of online material and be aware that it might not be true or written with a bias. Children may need your help as they begin to assess content in this way. There can be legal consequences for using or downloading copyrighted content, without seeking the author's permission.

Contact:
It is important for children to realise that new friends made online may not be who they say they are and that once a friend is added to an online account, you may be sharing your personal information with them. Regularly reviewing friends lists and removing unwanted contacts is a useful step. Privacy settings online may also allow you to customise the information that each friend is able to access. If you have concerns that your child is, or has been, the subject of inappropriate sexual contact or approach by another person, it's vital that you report it to the police via the Child Exploitation and Online Protection Centre (**www.ceop.police.uk**). If your child is the victim of cyberbullying, this can also be reported online and offline. Reinforce with your child the importance of telling a trusted adult straight away if someone is bullying them or making them feel uncomfortable, or if one of their friends is being bullied online.

Commercialism:
Young people's privacy and enjoyment online can sometimes be affected by advertising and marketing schemes, which can also mean inadvertently spending money online, for example within applications. Encourage your children to keep their personal information private, learn how to block both pop ups and spam emails, turn off in-app purchasing on devices where possible, and use a family email address when filling in online forms.

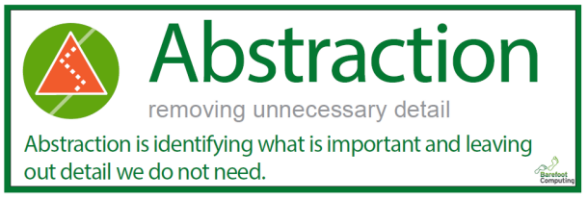
There are real advantages in maintaining an open dialogue with your child about their internet use. Not sure where to begin? These conversation starter suggestions can help.

1. Ask your children to tell you about the websites and apps they like to use and what they enjoy doing online.
2. Ask them about how they stay safe online. What tips do they have for you, and where did they learn them? What is OK and not OK to share?
3. Ask them if they know where to go for help, where to find the safety advice, privacy settings and how to report or block on the services they use.
4. Encourage them to help someone! Perhaps they can show you how to do something better online or they might have a friend who would benefit from their help and support.
5. Think about how you each use the internet. What more could you do to use the internet together? Are there activities that you could enjoy as a family?

E-safety

- Conversation Starters

Computer Science
Computational Thinking



Barefoot Computing

Computer Science

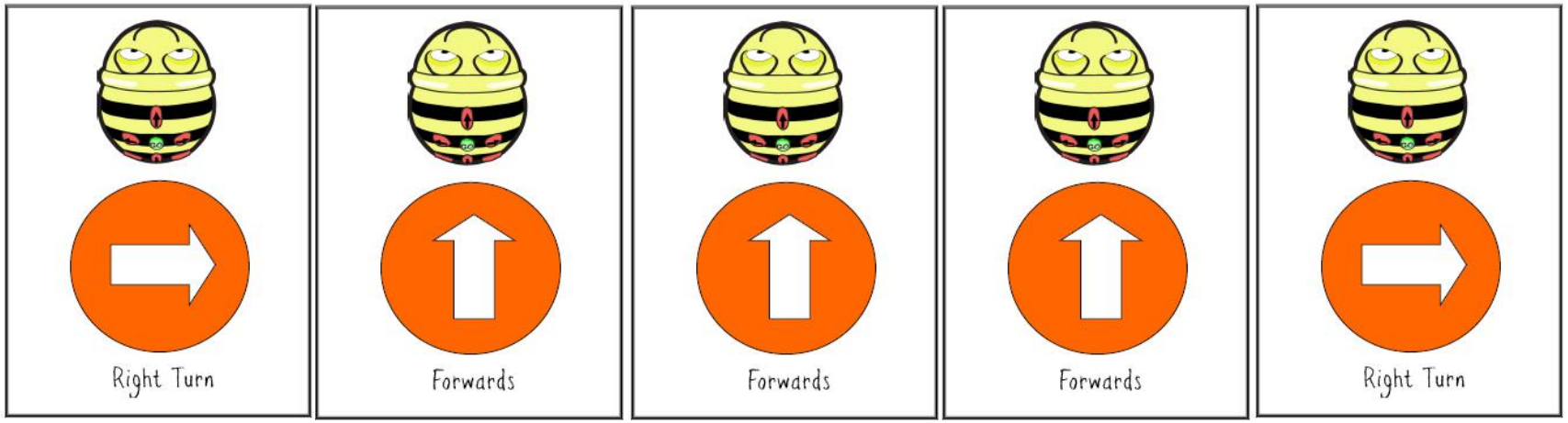
- Practical programming – Beebots – YR & Y1

