

*Computing
and Online Safety
Progression*



Computer
Science Concept
Progression



Progression of Computer Science Concepts – Computational Thinking

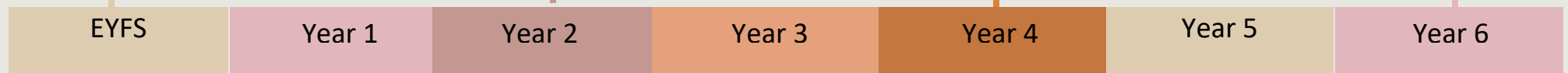


- Children begin to understand an algorithm is a sequence of instructions or set of rules to get things done.
- Children can follow a simple algorithm by responding to oral instructions.
- Children can begin to make my own simple algorithms by sequencing actions.
- Children can start to explain my thought process and justify my decisions.
- Children can explain what is the same and what is different

- Children know how to write algorithms for everyday tasks.
- Children know how to use logical reasoning to predict the outcome of algorithms.
- Children understand decomposition is breaking objects/processes down.
- Children know how to debug algorithms.

- Children know how to use abstraction to focus on what's important in my design
- Children know how to write more precise algorithms for use when programming.
- Children know how to use simple selection and repetition in algorithms
- Children know how to use logical reasoning to detect and correct errors in programs

- Children know how to decompose a design or code to focus on specific parts
- Children I know how to use abstraction to hide complexity in my design or code
- Children know how to recognise and make use of patterns in my design and code
- Children know how to critically evaluate my work and suggest improvements



- Children understand what algorithms are.
- Children know how to write simple algorithms.
- Children understand the sequence of algorithms is important.
- Children know how to debug simple algorithms.

- Children know how to create algorithms for my programming projects
- Children know how to decompose projects (such as an animation) into steps to create an algorithm.
- Children understand abstraction is focusing on important information
- Children know how to identify patterns in an algorithm

- Children know how to solve problems by decomposing them into smaller parts
- Children know how to use selection in algorithms
- Children know how to use logical reasoning to explain how a variety of algorithms work
- Children know how to evaluate the effectiveness of algorithms

Progression of Computer Science Concepts – Coding/Programming



- I know how digital toys and apps work through exploration
- I can input more than one command into a programmable toy or simple app
- I can input a sequence of commands into a programmable toy or simple app
- I can fix things through trial and error
- I can fix things and explain my approach

- I understand programs follow precise instructions
- I know how to create programs using different digital devices E.g. Bee Bot or ScratchJr on a tablet
- I know how to debug programs of increasing complexity
- I know how to use logical reasoning to predict the outcome of simple programs

- I know how to use repetition in programs
- I know how to use simple selection in programs
- I know how to work with a variety of inputs and outputs
- I know how to use logical reasoning to systematically detect and correct errors in programs

- I know how to use a range of sequence, selection and repetition commands to implement my design
- I know how to identify the need for, and work with, variables
- I know how to create procedures to hide complexity in programs
- I know how to critically evaluate my work and suggest improvements

