Hallfield Computing Curriculum

The curriculum can be split into three broad strands:

- **Computer Science**
- **Information Technology**
- **Digital Literacy**

In Computer Science, children are taught the "principles of information and computation, how digital systems work, and how to put this knowledge to use through programming." (National Curriculum)

In Information Technology, children choose and make use of a range of technology to create content and problem solve. This includes both hardware (physical devices and input methods such as keyboards) and software (programs and apps).

In Digital Literacy, children learn key concepts of internet safety, including critically evaluating information online, securing personal information and ensuring healthy digital habits to preserve and promote their mental health. We want our children to have:

- competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects.
- the ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity.
- an understanding of the connected nature of devices.
- the ability to communicate ideas well by using applications and devices throughout the curriculum.
- the ability to collect, organise and manipulate data effectively.
- an understanding of healthy digital habits and the ability to reflect on their own technology use.

Outcomes for children

Key Stage 1

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs
- execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and
- support when they have concerns about content or contact on the internet or other online technologies.

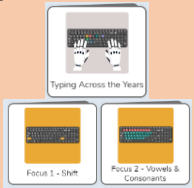
Key Stage 2

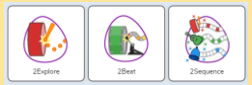
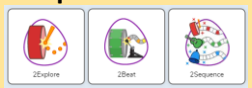
- design, write and debug programs that accomplish specific goals, including controlling or simulating physical
- systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms
- and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world
- wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating
- digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and
- create a range of programs, systems and content that accomplish given goals, including collecting, analysing,
- evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range
- of ways to report concerns about content and contact.

(National Curriculum)

YEAR 1	Week 1	Week 2	Week 3	Week 4	Week 5	Online Safety accessed via Childnet — Online safety for young people
Autumn 1 **IT Skills (DL)** **Purple Mash**	**Login In and Out**	**1) Login in & Out** **2) Mouse Skills** Paint a Picture	**1) Login In & Out** **2)** Simple City	**1) Login In & Out** **2)** Simple City	**1) Login In & Out** **2)** Simple City	**Social Story:** DigiDuck and the Magic Castle *Keeping Personal Information Safe*
Autumn 2 **Multimedia (CS)** **Purple Mash**	**2Paint a Picture** Firework Pictures	**2Explore** Make digital music	**2Go** Simple instructions	**Lego Builders** Lesson 1	**Lego Builders** Lesson 2	**Social Story:** Smarty the Penguin 1A *Asking for Help*
Online safety 2Bsafe (sessions 10-15 mins)	**Health, Well being and lifestyle: Session 1**	**Online relationships: Session 1**	**Online reputation: Session 1**	**Self image and identity: Session 1**	**Privacy and security: Session 1**	
Spring 1 **Programming (CS)** **Busy Things**	**Busy Things:** Block-a-doodledoo	**Busy Things:** Helicopter Rescue	**Busy Things:** Puzzling Paths	**Busy Things:** Path Peril	**Busy Things:** Free Play	**Social Story:** DigiDuck Saves the Day *Positives of Internet to help others*
Online safety 2Bsafe (sessions 10-15 mins)	**Online relationships: Session 2**	**Online bullying: session 1 (antibullying week)**	**Online relationships: Session 3**	**Online reputation: Session 2**	**Self image and identity: Session 2**	
Spring 2 **Programming (CS)** **Code.org** www.code.org	**Algorithm Sequence** Course A - Lesson 4	**Algorithm Sequence** Course A - Lesson 5	**Repetition** Course A - Lesson 8	**Repetition** STAR WARS! Course A - Lesson 6	**Repetition** Course A - Lesson 9	**Social Story:** DigiDucks Big Decision *Being Kind Online*
Online safety 2Bsafe	**Copywrite and ownership: session 1**	**Copywrite and ownership: session 2**	**Copywrite and ownership: session 3**	**Copywrite and ownership: session 4**		

