Thornhill Computing Progression

Skills • Knowledge • Vocabulary • EYFS–Year 6

EYFS	Years 1–2	Years 3–4	Years 5–6

Source basis: the Computing MTPs uploaded in this conversation, now including the EYFS Term 1, Term 2 and Term 3 planning. Duplicate Y5/6 3D Modelling and Selection in Quizzes files were treated as duplicate copies, not separate curriculum units.

EYFS foundation: the EYFS column is now grounded in the uploaded Medium Term Plans. It draws only on evidenced foundations such as following instructions, exploring how things work, sorting/comparing, model-making, refining ideas, collaboration and safe use; where a discrete computing concept is not present, this is stated explicitly.

1. Programming & Algorithms

Strand	EYFS	Years 1–2	Years 3–4	Years 5–6
Algorithms / sequences	Follow verbal instructions, actions and pictorial prompts; follow instructions involving several ideas/actions; talk through how models were made. These experiences provide an early foundation for ordered instructions and sequences.	Understand that an algorithm is a sequence of precise instructions; recognise that sequences of commands have an outcome; predict what a simple program will do.	Consolidate sequencing; connect events to actions; design algorithms for movement/maze tasks; recognise repeated steps and represent repetition using loops.	Design algorithms using sequence, repetition, conditions and selection; decompose problems; represent selection using if…then and if…then…else structures.
Programming environments	No discrete programming software/environment is specified in the EYFS MTPs. Children use continuous provision, workshop and construction experiences rather than a named programming tool.	Program floor robots/ScratchJr; use sprites, backgrounds and blocks; create and modify simple programs and quizzes.	Use Scratch; move/control sprites; use Pen blocks; modify animations/games; connect prior Logo ideas with Scratch.	Use Scratch for selection/quiz projects and Crumble for physical computing with LEDs/motors.
Events & actions	Explore how things work and notice cause and effect through practical exploration; follow instructions during model-making and other provision.	Recognise that programs need a start event and that commands run in sequence.	Explain the relationship between an event and an action; choose controls/keys; program sprites to respond to events.	Use inputs/conditions to control program flow and physical components.
Repetition	No explicit computing repetition/loop concept is evidenced in the EYFS MTPs.	Sequence commands; uploaded KS1 plans do not evidence a formal repetition progression.	Distinguish count-controlled and infinite loops; use repetition to modify and create animations/games.	Apply prior repetition knowledge alongside conditions and selection in more complex programs.
Selection / conditions	No explicit computing selection/condition concept is evidenced in the EYFS MTPs.	Not explicitly taught in the uploaded KS1 programming units.	Not a stated end point in the uploaded Y3/4 units; foundations are laid through events/actions and repetition.	Use conditions to control actions; use selection with true/false outcomes; use if…then and if…then…else; design quizzes and physical-computing programs.
Debug / evaluate	Show resilience and perseverance when challenged; return to and build on previous learning; refine ideas; explain the process used to make creations.	Create and debug simple programs; evaluate projects and make improvements.	Detect/correct errors; identify ways to improve programs; apply programming design stages.	Debug increasingly complex programs; evaluate against requirements; identify improvements and further improvements.