EYFS

Year 1

Year 2

Year 3

Year 4

Year 5

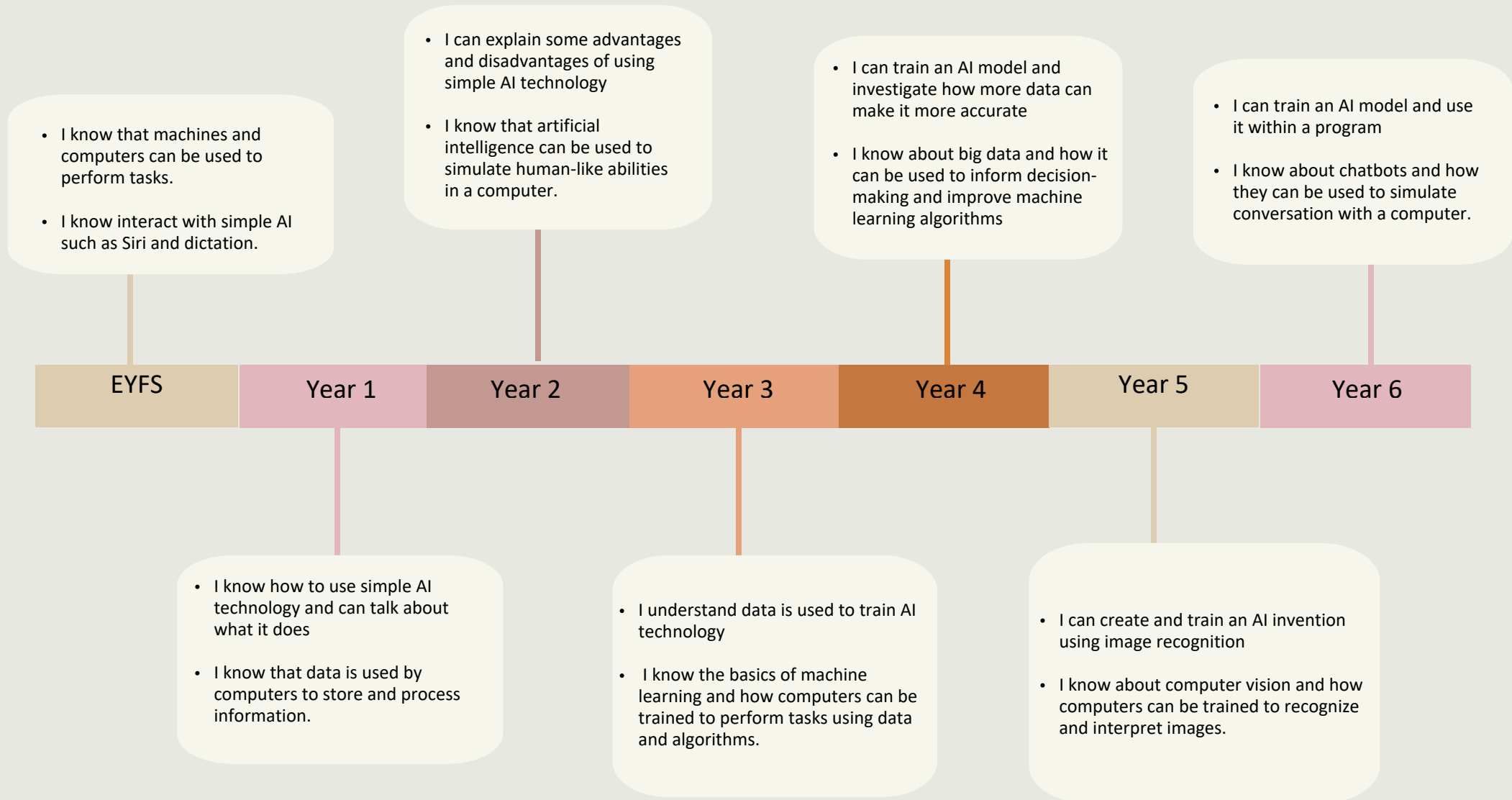
Year 6

- I know how to create a simple program on a digital device e.g. Bee Bot or tablet
- I know how to use sequence in programs
- I know how to locate and fix bugs in my program