(sessions 10-15 mins)						
Summer 1 **Tech in our Lives (IT)** **Purple Mash**	**Tech Outside School** Lesson 1	**Tech Outside School** Lesson 2	**Google Searching – What is the internet?**	**Parts of a computer**	**Parts of a computer**	**Social Story:** Smarty the Penguin 1B *Asking for Help*
Online safety 2Bsafe (sessions 10-15 mins)	**Privacy and security: Session 2**	**Online relationships session 4**	**Managing information online: Session 1**	**Managing information online: Session 2**	**Managing information online: Session 3**	
Summer 2 **Handling Data (IT)** **Purple Mash**	**Spreadsheets** Lesson 1	**Spreadsheets** Lesson 2	**Spreadsheets** Lesson 3	**Pictographs** 2Count	**Pictographs** 2Count	**Social Story:** Detective DigiDuck
Online safety 2Bsafe (sessions 10-15 mins)	**Privacy and security: Session 3**	**Recap**	**Recap**	**Recap**	**Recap**	

YEAR 2	Week 1	Week 2	Week 3	Week 4	Week 5	Online Safety
Autumn 1 **IT Skills & Multimedia (DL)** **Purple Mash**	**Login In and Out**	**2Paint** London Buses 	**2Publish** London Attractions (**SAVE**) 	**2Publish** London Attractions (**OPEN**) 	**2Publish** London Attractions (**SAVE & OPEN**) 	**Social Story:** DigiDuck's Famous Friend Childnet — Online safety for young people
Online safety 2Bsafe (sessions 10-15 mins elsewhere in the week)	**Health, well being and lifestyle: Session 1**	**Privacy and security: session 1**	**Privacy and security: session 2**	**Privacy and security: session 3**		
Autumn 2 **IT Skills** **Tech in our Lives (DL) & (IT)** **Purple Mash**	**Keyboard Skills** 	**Keyboard Skills** 	**2Paint** Great Fire of London 	**2Publish** Great Fire of London Newspaper (**SAVE**) 	**2Publish** Great Fire of London News Paper (**OPEN**) 	**Social Story:** TEK Modern Age Cave Boy *(Time Limits)* TEK The Modern Cave Boy
Online safety 2Bsafe (sessions 10-15 mins)	**Privacy and security: session 4**	**Online bullying: session 1 (antibullying week)**	**Online bullying: session 2**	**Online bullying: session 3**	**Online reputation: session 1**	
Spring 1 **Programming (CS)** www.code.org	**Code.Org** Course B Lesson 3 & 4	**Code.Org** Course B Lesson 5 & 7	**Code.Org** Course B Lesson 7 & 8	**Code.Org** Course B Lesson 8 & 9	**Code.Org** Course B Lesson 12	**Social Story:** Chicken Clicking *(Asking Permission, & Not meeting up)* Chicken Clicking
Online safety 2Bsafe (sessions 10-15 mins)	**Online relationships: session 1**	**Online relationships: session 2**	**Online relationships: session 3**	**Copyright and ownership: Session 1**	**Copyright and ownership: session 2**	

Spring 2 **Handling Data** **(IT)** **Purple Mash**	**2Question** - Classification of Animals (CT lead) - Alien Database (Independent Task) 	**2Question** - Classification of Animals (CT lead) - Alien Database (Independent Task) 	**2Calculate** Intro to Spreadsheets 	**2Calculate** Sums in Spreadsheet 	**2Count & 2Graph** Create graphs. 	**Social Story:** The Adventures of Smartie the Penguin 2A Childnet — Online safety for young people
Online safety 2Besafe (sessions 10-15 mins)	**Online relationships: session 4**	**Online relationships: session 5**	**Managing information online: session 1**	**Managing information online: session 2**	**Managing information online: session 3**	
Summer 1 **Multimedia** **(DL)** **Purple Mash**	**2Animate** Animations Drawings 	**2Animate** Animations Drawings	**2Animate** Stop Motion Animations	**Tech at Home vs School vs Community** 	**Google Search**	**Social Story:** Troll Stinks *(Being Kind Online)* Troll Stinks
Online safety 2Besafe (sessions 10-15 mins)	**Online relationships: session 6**	**Online relationships: session 7**	**Self image and identity: session 1**	**Self image and identity: session 2**		
Summer 2 **S.T.E.M.** **(IT)** **Purple Mash**	**2Explore** 	**2Beat** 	**2Sequence** 	**Presenting Ideas** Lesson 1	**Presenting Ideas** Lesson 2	**Social Story:** The Adventures of Smartie the Penguin 2B Childnet — Online safety for young people
Online safety 2Besafe (sessions 10-15 mins)	**Managing information online: session 4**	**Managing information online: session 5**	**Online reputation: Session 2**	**Online reputation: session 3**		