Computer Science

- Practical programming – Beebot mats – YR, 1 and 2

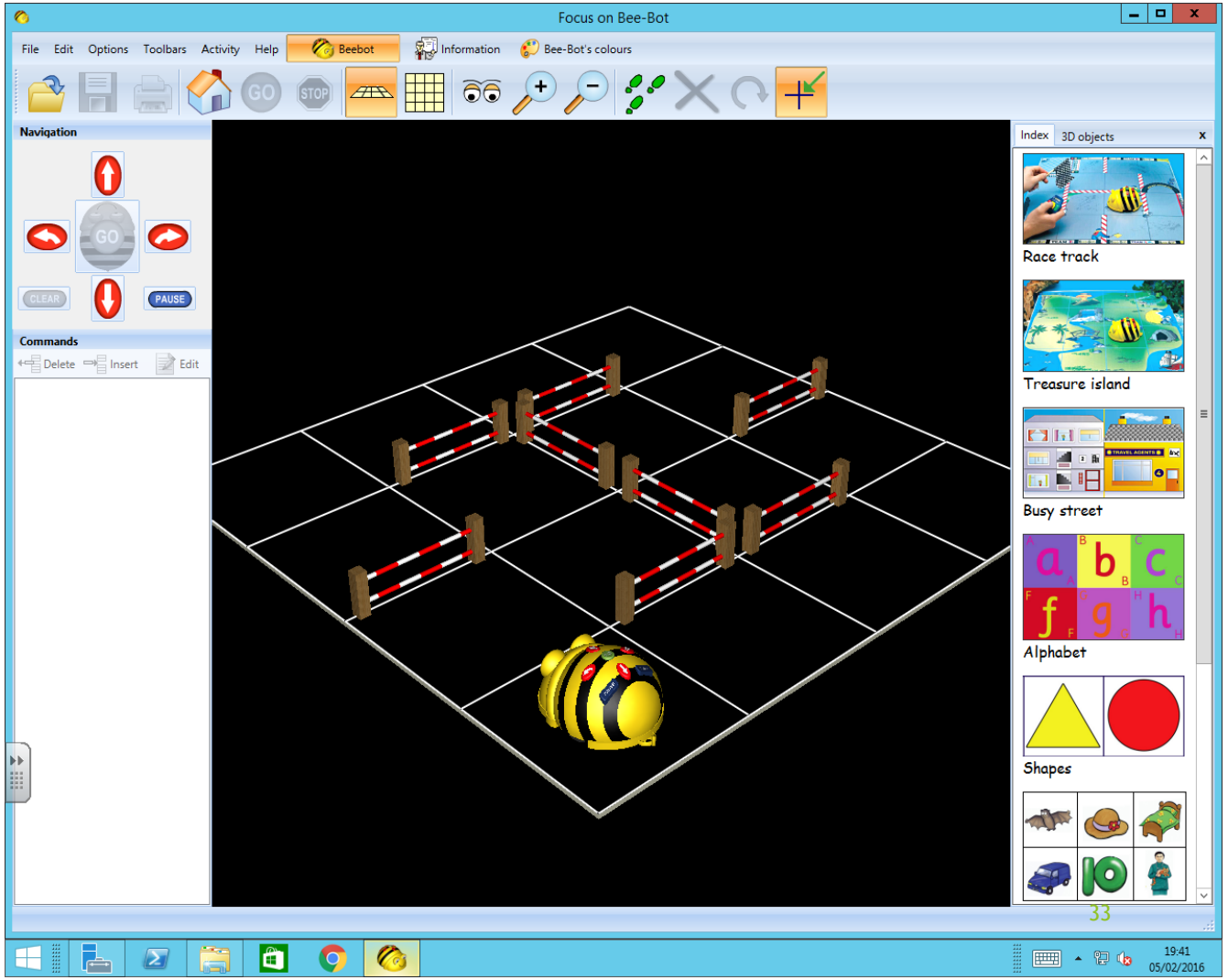
Computer Science

- Practical programming – building a sequence – Y1 and Y2