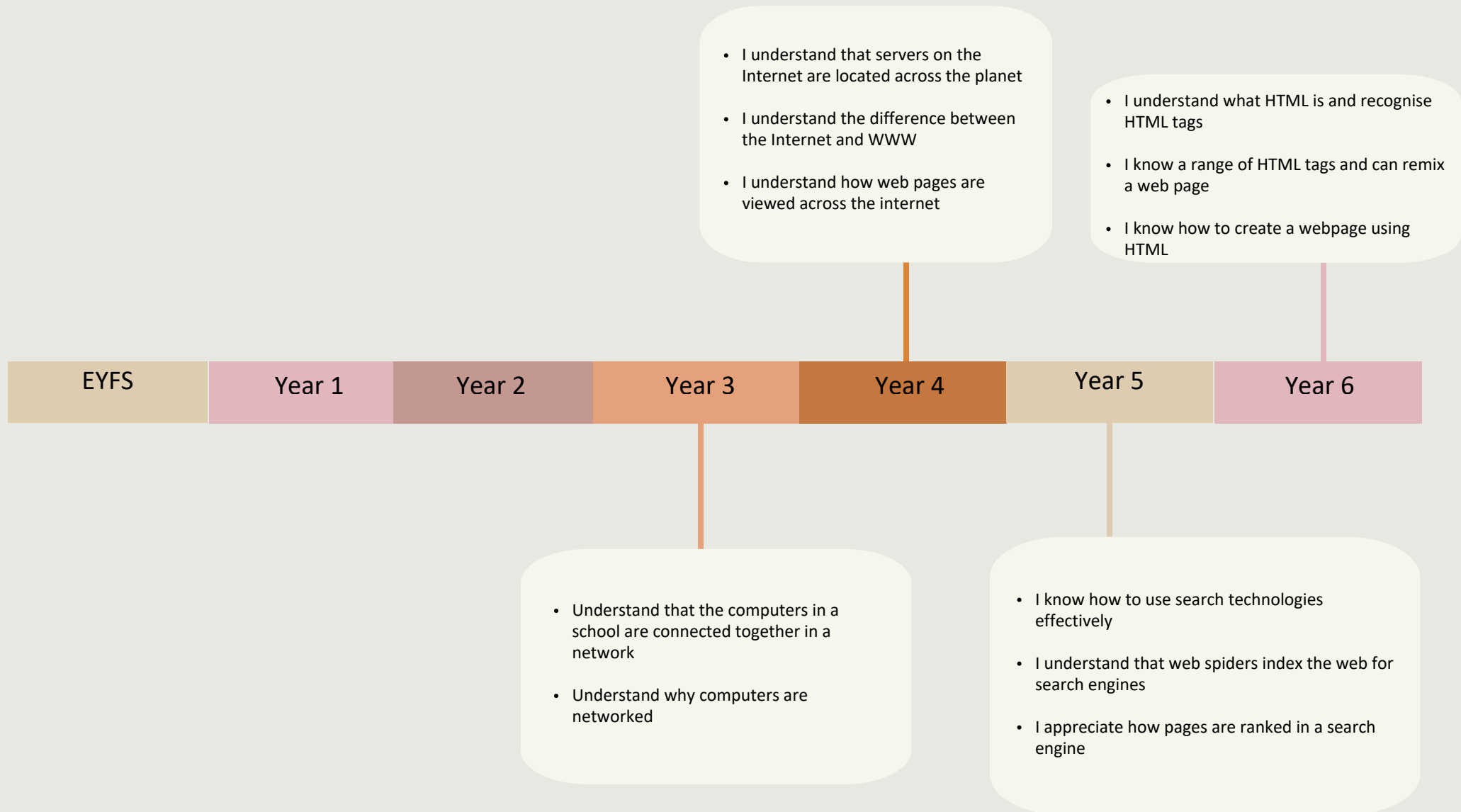
- I know how to design a program
- I know how to create a program using a design
- I know how to create a sequence of code
- I know how to work with a variety of inputs and outputs
- I know how to evaluate my program