YEAR 3	Week 1	Week 2	Week 3	Week 4	Week 5	Online Safety
Autumn 1 **IT Skills & Multimedia (DL)** **PowerPoint/ Purple Mash**	**Login in and Out**	**PowerPoint Presentation** -Save	**PowerPoint Presentation** -Save -Copy & paste	**PowerPoint Presentation** -Save -Copy & paste -Animate slides	**PowerPoint Presentation** -Save -Copy & paste -Animate slides -Add images	***S*.M.A.R.T.** ***The S Rule*** *Personal Information* The S Rule | Childnet
Online safety 2Besafe (sessions 10-15 mins)	**Health well being and lifestyle: Session 1**	**Privacy and security: session 1**	**Online relationships: session 1**	**Online relationships: session 2**	**Online reputation: session 1**	
Autumn 2 **Programming (CS)** www.code.org	**Code.Org** Course C Lesson 3	**Code.Org** Course C Lesson 4	**Code.Org** Course C Lesson 5	**Code.Org** Course C Lesson 6	**Code.Org** Course C Lesson 8	***S.M.A.R*.T.** The Tree Octopus! *Reliability* The R Rule | Childnet
Online safety 2Besafe (sessions 10-15 mins)	**Health well being and lifestyle: Session 2**	**Online bullying: Session 1 & 2 (anti bullying week)**	**Online relationships: session 3**	**Online relationships: session 4**	**Privacy and security: session 2**	
Spring 1 **Handling Data (IT)** **Purple Mash**	**Databases** Sorting **2Investigate** Aliens 	**Branching Databases** Lesson 1	**Spreadsheets** Lesson 1	**Spreadsheets** Lesson 2	**Spreadsheets** Lesson 3	***S.M.A.R.T*.** **The T Rule** *Tell Some One* The T Rule | Childnet
Online safety 2Besafe (sessions 10-15 mins)	**Privacy and security: Session 3**	**Online relationships: session 5**	**Online reputation: session 2**	**Online reputation: session 3**	**Managing information online: session 1**	

Spring 2 **Programming (CS)** www.code.org	**Code.Org** Course C Lesson 9	**Code.Org** Course C Lesson 10	**Code.Org** Course C Lesson 11	**Code.Org** Course C Lesson 12	**Code.Org** Course C Lesson 13	***S.M.A.R.T.*** Online Strangers! *Meeting Up!* The M Rule | Childnet
Online safety 2Besafe (sessions 10-15 mins)	**Online relationships: session 6**	**Copyright and ownership: Session 1**	**Managing information online: session 2**	**Managing information online: session 3**	**Managing information online: session 4**	
Summer 1 **Systems (IT)** **Purple Mash**	**Emails** Lesson 1	**Emails** Lesson 2	**Emails** Lesson 3	**Touch Typing** Lesson 1	**Touch Typing** Lesson 2	***S.M.A.R.T.*** Virus/Malware *Accepting Files* The A Rule | Childnet
Online safety 2Besafe (sessions 10-15 mins)	**Self image and identity: Session 1**	**Self image and identity: Session 2**	**Self image and identity: Session 3**	**Managing information online: Session 5**	**Managing information online: Session 6**	
Summer 2 **C.A.D.** **(IT)** **Purple Mash**	**Simulators** Lesson 1 **Simulator game:** 3D City https://lo-th.github.io/3d.city/index.html	**Simulators** Lesson 2 **Simulator game:** Bridge Builder https://www.engineering.com/GamesPuzzles/BridgeDesigner.aspx	**Simulators** Lesson 3	**2Design&Make** Design a Car/Truck Print and Build.	**2Design&Make** Design a Car/Truck Print and Build.	***S.M.A.R.T.*** Quiz SMART Rules Quiz | Childnet Children make a SMART poster to showcase their learning.
Online safety 2Besafe (sessions 10-15 mins)	**Revisit health, well being and lifestyle**	**Revisit online relationships**	**Revisit: privacy and security**	**Revisit: managing information**		