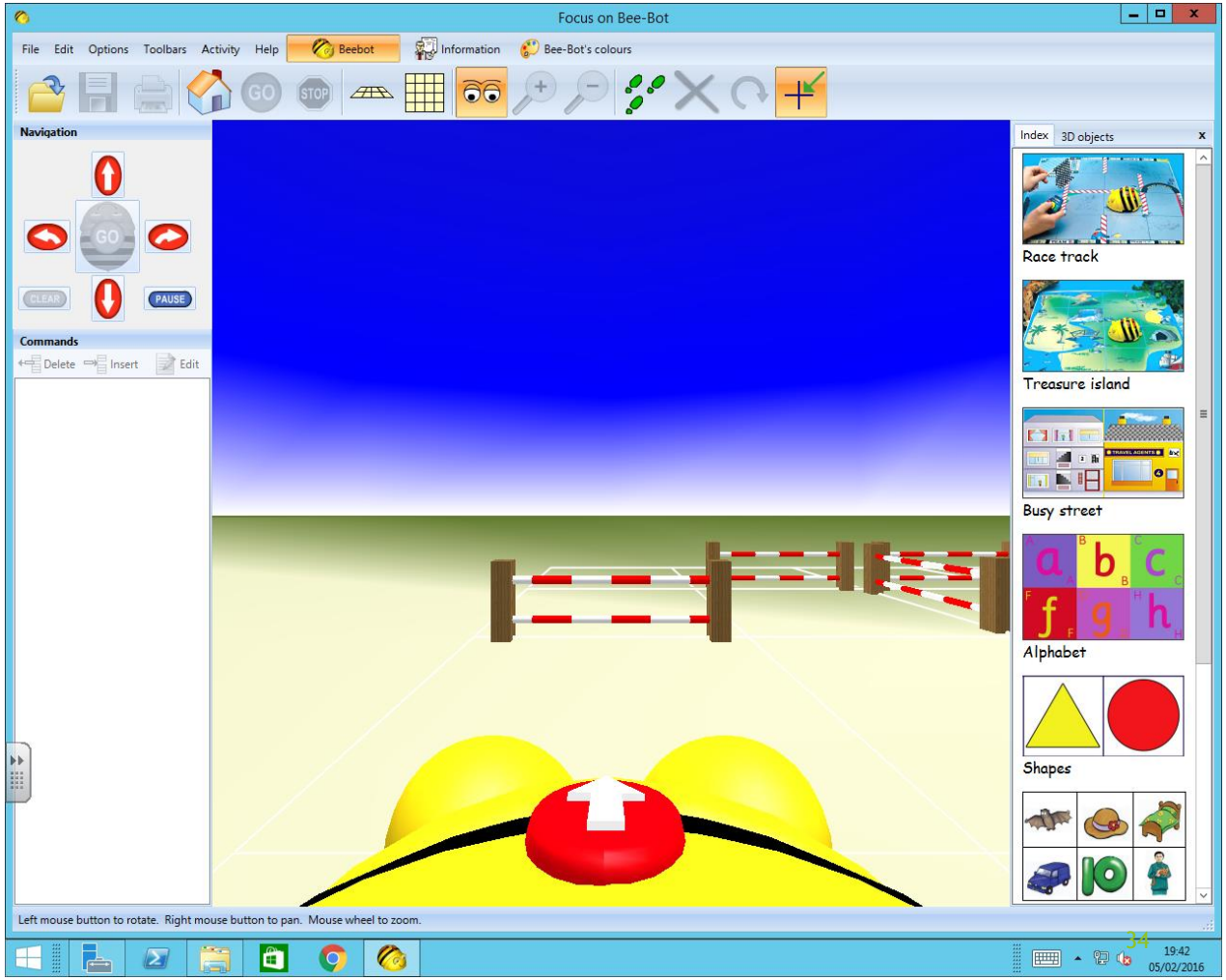
Computer Science

- Beebot software – Y1 and Y2



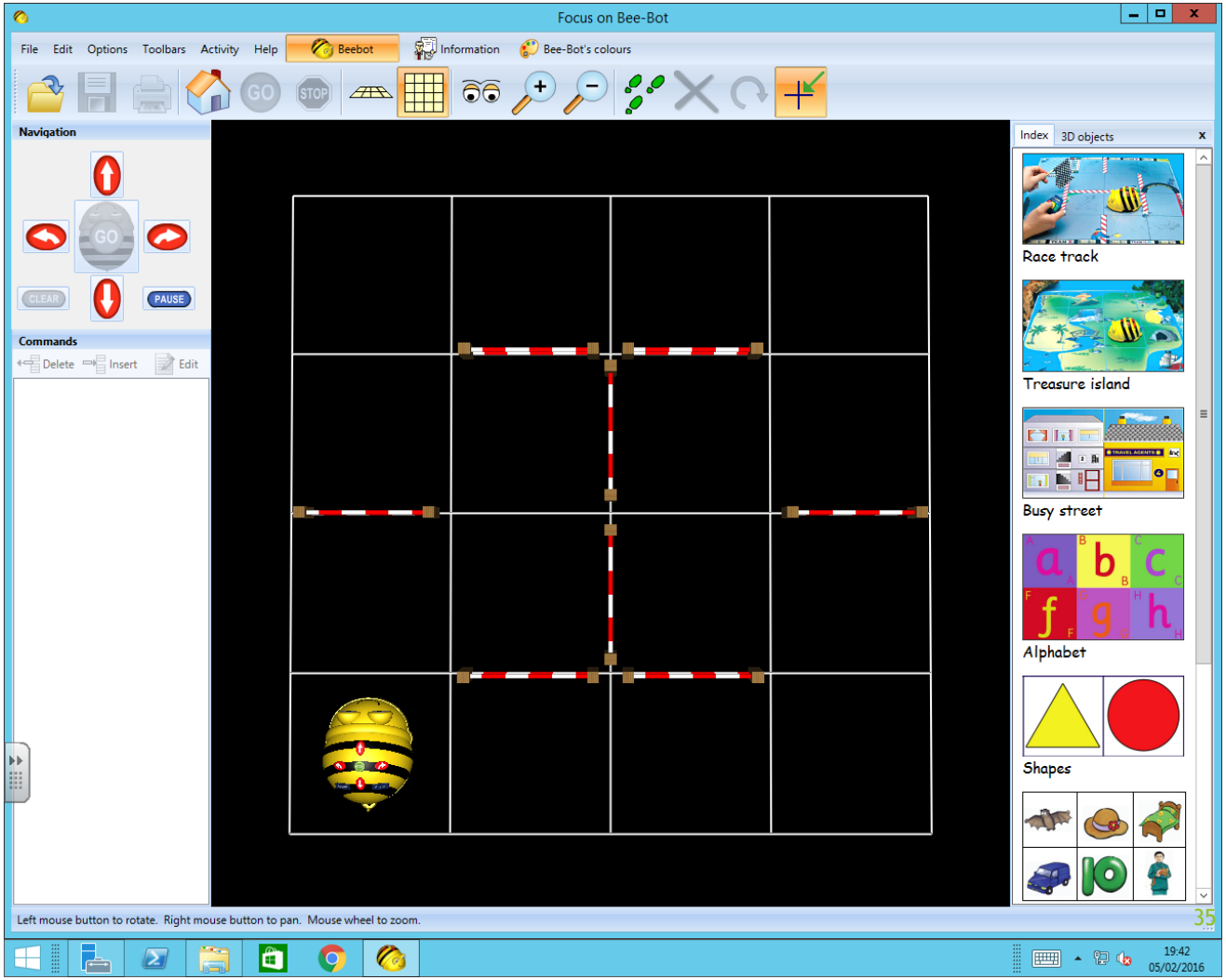
Computer Science

- Beebot software – Y1 and Y2