- I know how to create programs by decomposing them into smaller parts
- I know how to use a variety of selection commands in programs
- I know how to use conditions in repetition commands
- I know how to work with variables
- I know how to create programs that control or simulate physical systems
- I know how to evaluate my work and identify errors

Progression of Computer Science Concepts – Artificial Intelligence



Progression of Computer Science Concepts – Computer Networks (KS2)



Information Technology



Progression of Information Technology Concepts – Video Creation



- I know the difference between a photography and video.
- I know how to record a short film using the camera
- I know how to record and play a film
- I know how to watch films back

EYFS

Year 1

- I know how to record a film using the camera app.
- I know how to select images and record a voiceover.
- I know how to highlight and zoom into images as I record.

- I know how to write and record a script using a teleprompter tool.
- I know how to use tools to add effects to a video
- I know how to begin to use green screen techniques with support

Year 2

Year 3

- I know how to sequence clips of mixed media in a timeline and record a voiceover
- I know how to trim and cut film clips and add titles and transitions
- I know how to independently create a green screen clip.
- I know how to create my own movie trailer.

- I know how to add music and sound effects to my films
- I know how to add animated titles and transitions
- I know how to add simple subtitles to a video clip.
- I know how to use confidently use green screen adding animated backgrounds.

Year 4

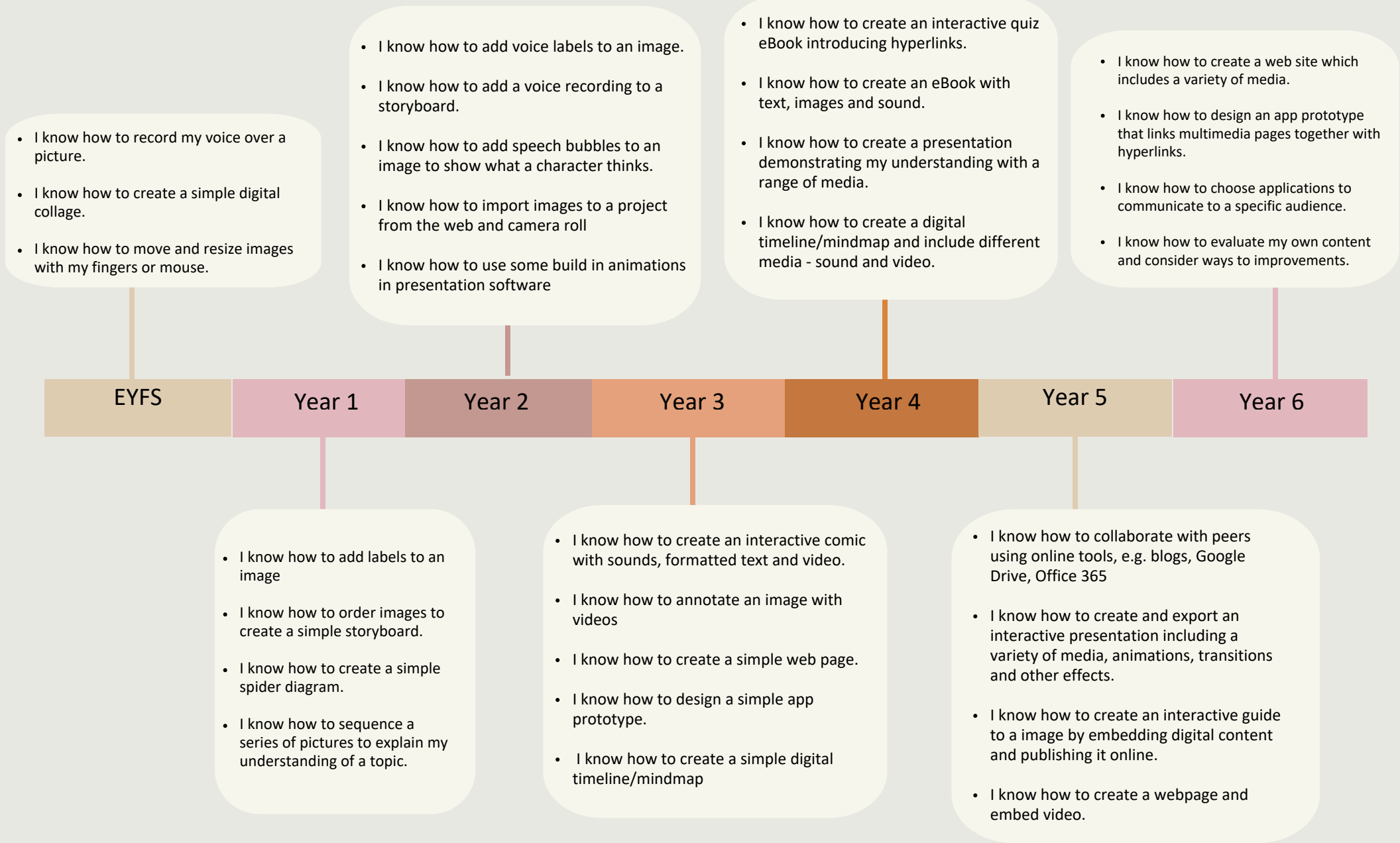
- I know how to use the green screen masking tool with more than one character.
- I know how to use picture in picture tools in iMovie.
- I know how to add animated subtitles to my film to further enhance my creation.
- I know how to create videos using a range of media - green screen, animations, film and image.