YEAR 4	Week 1	Week 2	Week 3	Week 4	Week 5	Online Safety
Autumn 1 **Handling Data (IT)** **Purple Mash**	**Effective Searching** Lesson 1	**Effective Searching** Lesson 2	**Effective Searching** Lesson 3	**Spreadsheets**	**Spreadsheets**	**Band Runner** Video & Flip Game **SafeSkills Quiz** Managing Online Information
Online safety 2Besafe (sessions 10-15 mins)	**Health, wellbeing and lifestyle: Session 1**	**Online relationships: Session 1**	**Managing information online: Session 1**	**Managing information online: Session 2**	**Privacy and security: session 1**	
Autumn 2 **Programming (CS)** www.code.org	**Code.Org** Course D Lesson 3 & 5	**Code.Org** Course D Lesson 6 & 7	**Code.Org** Course D Lesson 9	**Code.Org** Course D Lesson 11	**Code.Org** Course D Lesson 15	**Online Safety** Purple Mash Lesson 1 **SafeSkills Quiz** Online bullying
Online safety 2Besafe (sessions 10-15 mins)	**Privacy and security: session 2**	**Online bullying: session 1**	**Online bullying: session 2**	**Health, well and lifestyle: Session 2**		
Spring 1 **S.T.E.M (IT)** **Purple Mash**	**Animation** Lesson 1 2Animate	**Animation** Lesson 2 2Animate	**Physical Computing** Micro:Bits Input/Output LEDs • Events	**Physical Computing** Micro:Bits Heads or Tails • IF/Else	**Physical Computing** Micro:Bits Rock/Paper/Scissors • IF/Else IF/Else	**Online Safety** Purple Mash Lesson 2 **SafeSkills Quiz** Online Relationships
Online safety 2Besafe (sessions 10-15 mins)	**Online reputation: Session 1**	**Online reputation: Session 2**	**Self-image and identity: Session 1**	**Self image and identity: Session 2**	**Copyright and ownership: Session 1**	

Spring 2 **Multimedia (DL)** **PowerPoint Presentation**	**Presentations** PowerPoint Presentation • Title Slides	**Presentations** PowerPoint Presentation • Content Slides	**Presentations** PowerPoint Presentation • Add Animations • Add Transitions	**Presentations** PowerPoint Presentation • Add Animations • Add Transitions • Add Voiceover	**Presentations** PowerPoint Presentation • Presenting	**Online Safety** Purple Mash Lesson 3 **SafeSkills Quiz** Privacy and Security
Online safety 2Besafe (sessions 10-15 mins)	**Copyright and ownership: session 2**	**Privacy and security: Session 3**	**Privacy and security: Session 4**	**Online relationships: Session 2**	**Online relationships: session 3**	
Summer 1 **Systems (IT)** **Purple Mash**	**Writing for Different Audiences** Lesson 1	**Writing for Different Audiences** Lesson 2	**Making Music** Lesson 1	**Making Music** Lesson 2	**Making Music** Lesson 3	**Online Safety** Purple Mash Lesson 4 **SafeSkills Quiz** Self-image and identity
Online safety 2Besafe (sessions 10-15 mins)	**Self image and identity: Session 3**	**Online bullying: Session 3**	**Managing information online: Session 3**	**Managing information online: Session 4**		
Summer 2 **Programming (CS)** **Purple Mash**	**Logo** Lesson 1	**Logo** Lesson 2	**Hardware Investigators** Lesson 1	**Hardware Investigators** Lesson 2	**Loganator**	**Interland** Play Interland - Be Internet Awesome
Online safety 2Besafe (sessions 10-15 mins)	**Managing information online: Session 5**	**Managing information online: Session 6**	**Recap**	**Recap**	**recap**	

