



## *Computing*

### *Condensed*

A 20 lesson, condensed long-term plan covering the KS1 and KS2 National Curriculum objectives.

This document is regularly updated to reflect changes in our content. This version was created on 13.01.22

Please click [here](#) to download the current version.

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# How does Kapow Primary help our school to meet the statutory guidance for Computing?

Our scheme of work fulfils the statutory requirements for computing outlined in the **National Curriculum (2014)** and, when used in conjunction with our RSE & PSHE scheme, also covers the government's **Education for a Connected World -2020 edition** framework (see our [Education for a Connected World framework mapping](#))

Start here >

## Education for a Connected World – 2020 edition

A framework to equip children and young people for digital life

UK Council for Internet Safety

© Crown copyright 2019

Department for Education

## The national curriculum in England

Framework document

December 2014

© Crown copyright 2013

# How does Kapow Primary's scheme of work align with the National Curriculum?

Our scheme of work fulfils the statutory requirements outlined in the **National Curriculum (2014)**. The National Curriculum Programme of Study for Computing aims to ensure that all pupils:

We have identified these three strands which run throughout our scheme of work:

★ 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.

(CS) Computer Science

★ can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems and are responsible, competent, confident and creative users of information and communication technology.

(IT) Information Technology

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

(DL) Digital Literacy

Our [Curriculum overview](#) document shows which of our units cover each of the National Curriculum attainment targets as well as each of the three strands. Each lesson plan references the relevant National Curriculum objectives, along with cross-curricular links to any other subjects.

# How is the Computing scheme of work organised?

National Curriculum guidance

DL Digital Literacy

IT Information Technology

CS Computer Science

Kapow Primary scheme of work

Kapow Primary key areas

Computing systems and networks

Programming

Creating media

Data handling

Online safety

Skill showcase units feature aspects from some or all of the five areas above

Skills showcase

# Key areas

We have categorised our lessons into the five key areas below, which we return to in each year group making it clear to see prior and future learning for your pupils and how what you are teaching fits into their wider learning journey.

## Computing systems and networks

Identifying hardware and using software, while exploring how computers communicate and connect to one another.

## Programming

Understanding that a computer operates on algorithms, and learning how to write, adapt and debug code to instruct a computer to perform set tasks.

## Creating media

Learning how to use various devices – record, capture and edit content such as videos, music, pictures and photographs.

## Data handling

Ensuring that information is collected, recorded, stored, presented and analysed in a manner that is useful and can help to solve problems.

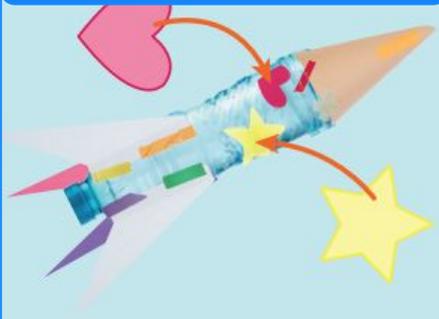
## Online safety

Understanding the benefits and risks of being online – how to remain safe, keep personal information secure and recognising when to seek help in difficult situations.

# Skills showcase units

There are four units entitled Skills showcase. These units give children the chance to combine and apply skills and knowledge gained, from a range of the five key areas above, to produce a specific outcome.

## Y1 - Rocket to the moon



## Y4 - HTML

```
<h1> Heading </h1>
<h2> Heading 2 </h2>
<h3> Heading 3 </h3>
  <h4> Heading 4 </h4>
    <h5> Heading 5 </h5>
      <h6> Heading 6 </h6>
```

## Y5 - Mars Rover 2



## Y6 - Inventing a product



## *A spiral curriculum*

Kapow Primary's Computing scheme of work has been designed as a spiral curriculum with the following key principles in mind:

- ✓ **Cyclical:** Pupils revisit the five key areas throughout KS1 and KS2.
- ✓ **Increasing depth:** Each time a key area is revisited, it is covered with greater complexity.
- ✓ **Prior knowledge:** Upon returning to each key area, prior knowledge is utilised so pupils can build on previous foundations, rather than starting again.



## *Is there any flexibility in the Kapow Primary Computing scheme?*

Our Computing scheme of work is organised into units.

Within each unit, lessons must be taught in order as they build upon one another.

Across a single year group, units themselves do not need to be taught in the suggested order, with the exception of the numbered units which should be taught in the correct order (e.g. **Programming 1** before **Programming 2**). We would also suggest that the **Autumn 1** unit is taught first each year where possible.