2. Data & Information

Strand	EYFS	Years 1–2	Years 3–4	Years 5–6
Objects, labels & properties	Explore collections of materials with similar and/or different properties; sort and explore natural objects; talk about differences between materials.	Understand that objects can be labelled with properties; match objects to groups; recognise labels as data.	Build on KS1 understanding of answering questions with data.	No Y5/6 Data & Information MTP was supplied.
Grouping / searching	Sort and explore collections of natural and recycled materials; notice similarities/differences and use a widening vocabulary to describe them.	Group objects in more than one way; use labels to support searching; compare groups and counts.	Use organised data and headings to decide which data can answer a question.	No Y5/6 Data & Information MTP was supplied.
Data sets / questions	Ask questions, make observations and talk about what is seen; use non-fiction, photographs, maps and other sources to find out.	Create simple data sets; group objects to answer questions; record and share findings.	Choose data sets to answer questions; pose questions that require data gathered over time.	No Y5/6 Data & Information MTP was supplied.
Collecting data	Make observations of the natural world, seasonal change, plants and animals; use close observation and drawings to record what is noticed.	Collect simple labelled/grouped data and use graphical presentation/pictogram foundations referenced in the plan.	Collect data manually and automatically; use sensors/data loggers; understand data points, data sets and logging intervals.	No Y5/6 Data & Information MTP was supplied.
Analysing data	Compare similarities/differences and changes in materials, environments and the natural world; discuss observations using appropriate vocabulary.	Compare groups using more/less/most/fewest/same and use grouping to answer questions.	Review and analyse data collected over time; consider suitable intervals; recognise risks of drawing conclusions from too little data.	No Y5/6 Data & Information MTP was supplied.

3. Creating Media & Digital Content

Strand	EYFS	Years 1–2	Years 3–4	Years 5–6
Digital writing	Use print and letter knowledge in early writing; write some/all of own name and letters; later write recognisable letters, simple phrases and sentences. No specific EYFS digital-writing tool is named.	Use a word processor; locate keys; type, add/remove text; manipulate formatting and justify cosmetic changes; create/store/manipulate digital content.	No Y3/4 Creating Media MTP was supplied, although the KS1 plan references later desktop publishing.	Use increasingly specialised media tools; web-page creation includes planning content for an audience and combining media.
Web pages	No EYFS web-page creation is evidenced in the uploaded MTPs.	Develop basic digital-writing foundations.	No web-creation unit supplied for Y3/4.	Review website structure/media; understand website, web page, browser and HTML; design, create and evaluate a website; consider aesthetics, navigation, copyright and fair use.
Video	Videos/video clips are used as sources for learning, but creating or editing video is not evidenced.	No video-production unit supplied.	Uploaded Y5/6 plan states some prior Y3/4 video-editing experience, but no Y3/4 video MTP was supplied here.	Capture, edit and manipulate video; recognise video features and camera techniques; take an idea from conception to completion; reflect on and assess the final video.
3D modelling	Build models using construction kits and workshop materials; make models stronger; create collaboratively and explain how models were made and their function. This is physical modelling, not computer 3D modelling.	No 3D-modelling unit supplied.	No 3D-modelling unit supplied.	Work in 3D space; move, resize and duplicate objects; create hollow objects; combine/group/ungroup shapes; plan, develop and evaluate a 3D building model.
Design / evaluate media	Develop own ideas, choose materials, return to and refine previous learning, share creations and explain the process used. No discrete digital-media design unit is specified.	Make purposeful changes to digital text and explain choices.	Source gap for a discrete creating-media unit.	Plan for audience/purpose; select and combine software/media; evaluate websites, video and 3D products and improve them.

4. Computer Systems, Networks & the Internet

Strand	EYFS	Years 1–2	Years 3–4	Years 5–6
Devices / systems	Explore how things work and use a range of tools/resources safely. The MTPs do not identify specific computing devices or computer-system knowledge.	Use computers/tablets purposefully within the supplied units; understand that programs run on digital devices.	Use sensors as input devices in data logging; use computers to review and analyse captured data.	Use a microcontroller as a programmable device; connect output components; understand that computer systems exchange data.
Networks / internet	No EYFS networks/internet knowledge is evidenced in the uploaded MTPs.	No explicit networks unit supplied.	No explicit networks unit supplied.	Understand that data is transferred over the internet; learn about internet addresses, IP addresses, protocols, DNS and data packets.
Communication / collaboration	Hold back-and-forth conversations; create collaboratively, sharing ideas, resources and skills; explain creations and processes.	Use technology safely and respectfully within digital-content work.	Not explicitly developed in a supplied systems/network unit.	Understand how the internet enables communication and collaboration; complete shared online projects; evaluate communication methods; communicate responsibly.
Search / web understanding	Use books, non-fiction texts, photographs, PowerPoints, maps and video clips to find out about the world. Web-search skills are not explicitly evidenced.	Data unit develops searching through labels; not web-search ranking.	No explicit search-technologies unit supplied.	Use search technologies effectively; understand browser/web-page/website distinctions; evaluate digital content; recognise that search results and online content require discernment.