Computer Science

- Beebot software – Y1 and Y2



Computer Science

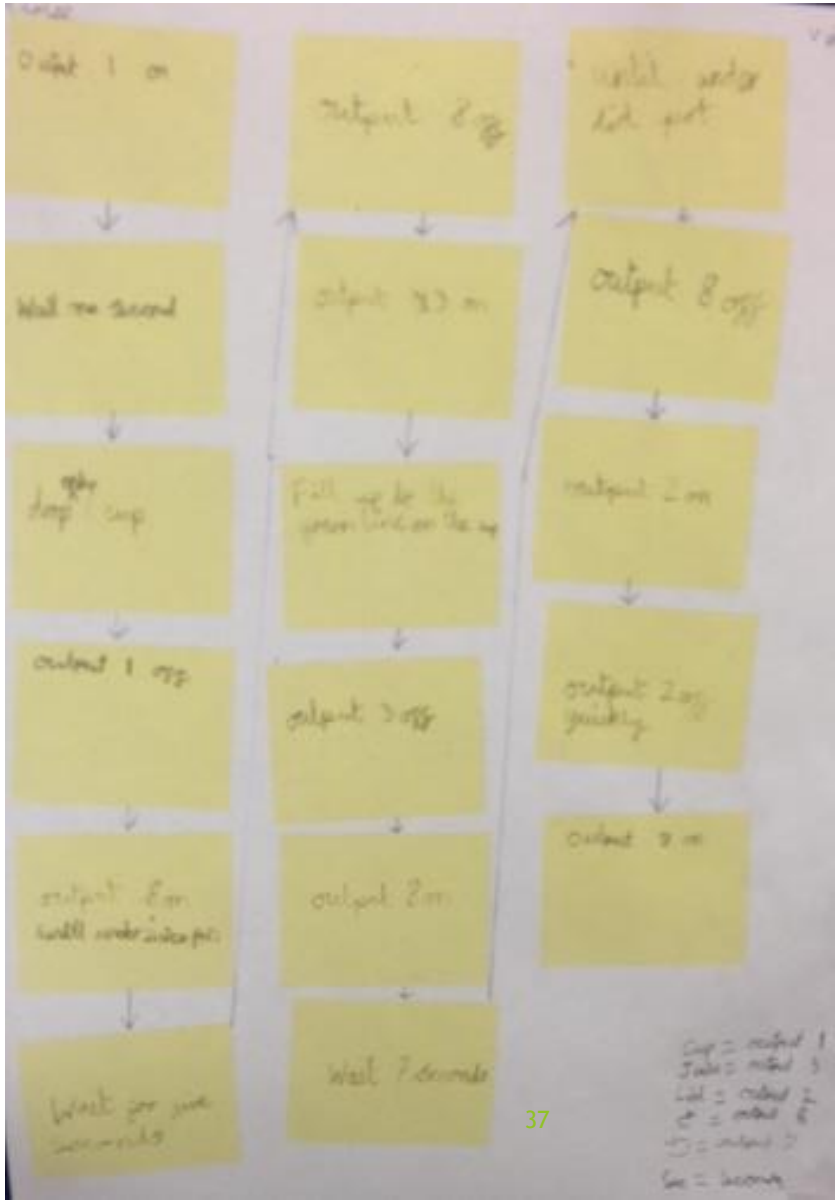
- Learning about algorithms and computational thinking