The flexibility in the order the units can be taught, allows schools to adapt the planning to suit their school and to make use of cross-curricular links available.

## What about online safety?

Recognising the increasing importance of this key area, we have created an online safety unit for each year group.

You may wish to teach this unit in the same way as the other units, on a dedicated Online Safety Day (for example, on Safer Internet Day in February each year) or spread throughout the year. See [Guidance: How to fit in our Online safety units](#) when considering the best option for your school.



## Computing in EYFS

Our EYFS lessons are a natural precursor to our Year 1 Computing plans. They are designed especially for the Reception classroom and are play-based, hands-on and fun!

Please read the teacher guidance for:

- ✓ [Supporting a child-led project using technology](#)
- and
- ✓ [Computing through continuous provision](#)

Whilst the technology strand is no longer a specific area in the new EYFS framework (2021), having the opportunity to develop computing skills at an early age can foster interest and confidence in technology and give pupils an advantage going into KS1.

Our EYFS units focus on the same key areas and link to Primary and Specific Areas of the **EYFS framework 2021** and **Development Matters Guidance** as detailed on individual lesson plans and on our [Curriculum overview](#).

Organisation		Considerations					
<b>Option 1</b>	<p>Teach each of our units as shown on the suggested long-term plan.</p> <p>Hold an online safety day at some point during the year, where children are 'off-timetable' and cover the whole of the Online safety unit on this day.</p> <p>Many schools may choose to do this on Safer Internet Day which falls in February each year.</p>	<ul style="list-style-type: none"> <li>• Timetabling of computing equipment on the online safety day.</li> <li>• What will happen if a child is away on this day?</li> <li>• Will pupils retain the online safety learning in their long-term memory?</li> </ul>					
<b>Option 2</b>	<p>Teach each of our units as shown in the suggested Long term plan.</p> <p>As each half term is usually longer than the five weeks of lessons we have provided, you should have some 'spare' Computing lessons. Some or all of these could be used to teach one lesson from the Online safety unit.</p>	<ul style="list-style-type: none"> <li>• Depending on how the holidays fall, you may still have some 'spare' lessons within a half-term and some half-terms with too few lessons.</li> <li>• You may need to briefly recap learning from the previous online safety lesson (although this is referred to in our planning)</li> </ul>					
		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Year 1</b> Option 2 example:	<p><a href="#">Improving mouse skills</a></p> <p>+Online safety Lesson 1</p>	<p><a href="#">Algorithms unplugged</a></p> <p>+Online safety Lesson 2</p>	<p><a href="#">Rocket to the moon</a></p> <p>+ Online safety Lesson 3</p>	<p>Programming Bee-bots</p> <p><a href="#">Option 1: Bee-bots</a></p> <p><a href="#">Option 2: Virtual Bee-bots</a></p> <p>+ Online safety Lesson 4</p>	<p><a href="#">Digital imagery</a></p>	<p><a href="#">Introduction to data</a></p>	
<b>Option 3</b>	<p>Teach the units in the order they are shown in our suggested long-term plan.</p> <p>When you have finished a unit move straight onto the next unit, rather than starting a new unit after each school holiday.</p> <p>The example below assumes six Computing lessons per term.</p>	<ul style="list-style-type: none"> <li>• Will children/ teachers be too tired to start a new unit at the end of a long half-term?</li> <li>• Will this have implications for termly overviews sent home to parents?</li> <li>• How will this affect assessment data?</li> <li>• Will this make it more difficult for the subject leader to monitor Computing?</li> </ul>					
		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Year 1</b> Option 3 example:	<p><a href="#">Improving mouse skills</a> (5 lessons)</p> <p><a href="#">Algorithms unplugged</a> (1 lesson)</p>	<p><a href="#">Algorithms unplugged</a> (4 lessons)</p> <p><a href="#">Rocket to the moon</a> (2 lessons)</p>	<p><a href="#">Rocket to the moon</a> (3 lessons)</p> <p><a href="#">Programming Bee-Bots</a> (3 lessons)</p>	<p><a href="#">Programming Bee-Bots</a> (2 lessons)</p> <p><a href="#">Digital imagery</a> (4 lessons)</p>	<p><a href="#">Digital imagery</a> (1 lesson)</p> <p><a href="#">Introduction to data</a> (5 lessons)</p>	<p><a href="#">Online safety Y1</a> (4 lessons)</p>	

## *Short of curriculum time?*

At Kapow Primary, we understand that curriculum time is always tight in primary schools.