5. Responsible, Safe & Respectful Use

Strand	EYFS	Years 1–2	Years 3–4	Years 5–6
Safe use	Follow rules and understand why they are important; use tools and resources safely; develop independence and responsibility. Specific online-safety knowledge is not stated in these MTPs.	Use technology safely and respectfully; KS1 Creating Media specifically includes keeping personal information private.	No standalone online-safety MTP was supplied in this upload set.	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour and ways to report concerns about content/contact.
Responsible sharing	Share ideas, resources and skills collaboratively and talk about creations. Online sharing is not evidenced.	Not developed as a separate strand in supplied plans.	Not developed as a separate strand in supplied plans.	Consider what should and should not be shared online; communicate responsibly during online collaboration.
Copyright / reliability	Not evidenced in the uploaded EYFS MTPs.	Not explicitly developed in supplied units.	Not explicitly developed in supplied units.	Pay attention to copyright and fair use when creating websites; evaluate digital content and challenge assumptions that everything online is true or that top-ranked results are always best.

6. Progressive Computing Vocabulary

Strand	EYFS	Years 1–2	Years 3–4	Years 5–6
Programming	instructions, follow, sequence, make, explain, try, change	algorithm, program, command, sequence, start, run, sprite, block, code, ScratchJr, debug	motion, event, action, sprite, algorithm, logic, programming, code, loop, repeat, value, count-controlled loop, infinite loop	microcontroller, Crumble, input, output, motor, LED/Sparkle, condition, selection, true, false, if…then, if…then…else, repetition, variable, algorithm, program, debug
Data & information	same, different, sort, group, material, property, observe, compare, change	object, label, property, value, group, search, image, data, data set, colour, size, shape, more, less, most, least, fewest, same	data, table, layout, sensor, data logger, data point, data set, logging interval, input, temperature, light, sound	No Y5/6 Data & Information MTP supplied.
Creating media	idea, material, tool, create, make, join, model, shape, texture, refine, explain	word processor, keyboard, keys, letters, type, text, space bar, backspace, formatting	No Y3/4 Creating Media MTP supplied.	website, web page, browser, media, HTML, navigation, copyright, fair use; video, audio, camera, talking head, panning, close up; 2D, 3D, shape, select, move, perspective, view, resize, duplicate, group, ungroup
Systems / networks	tool, equipment, work, function	computer, device (used within units)	sensor, input device, computer	communication, protocol, data, address, Internet Protocol (IP) address, Domain Name Server (DNS), data packet, internet, collaboration
Safety / responsibility	safe, rule, responsibility, share, take turns, care	safe, respectful, personal information	No discrete vocabulary sequence supplied.	responsible, acceptable/unacceptable behaviour, report, copyright, fair use, communication, sharing

7. Keyboard & Typing Skills Progression

Source note: The Y1/2 Creating Media unit explicitly teaches keyboard use. EYFS foundations come from the uploaded EYFS plans. The Y3/4 and Y5/6 MTPs require pupils to create digital content but do not set out a separate keyboard-skills ladder, so the later-phase statements below are marked as progression expectations rather than claimed MTP objectives.

