



# Seamer and Irton CP School

## Progression of knowledge and skills in Computing

### Computing systems and networks: Autumn 1

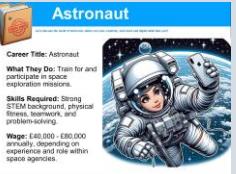
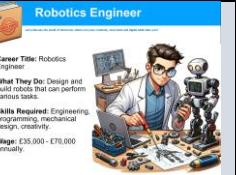


The Computer Systems and Networks strand is taught once a year, building progressively from one-year group to the next, with subject specific knowledge introduced at age-appropriate points.

Across the half term, pupils are given opportunities to hold discussions around careers. These are directly linked to the unit they are studying and employees and role models from with the local community showcase job prospects during visits to the school. Equity, diversity and inclusion are addressed through highlighting pioneers and influencers who represent a broad and inclusive range of characteristics, alongside those from differing socio-economic and cultural backgrounds, these are annually reviewed to ensure our pupils are exposed to relevant and meaningful experiences.

	<b>Reception</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
<b>Computing systems and networks:</b>  <b>Autumn 1</b>	<b>Introduction to technology</b>  Show and Tell: Introduce different types of technology devices (e.g., tablets, smartphones).  <b>Exploring Classroom Technology:</b> Identify technology in the classroom and discuss its uses.  <b>Simple Network Activities:</b> Demonstrate how devices can be connected (e.g.,	<a href="#">Computing systems and networks - Technology around us</a>  <b>Recognising technology and using it responsibly</b>  No. of lessons: 6 Overview: <a href="#">Unit Guide</a>	<a href="#">Computing systems and networks - IT around us</a>  <b>Identifying IT and how its responsible use improves our world in school and beyond</b>  No. of lessons: 6 Overview: <a href="#">Unit Guide</a>	<a href="#">Computing systems-and-networks-connecting-computers</a>  <b>Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.</b>  No. of lessons: 6 Overview: <a href="#">Unit Guide</a>	<a href="#">Computing systems and networks – The Internet</a>  <b>The internet</b>  <b>Recognising that the internet is a network of networks including the WWW, and why we should evaluate online content.</b>  No. of lessons: 6 Overview: <a href="#">Unit Guide</a>	<a href="#">Computing-systems-and-networks-sharing-information</a>  <b>Recognising IT systems in the world and how some can enable searching on the internet.</b>  No. of lessons: 6 Overview: <a href="#">Unit Guide</a>	<a href="#">Computing-systems-and-networks-communication</a>  <b>Exploring how data is transferred by working collaboratively online.</b>  No. of lessons: 6 Overview: <a href="#">Unit Guide</a>

	<p>using pretend cables or wireless connections)</p> <p><b>EYFS Framework Link:</b> <i>Communication and Language (Listening and Attention, Understanding), Understanding the World (Technology)</i></p>						
<b>Vocabulary</b>  <b>Glossary available</b> <a href="#"><u>Primary computing glossary - Teach Computing</u></a>		technology, computer, screen, space bar, mouse, keyboard, safety, click, drag, responsibly	Information technology (IT), computer, barcode, scanner/scan	digital device, input, process, output, program, connection, network	Network Router, Network Security, Network switch, Server Wireless access point (WAP), Browser, World Wide Web, Content, Links, Files, Download, Sharing, Ownership, Permission, Information	System, Connection, Digital, Input, Process, Output, Protocol, Address, Chat, Collaboration, IP Address	Search Engine, Refine, Index, Web Crawler, Ranking, Links, Searching, Selection, Communication, Public, Private, SMS, Blog, World Wide Web
<b>Software</b>		<a href="#"><u>untitled.png - PaintZ</u></a>	Google slides OR Can be delivered unplugged, or converted to Microsoft PPT	<a href="#"><u>untitled.png - PaintZ</u></a>	Google slides OR Can be delivered unplugged, or converted to Microsoft PPT	Any device with access to the internet	<a href="#"><u>Free Online Slide Presentation: PowerPoint   Microsoft 365</u></a>  <a href="#"><u>Padlet:</u></a>
<b>Careers Education</b> Including links to Equity,		<b>Female Pioneer:</b>  <b>Hedy Lamarr - Inventor of</b>	<b>Careers Focus</b>	<b>Female Pioneer:</b>  <b>Radia Perlman - Inventor of the</b>	<b>Careers Focus</b>	<b>Female Pioneer:</b>  <b>Sophie Wilson</b> Designed the Acorn Micro-Computer,	<b>Careers Focus</b>

Diversity and Inclusion		<p>frequency-hopping spread spectrum.</p>  <p><b>Book to read</b> Hedy Lamarr (93) (Little People, BIG DREAMS) by Frances Lincoln Children's Books</p>	<p><b>Computing Teacher</b></p>  <p><b>Career Title:</b> Computing Teacher <b>What They Do:</b> Teach computing and information technology subjects at schools. <b>Skills Required:</b> Understanding of computing concepts, ability to inspire and educate, patience. <b>Wage:</b> £25,714 - £41,604 annually (based on Teacher Status salary range)</p> <p><b>Network Engineer</b></p>  <p><b>Career Title:</b> Network Engineer <b>What They Do:</b> Set up, administer, maintain, and support computer networks. <b>Skills Required:</b> Problem-solving, network security, hardware knowledge. <b>Wage:</b> £30,000 - £60,000 annually</p>	<p>spanning tree protocol.</p>  <p><a href="https://netguru.com/article/radia-perlman-and-beginnings-of-the-internet-hidden-heroes">Radia Perlman and beginnings of the Internet   Hidden Heroes (netguru.com)</a></p>	<p><b>Cybersecurity Analyst</b></p>  <p><b>Career Title:</b> Cybersecurity Analyst <b>What They Do:</b> Protect computer systems and networks from cyber threats such as viruses, malware, scammers and cyber-villains. <b>Skills Required:</b> Problem-solving, attention to detail, understanding of hacking. <b>Wage:</b> £50,000 - £70,000 annually</p> <p><b>Astronaut</b></p>  <p><b>Career Title:</b> Astronaut <b>What They Do:</b> Train for and participate in space exploration missions. <b>Skills Required:</b> Strong STEM background, physical fitness, teamwork, and problem-solving. <b>Wage:</b> £40,000 - £80,000 annually, depending on experience and role within space agencies</p>	<p>which led to the development of ARM architecture used in most mobile devices today.</p>  <p><a href="https://www.chipdesign.com/gchq-teaching-london-computing-a-resource-hub-from-cas-london-amp-cs4fn">Sophie Wilson: Chip Design   Teaching London Computing: A RESOURCE HUB from CAS LONDON &amp; CS4FN</a></p>	<p><b>Robotics Engineer</b></p>  <p><b>Career Title:</b> Robotics Engineer <b>What They Do:</b> Design and build robots that can perform various tasks. <b>Skills Required:</b> Engineering, programming, mechanical engineering, creativity. <b>Wage:</b> £38,000 - £70,000 annually</p> <p><b>E-commerce Manager</b></p>  <p><b>Career Title:</b> E-commerce Manager <b>What They Do:</b> Oversees all sales and the website of a business. <b>Skills Required:</b> Digital marketing, web analytics, customer service. <b>Wage:</b> £30,000 - £80,000 annually</p>
<b>Local Community experts</b> (Visitors and visits) <p>Supplemented by STEM ambassador visits and online opportunities linked to the termly focus as and when available</p>		<p><b>Visitor</b> <b>Steve Chandler</b> Seamer and Irton school's network engineer and technical support</p>		<p><b>Visitor</b> <b>GCHQ</b></p>			