We have created a Condensed curriculum version of our Long term plan to help those schools who want to ensure coverage of the National Curriculum, without dedicating an hour a week to Computing.

Our Condensed curriculum long term plan abstracts units which cover key skills and knowledge in only 20 lessons.

The selected lessons ensure that there is balanced coverage of our five key areas of Computing, as well as one Skills showcase unit, to give pupils an opportunity to combine and apply skills from different units.

This version of our Long term plan could be used if you are teaching Computing in a two-week, half termly cycle or are block teaching foundation subjects. It could also be used to relieve pressure on teachers and pupils in terms of the amount of curriculum content.



## *Other useful documentation:*

There are a number of key documents that can support you in planning and delivery of the Kapow Primary **Computing** scheme. Visit the [Essential subject materials page](#) for more.

- ✓ [Curriculum overview document:](#)
  - Shows which of the National Curriculum Attainment targets are covered by each unit.
- ✓ [Progression of skills document:](#)
  - Shows how understanding and application of key concepts and skills builds year on year.
- ✓ [Knowledge organisers - one per unit:](#)
  - One page overview of the key knowledge and vocabulary from a unit to support pupils' learning.
- ✓ [Required hardware and software:](#)
  - Explains which software each of the commonly used devices require.
- ✓ [Intent, Implementation, Impact statement](#)

	Unit 1	Unit 2	Unit 3	Unit 4
EYFS	Computing systems and networks	Programming 1	Programming 2	Data Handling
	<a href="#">Using a computer</a> (5 lessons)	<a href="#">All about instructions</a> (5 lessons)	<a href="#">Programming Bee-Bots</a> (5 lessons)	<a href="#">Introduction to data</a> (5 lessons)
Year 1	Computing systems and networks	Programming 1	Programming 2	Data Handling
	<a href="#">Improving mouse skills</a> (5 lessons)	<a href="#">Algorithms unplugged</a> (5 lessons)	Programming ( <a href="#">Option 1: Bee-Bot</a> ) ( <a href="#">Option 2: Virtual Bee-Bot</a> ) (5 lessons)	<a href="#">Introduction to data</a> (5 lessons)
Year 2	Computing systems and networks 1	Programming	Online safety	Data Handling
	<a href="#">What is a computer?</a> (5 lessons)	<a href="#">Algorithms and debugging</a> (5 lessons)	<a href="#">Online safety Y2</a> (5 lessons)	<a href="#">International Space Station</a> (5 lessons)
Year 3	Computing systems and networks 1	Programming	Computing systems and networks 3	Creating media
	Networks and the internet ( <a href="#">Option 1: Google</a> ) ( <a href="#">Option 2: Microsoft Office 365</a> ) (5 lessons)	<a href="#">Programming: Scratch</a> (5 lessons)	<a href="#">Journey inside a computer</a> (5 lessons)	Video trailers ( <a href="#">Option 1: Using devices other than iPads</a> ) ( <a href="#">Option 2: Using iPads</a> ) (5 lessons)
Year 4	Computing systems and networks	Programming 1	Skills showcase	Programming 2
	Collaborative learning ( <a href="#">Option 1: Google</a> ) ( <a href="#">Option 2: Microsoft Office 365</a> ) (5 lessons)	Further coding with Scratch ( <a href="#">Option 1: Google</a> ) ( <a href="#">Option 2: Microsoft Office 365</a> ) (5 lessons)	<a href="#">HTML</a> (5 lessons)	<a href="#">Computational thinking</a> (5 lessons)
Year 5	Computing systems and networks	Programming	Data Handling	Online safety
	Search engines ( <a href="#">Option 1: Google</a> ) ( <a href="#">Option 2: Microsoft Office 365</a> ) (5 lessons)	Programming music ( <a href="#">Option 1: Sonic Pi</a> ) ( <a href="#">Option 2: Scratch</a> ) (5 lessons)	<a href="#">Mars Rover 1</a> (5 lessons)	<a href="#">Online safety Y5</a> (5 lessons)
Year 6	Computing systems and networks	Programming	Data Handling	Creating media
	Bletchley Park ( <a href="#">Option 1: Google</a> ) ( <a href="#">Option 2: Microsoft Office 365</a> ) (5 lessons)	<a href="#">Intro to Python</a> (5 lessons)	<a href="#">Big data 1</a> (5 lessons)	History of computers ( <a href="#">Option 1: Google</a> ) ( <a href="#">Option 2: Microsoft Office 365</a> ) (5 lessons)