YEAR 5	Week 1	Week 2	Week 3	Week 4	Week 5	Online Safety
Autumn 1 **Handling Data (IT)**	**Purple Mash Databases** Lesson 1	**Purple Mash Databases** Lesson 2	**Purple Mash Databases** Lesson 3&4	**Purple Mash Spreadsheets** Lesson 1	**Collecting Data** Use Microsoft Forms to show how data-collection is now better with computers	**Online Safety** Lesson 1 **Purple Mash** **SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Health, Well being and lifestyle: Session 1**	**Health, Well being and lifestyle: Session 2**	**Privacy and security: Session 1**	**Online relationships: Session 1**	**Online relationships: Session 2**	
Autumn 2 **Programming (CS)** www.code.org	**Code.Org** Course E Lesson 3 & 5	**Code.Org** Course E Lesson 6 & 7	**Code.Org** Course E Lesson 9	**Code.Org** Course E Lesson 11	**Code.Org** Course E Lesson 15	**Online Safety** Lesson 2 **Purple Mash** **SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Online bullying: session 1**	**Online bullying: Session 2&3**	**Managing online information: Session 1**	**Managing online information: Session 2**	**Self image and identity: Session 1**	
Spring 1 **S.T.E.M** **(IT)**	**Astro Pi** **https://astro-pi.org/**	**Astro Pi** Submit programs to ESA at end of lesson	**Purple Mash** **3D Modelling** Lesson 1&2	**Purple Mash** **3D Modelling** Lesson 3&4	**NASA Mars Rover** • **Send your name to Mars:** https://mars.nasa.gov/participate/send-your-name/future	**Online Safety** Lesson 3 **Purple Mash** **SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Self image and identity: Session 2**	**Online relationships: session 3**	**Online relationships: session 4**	**Online relationships: Session 5**	**Copyright and ownership: Session 1**	
Spring 2 **Programming (CS)**	**Scratch** • **Build a Bear** Create own sprite and program it to talk.	**Scratch** • **Traffic Barrier** Create a traffic barrier	**Scratch** • **Who is SUS? (pt 1)** Start to create your	**Scratch** • **Who is SUS? (pt 2)** Continue to create	**Scratch** • **Who is SUS? (pt 3)** Improve upon your own version of Among	**Online Safety** Lesson 4 **Purple Mash**

		that opens when you insert a ticket into it. https://scratch.mit.edu/projects/909103167	own version of Among Us.	your own version of Among Us.	Us… *No Teacher Support!*	**SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Copyright and ownership: Session 2**	**Online reputation: Session 1**	**Online reputation: Session 2**	**Online bullying: Session 5**	**Online bullying: Session 6**	
Summer 1 **Systems (IT)**	**Purple Mash** **Word Processing** Desktop and Online Word Processing Lesson 1	**Purple Mash** **Word Processing** Desktop and Online Word Processing Lesson 2	**Purple Mash** **Word Processing** Desktop and Online Word Processing Lesson 3	**Purple Mash** **Word Processing** Desktop and Online Word Processing Lesson 4	**Purple Mash** **Word Processing** Desktop and Online Word Processing Lesson 5	**BBC Bitesize** What does being respectful and responsible online look like? - BBC Bitesize **SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Managing online information: session 3**	**Managing online information: session 4**	**Managing online information: session 5**	**Managing online information: session 6**	**Health, well being and lifestyle: session 3**	
Summer 2 **Multimedia (DL)**	**PowerPoint Slides** Recap, build a quick presentation – Link to Topic/Science	**Purple Mash** **Game Creator** Lesson 1	**Purple Mash** **Game Creator** Lesson 2	**Purple Mash** **Game Creator** Lesson 3	**Purple Mash** **Game Creator** Lesson 4	**Interland -** Play Interland - Be Internet Awesome **SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Health, well being and lifestyle: session 4**	**Managing online information: session 7**	**Managing online information: session 8**	**Managing online information: session 9**		