Year 5

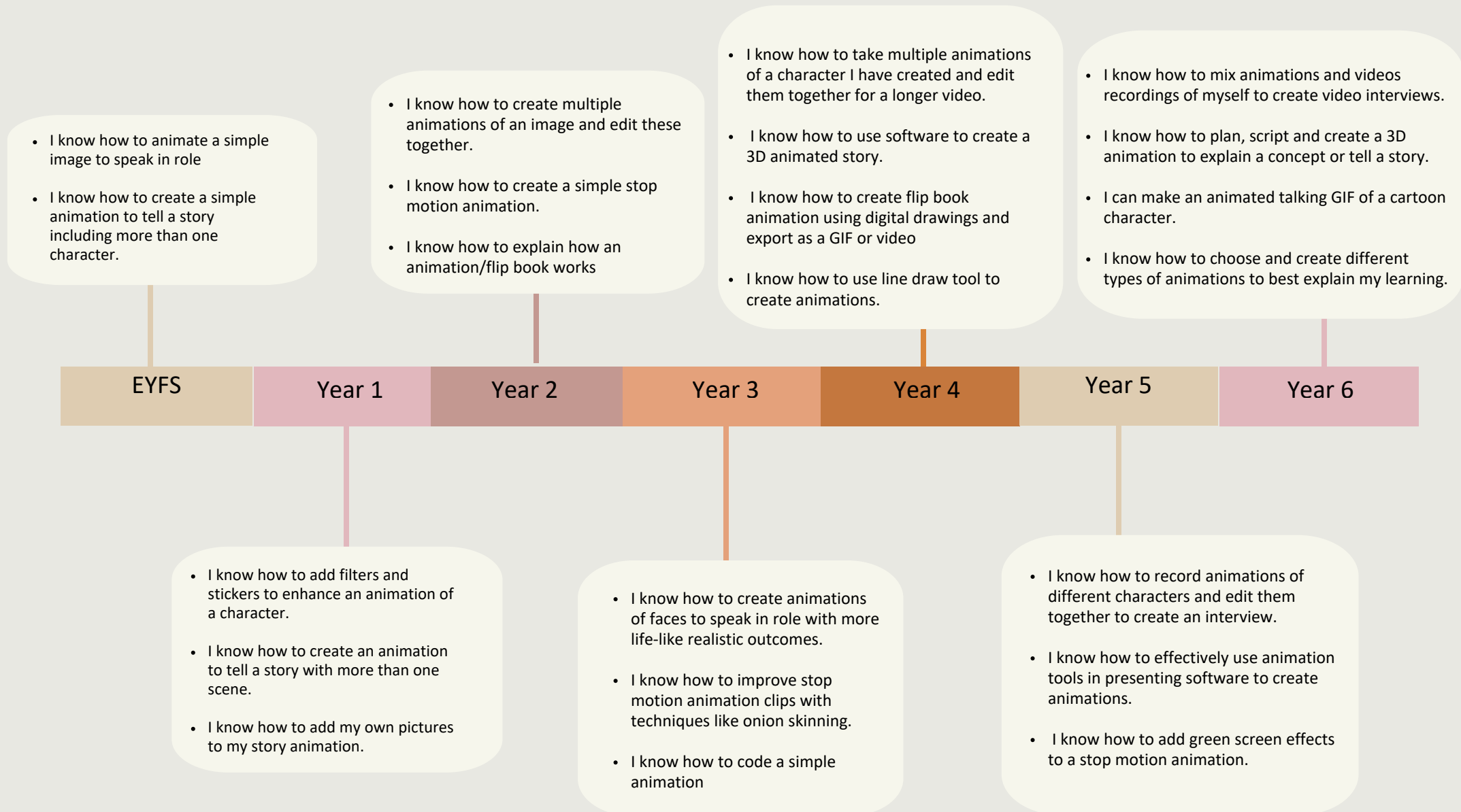
Year 6

- I know how to use cutaway and split screen tools in iMovie.
- I know how to evaluate and improve the best video tools to best explain my understanding.
- I know how to further improve green screen clips using crop and resize and explore more creative ways to use the tool - wearing green clothes and the masking tool.

Progression of Information Technology Concepts – Presentations, Web Design and E-book Creation



Progression of Information Technology Concepts – Animation



Progression of Information Technology Concepts – Word Processing/Typing



- I know how to play on a touch screen game and use computers/keyboards/mouse in role play
- I know how to type letters with increasing confidence using a keyboard and tablet.
- I know how to dictate short, clear sentences into a digital device.

EYFS

Year 1

- I know how to use the space bar only once between words and use touch to navigate to words letter to edit
- I know how to copy and paste images and text
- I know how to use caps locks for capital letters.
- I know how to add images alongside text in a word processed document.
- I know how to dictate longer passages into a digital device with accurate punctuation.

Year 2

Year 3

- I know how to combine digital images from different sources, objects, and text to make a final piece of a variety of tasks: posters, documents, eBooks, scripts, leaflets.
- I know how to confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text
- I know how to use font sizes appropriately for audience and purpose. Use spell check and thesaurus including through Siri and other AI technology

Year 4

Year 5

- I know how to confidently choose the best application to demonstrate my learning.
- I know how to format text to suit a purpose.
- I know how to publish my documents online regularly and discuss the audience and purpose of my content.