Sandwich bot

Computer Science

- Learning about algorithms and computational thinking

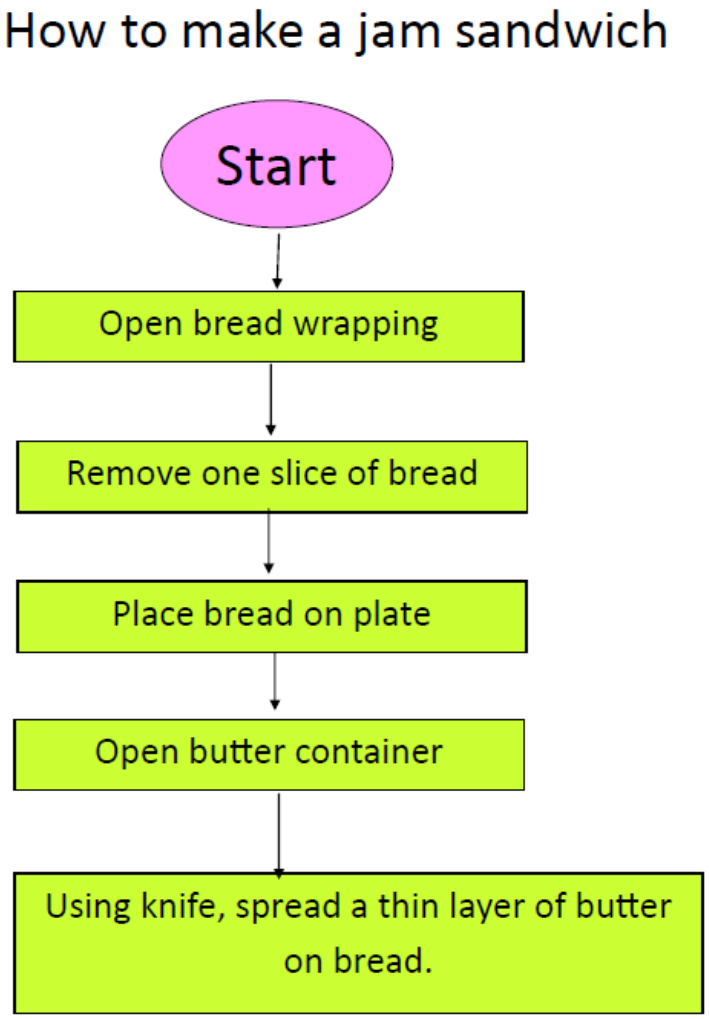
Year 3 - Recording the steps on sticky notes and sequencing these to make a flow chart.