YEAR 6	Week 1	Week 2	Week 3	Week 4	Week 5	Online Safety
Autumn 1 **Multimedia (DL)**	**Presentations** PowerPoint **Link to Topic/Science**	**Presentations** PowerPoint • Add images and transitions	**Presentations** PowerPoint • Add voiceover	**Presentations** PowerPoint • Add GIFs	**Presentations** PowerPoint • Add animations	**Online Safety** **Purple Mash** Lesson 1 **SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Health, well being and lifestyle: session 1**	**Privacy and security: session 1**	**Privacy and security: session 2**	**Online relationships: session 1**	**Online relationships: session 2**	
Autumn 2 **Handling Data (IT)**	**Purple Mash Spreadsheets** Lesson 1	**Purple Mash Spreadsheets** Lesson 2	**Purple Mash Spreadsheets** Lesson 3	**Purple Mash Spreadsheets** Lesson 4	**Purple Mash Spreadsheets** Lesson 5	**Online Safety** **Purple Mash** Lesson 2 **SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Online reputation: Session 1**	**Online bullying: session 1 & 2**	**Health, well being and lifestyle: session 2**	**Health, well being and lifestyle: session 3**	**Online reputation: Session 2**	
Spring 1 **S.T.E.M (IT)**	**Astro Pi** **https://astro-pi.org/**	**Astro Pi**	**Moon Camp Challenge** **https://mooncampchallenge.org/**	**Moon Camp Challenge** **https://mooncampchallenge.org/**	**Moon Camp Challenge** **https://mooncampchallenge.org/**	**Online Safety** **Purple Mash** Lesson 3 **SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Managing information online: session 2**	**Managing information online: session 3**	**Managing information online: session 4**	**Managing information online: session 5**	**Managing information online: session 6**	
Spring 2 **Programming (CS)**	**Purple Mash Understanding Binary** Lesson 1	**Purple Mash Understanding Binary** Lesson 2	**Purple Mash Understanding Binary** Lesson 3	**Purple Mash Understanding Binary** Lesson 4	**Mirco:Bit** Physical Computing	**BBC Bitesize** What is online safety? - BBC Bitesize **SafeSkills Quiz**

Online safety 2Besafe (sessions 10-15 mins)	**Health, well being and lifestyle: session 4**	**Self image and identity: session 1**	**Self image and identity: session 2**	**Self image and identity: session 2**	**Copyright and ownership: session 1**	
Summer 1 **Programming (CS)**	**Scratch to Python** EduBlocks	**Scratch to Python** EduBlocks	**Scratch to Python** EduBlocks	**Scratch to Python** EduBlocks	**Scratch to Python** EduBlocks	**BBC Bitesize** What does being respectful and responsible online look like? - BBC Bitesize **SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Copyright and ownership: session 2**	**Managing online information: session 7**	**Managing online information: session 8**	**Managing online information: session 9**	**Managing online information: session 10**	
Summer 2 **C.A.D.** **(IT)**	**Purple Mash** Quizzing Lesson 1	**Purple Mash** Quizzing Lesson 2	**Purple Mash** Quizzing Lesson 3	**Purple Mash** Quizzing Lesson 4	**Purple Mash** Quizzing Lesson 5&6	**BBC Bitesize** Your online data - BBC Bitesize **SafeSkills Quiz**
Online safety 2Besafe (sessions 10-15 mins)	**Managing information online: session 11**	**Privacy and security: session 3**	**Privacy and security: session 4**	**Privacy and security: session 6**		