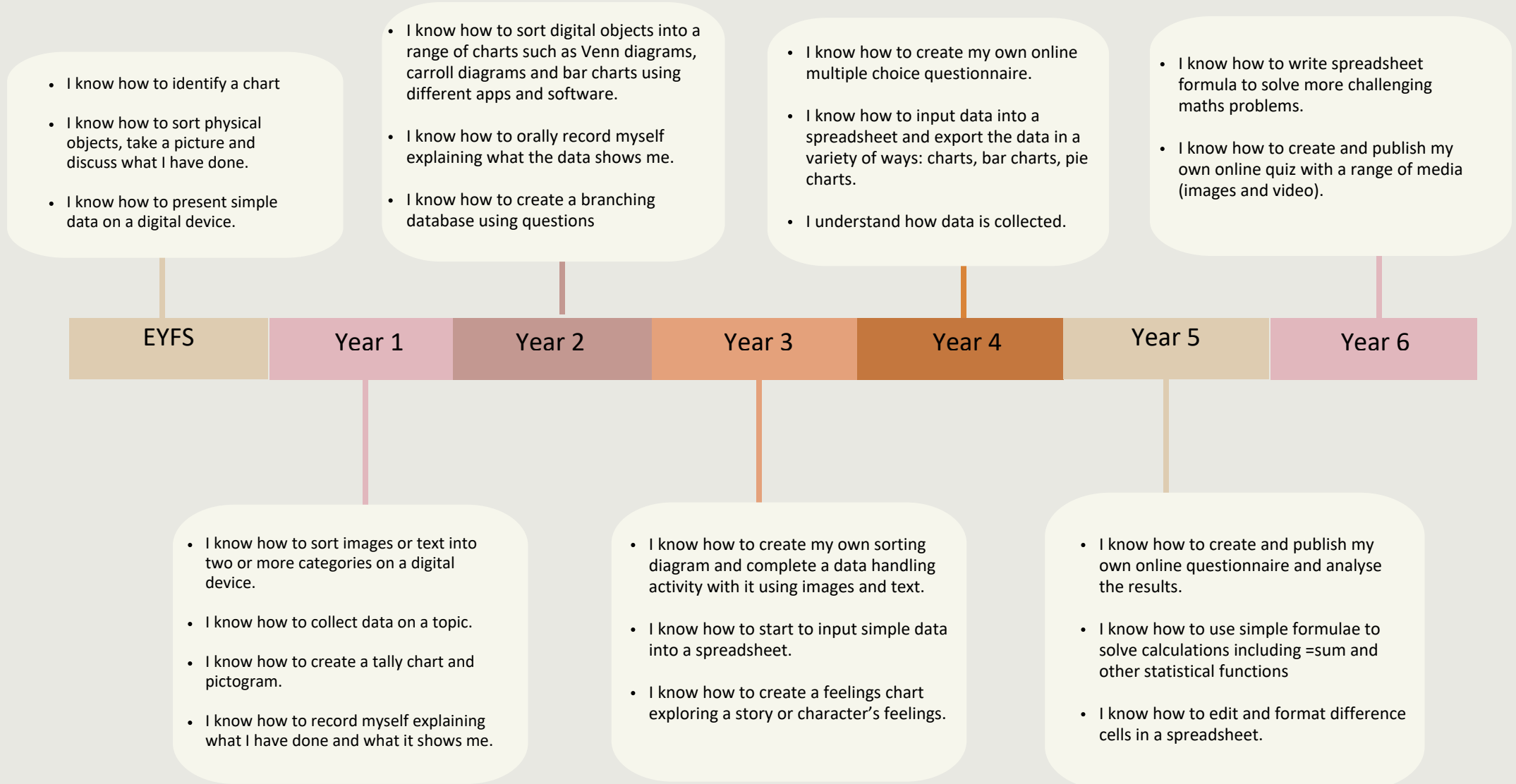
Year 6

- I know how to use the space bar only once between words and use touch to navigate to words letter to edit
- I know how to copy and paste images and text
- I know how to use caps locks for capital letters.
- I know how to add images alongside text in a word processed document.
- I know how to dictate longer passages into a digital device with accurate punctuation.

- I know how to use index fingers on keyboard home keys (f/j), use left fingers for a/ s/d/f/g, and use right fingers for h/j/k/l