Computer Science

- Learning about algorithms and computational thinking

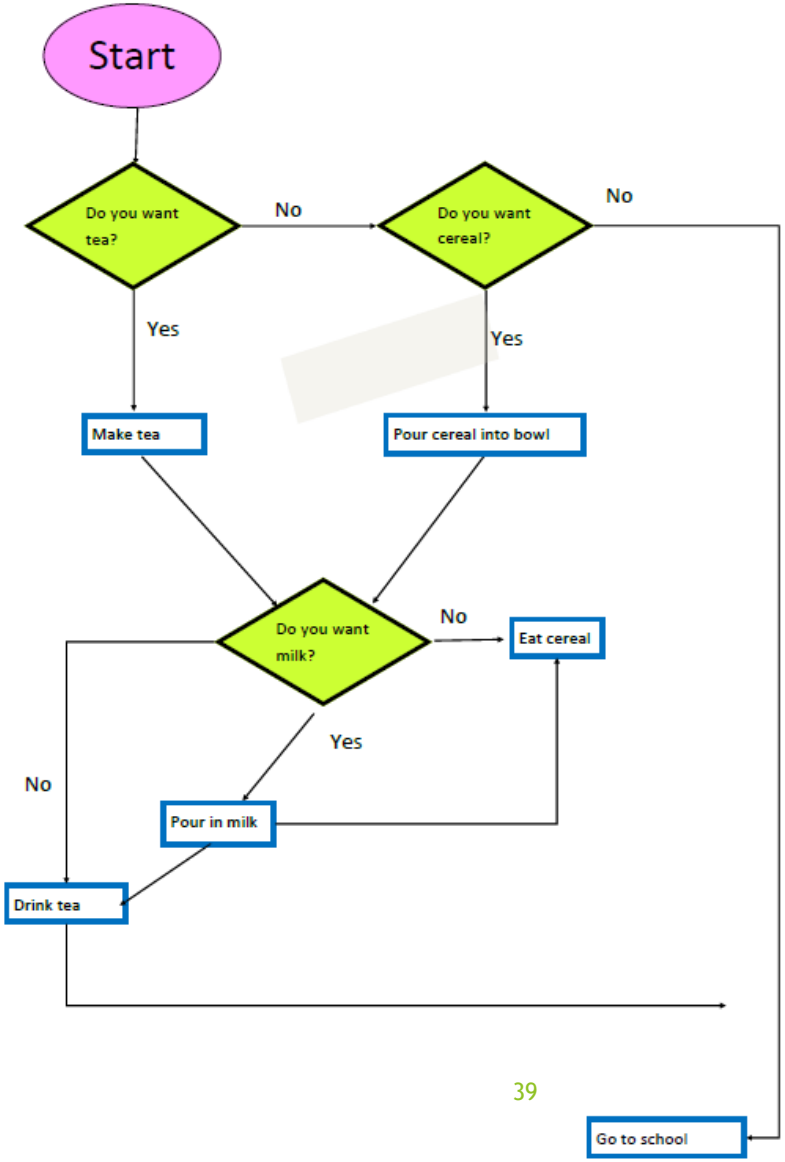
Flow charts for a simple sequence



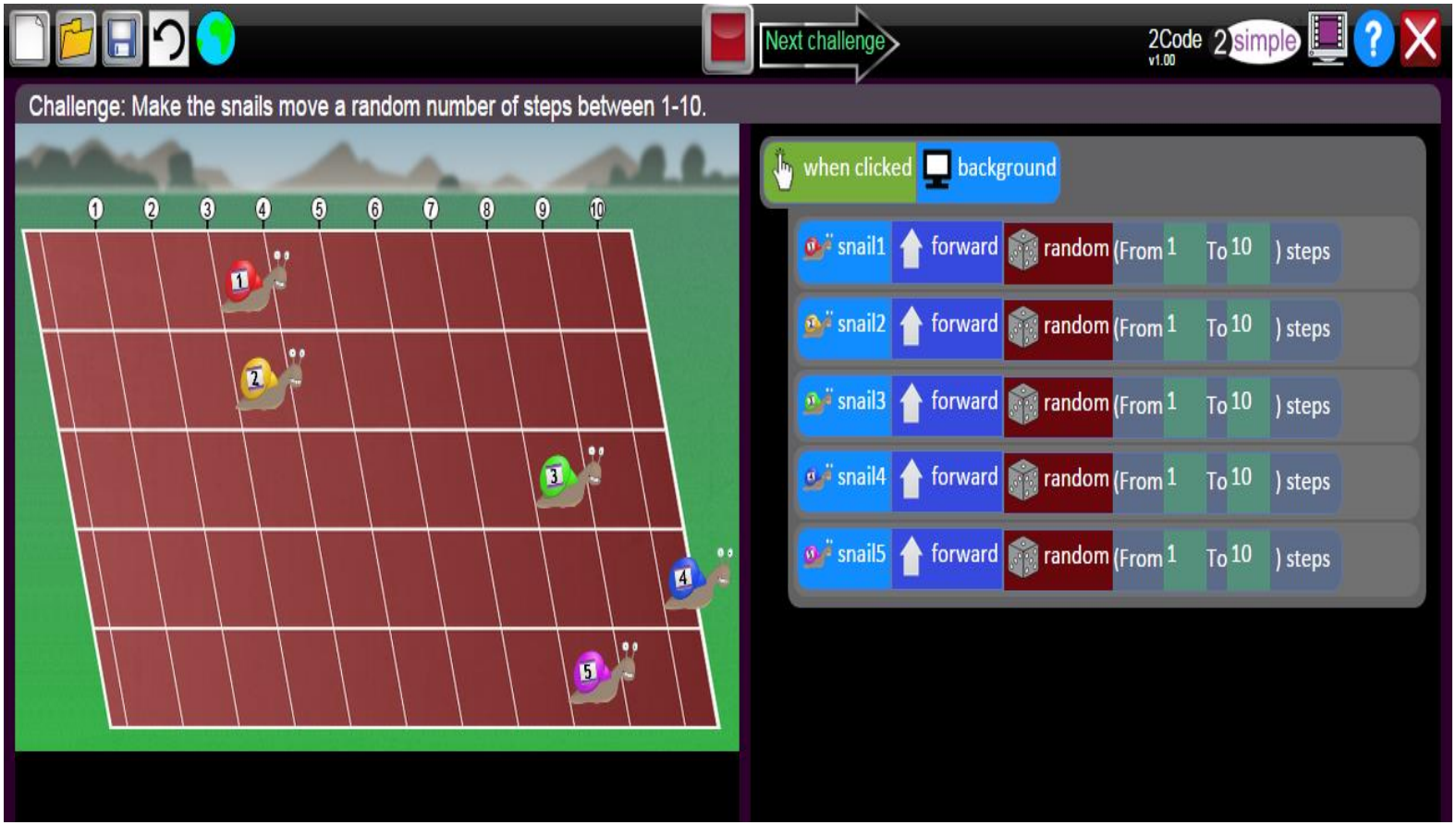
Computer Science

- Learning about algorithms and computational thinking

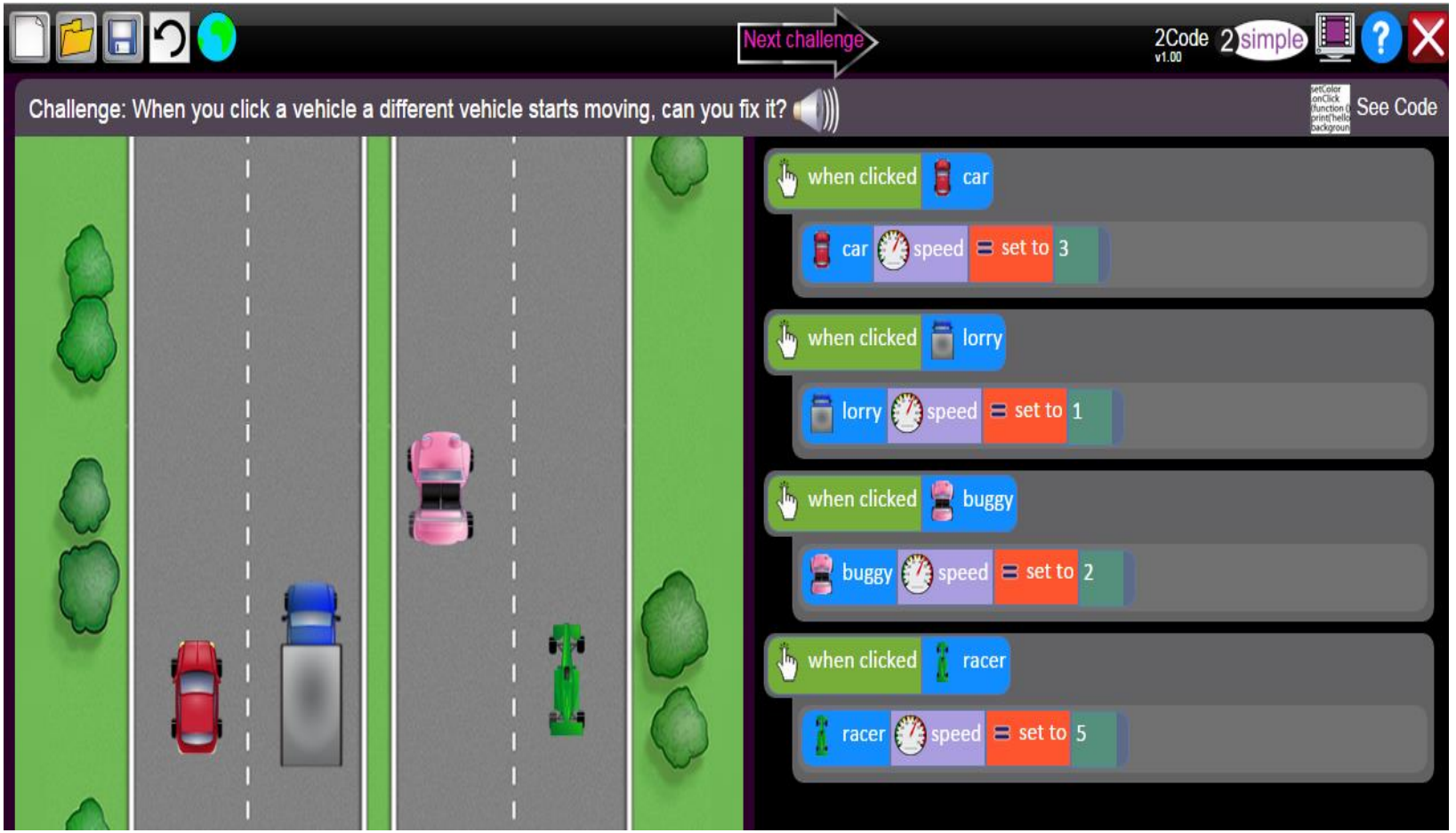
Flow charts using decisions



Computer Science – 2Code – Year 3



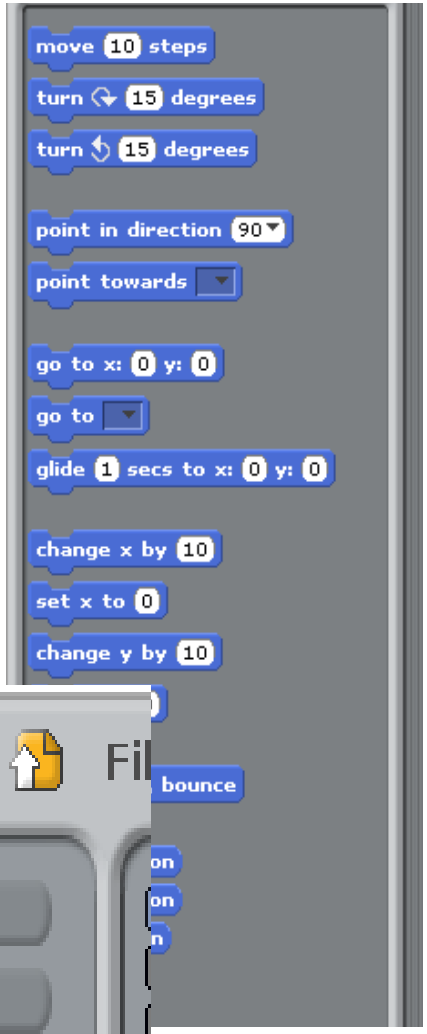
Computer Science – Debugging



Computer Science - 2Code

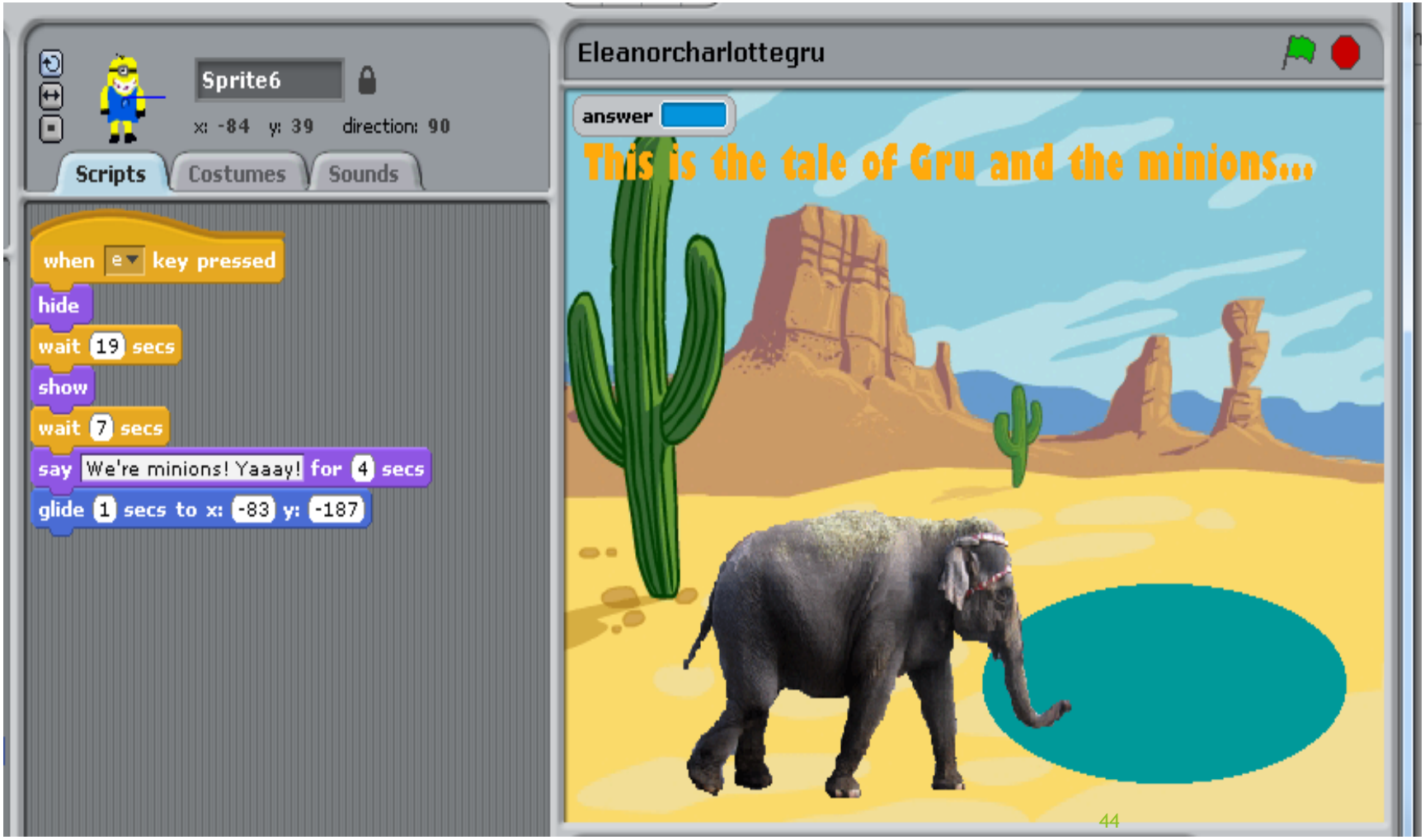
Scratch – Year 5

- Graphical programming



Scratch – Year 5

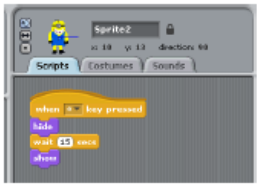
- Graphical programming

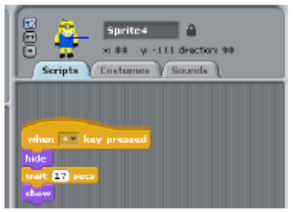


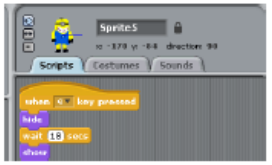
Scratch - Year 5

- Evaluating