Keyboard skill	EYFS	Years 1–2	Years 3–4	Years 5–6
Keyboard familiarity	Develop fine-motor control and hand-eye coordination through mark making and use of small tools. No keyboard skill is explicitly specified in the EYFS MTPs.	Recognise a keyboard and individual keys; locate letter keys, including letters in own name; understand that pressing keys enters text.	Progression expectation: locate keys with increasing speed and independence when creating digital content; rely less on visual searching for familiar letters and commands.	Progression expectation: type sustained text efficiently and independently when creating web pages and other digital media.
Core keys	No named keyboard keys are specified.	Use letter and number keys; Space bar for spaces; Enter for a new line; Backspace to remove text; Caps Lock for capital letters.	Progression expectation: use Space, Enter, Backspace/Delete and capital-letter functions accurately and routinely while editing digital work.	Progression expectation: use core keys fluently while composing and editing longer digital content.
Typing text	Use some print/letter knowledge in early writing; later write recognisable letters, phrases and simple sentences. This is not specified as keyboard typing.	Enter words and short sentences into a word processor; compare typing with handwriting; use the text cursor to add or change text.	Progression expectation: type increasingly extended text directly into appropriate software, maintaining accuracy while composing.	Progression expectation: type longer, purposeful content with growing fluency, including text for websites and other media.
Editing with keyboard & cursor	Return to and refine ideas in practical creation; no digital text-editing skill specified.	Move the text cursor; use Backspace; insert spaces/new lines; add capitals; select text using mouse actions; correct and improve digital writing.	Progression expectation: navigate within text and edit efficiently rather than retyping whole sections; combine keyboard and pointing-device control.	Progression expectation: edit and restructure digital content efficiently, selecting and revising text as part of purposeful media creation.
Formatting / commands	No digital formatting commands specified.	Use toolbar controls for bold, italic and underline; change font; use Undo and Redo; save work.	Progression expectation: combine keyboard input with software tools and increasingly use familiar commands independently.	Progression expectation: use appropriate keyboard/software commands efficiently when producing and refining digital products.
Accuracy & independence	Develop control, accuracy, perseverance and independence with tools and resources.	Find keys independently; type capitals, spaces and punctuation-related text features as taught; identify and correct errors; explain differences between typing and writing.	Progression expectation: improve typing accuracy and independence; proofread on screen and correct errors without adult prompting.	Progression expectation: type accurately and independently enough that keyboard operation does not impede the design, creation and evaluation of digital content.
Key vocabulary	tool, letter, write, make, change, correct	word processor, keyboard, key, letter, number, type, Space bar, Enter, Backspace, Caps Lock, text cursor, toolbar, select, font, Undo, Redo, save	keyboard, cursor, select, edit, delete, insert, format, command, save	keyboard, cursor, edit, select, format, command, shortcut, input, digital content

8. Source Coverage & Gaps

- EYFS: no EYFS Computing/EYFS planning was supplied in this batch, so the document deliberately does not invent an EYFS progression.
- Years 1–2: supplied coverage includes Data & Information, Creating Media (digital writing), Programming A (animations) and Programming B (quizzes).
- Years 3–4: supplied coverage includes Data & Information (data loggers), Events & Actions programming and Repetition in Games. No separate Creating Media or Computer Systems/Networks MTP was supplied.
- Years 5–6: supplied coverage includes Computer Systems (communication/collaboration), Web Page Creation, Video Production, 3D Modelling, Crumble programming and Selection in Quizzes. No separate Y5/6 Data & Information MTP was supplied.

- Online safety appears within several supplied units, but no standalone online-safety progression document was uploaded.

9. Overall Thornhill Computing Journey

Y1/2 build foundations in algorithms, sequences, simple programs, digital writing, labels/grouping/searching and safe use → **Y3/4** develop event-driven programming, repetition and automated data collection/analysis → **Y5/6** apply selection, conditions and physical computing; create sophisticated digital media; understand networks/internet communication; and make increasingly responsible, evaluative choices online.

EYFS bridge: children build foundations through following increasingly complex instructions, exploring how things work, sorting and comparing, observing and recording, creating and refining models, collaborating, explaining processes and using tools/resources safely. These experiences lead naturally into the more explicit Computing curriculum in Years 1–2.