- I know how to edit the style and effect of my text and images to make my document more engaging and eye-catching. For example, borders and shadows.
- I know how to use cut, copy and paste to quickly duplicate and organise text.

- I know how to apply other useful effects to my documents such as hyperlinks.
- know how to import sounds to accompany and enhance the text in my document.
- I know how to organise and reorganise text on screen to suit a purpose

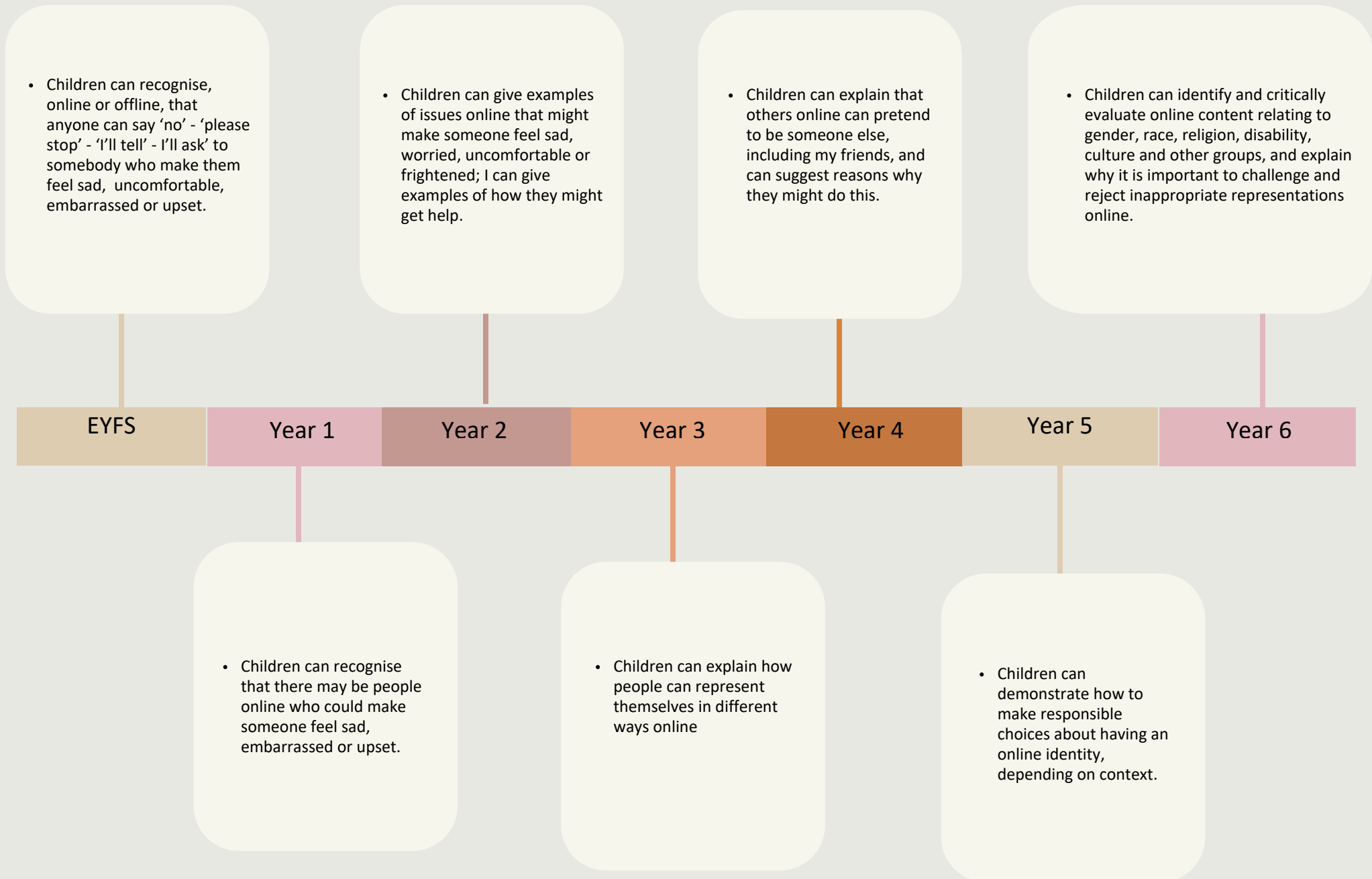
Progression of Information Technology Concepts – Data Handling