Our short script involves an Indian elephant named Gru. Gru (sprite 1), is looking for adventure, but cannot find a friend to explore with. The 'say' button was used to create this atmosphere. Then, using the show and hide buttons, we created some minions to be his adventurers... The seven minions had to wait 19 seconds, before they could appear. Gru, used the 'say' button again, to explain that there was a lot of them. After, sprite 6 (minion standing on top of elephant) says that they are minions. At the beginning, we put a text box at the top like a title, saying 'This is the tale of Gru and the minions...'







We have added a 'glide to' button so that sprite 6 can jump off Gru, and push him into the water by moving both characters simultaneously!

We think we could improve it by making it a little bit longer and using more varied commands, such as sensing and sound effects to make it more realistic.

Software

- The children will demonstrate their software and answer questions.
- The laptops have been set up with a variety of software – please feel free to have a go!
- Any questions?

At home…

- PurpleMash – login needed (link from school website)
- Oxford Owl – www.oxfordowl.co.uk
- EYFS / KS1 – www.poissonrouge.com
- Try an Hour of Code - https://code.org/learn - Star Wars, Minecraft, Frozen, Angry Birds
- Pivot, Scratch, Kodu, Paint.net – all free
- Encourage observation of copyright and search for free images
- Watch CBBC & other e-safety clips together
- Set parental controls – see Links / Internet Safety menu