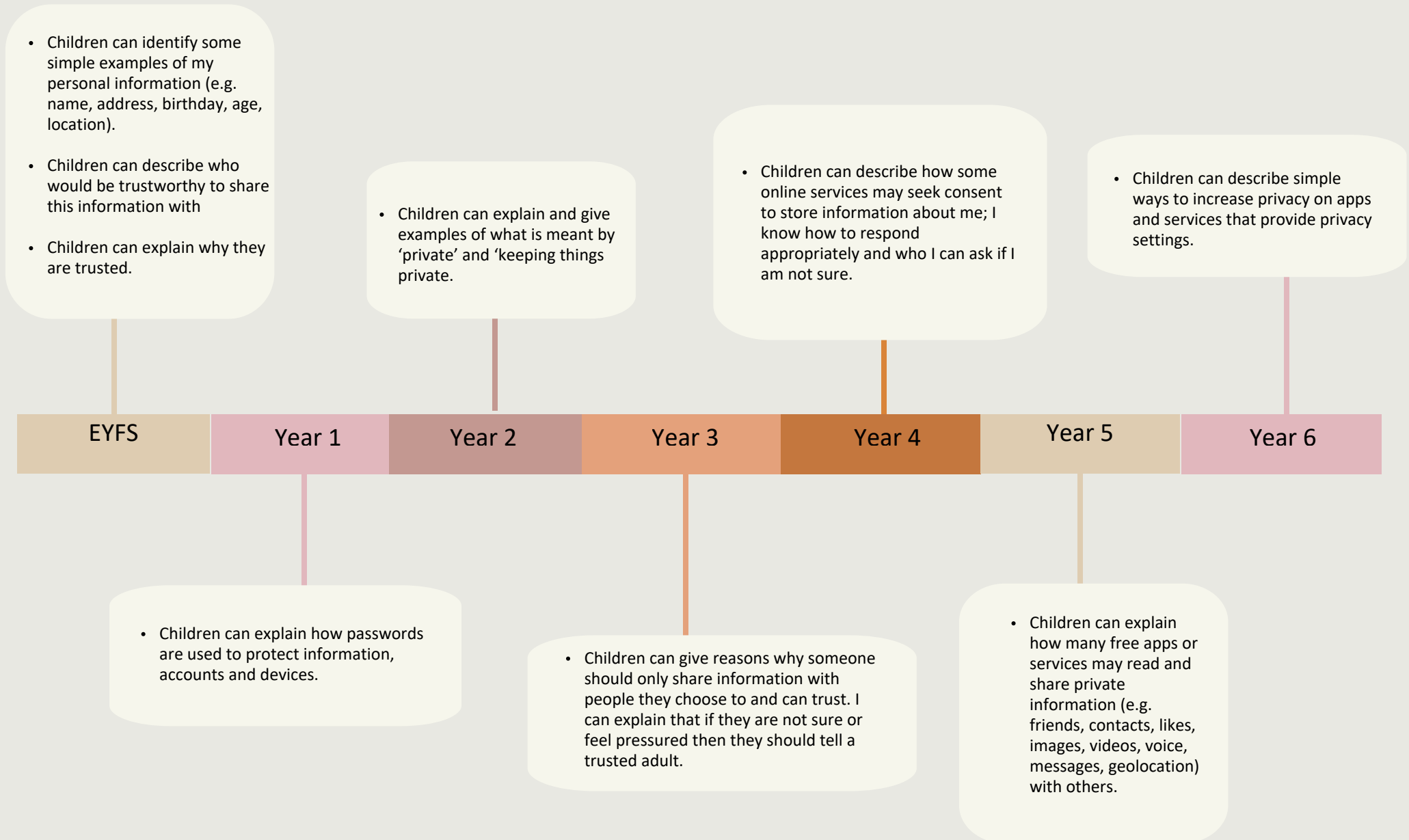
*Digital Literacy
and
E-safety*



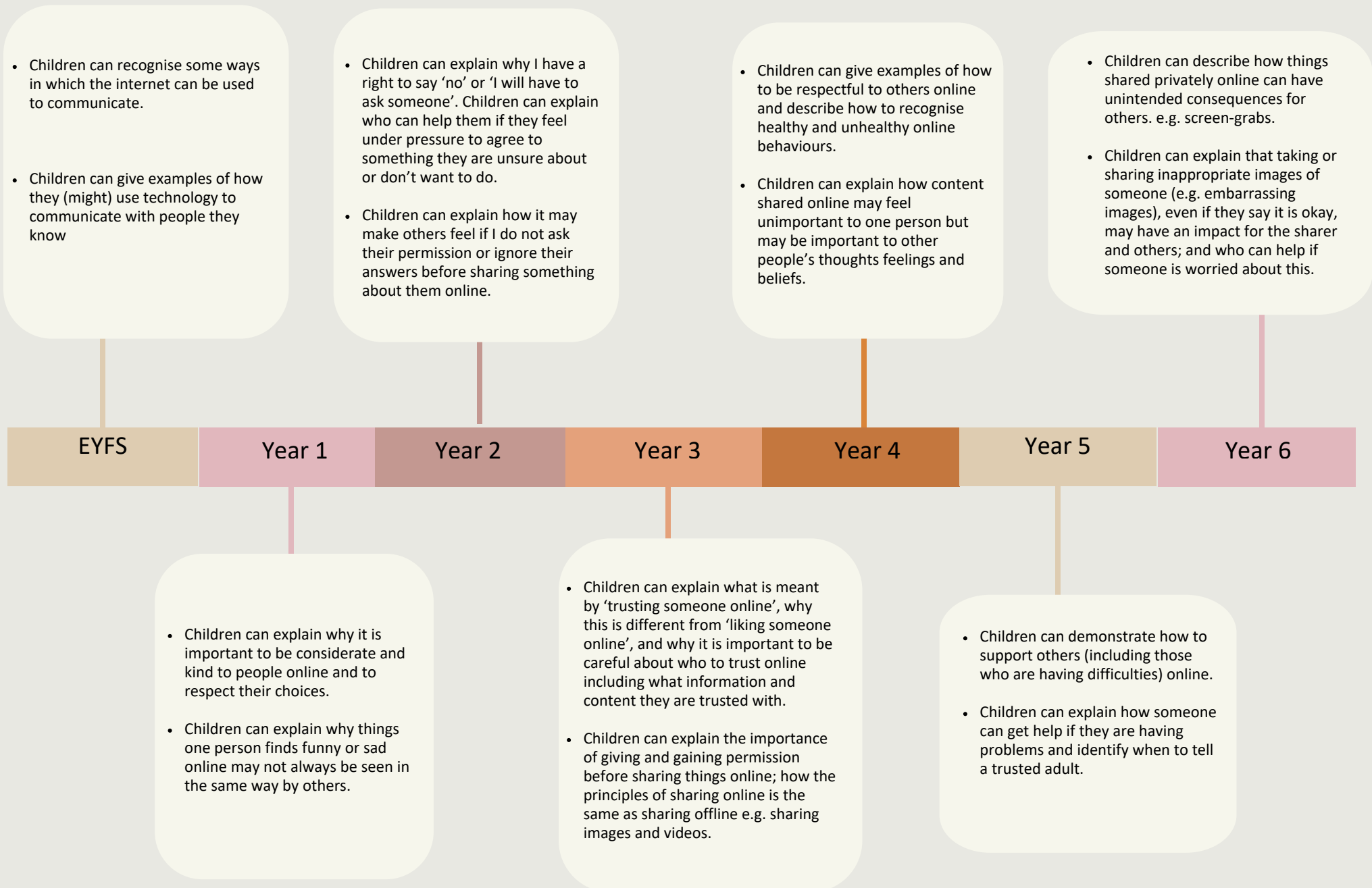
Progression of Internet Safety Concepts - Self Image and Identity



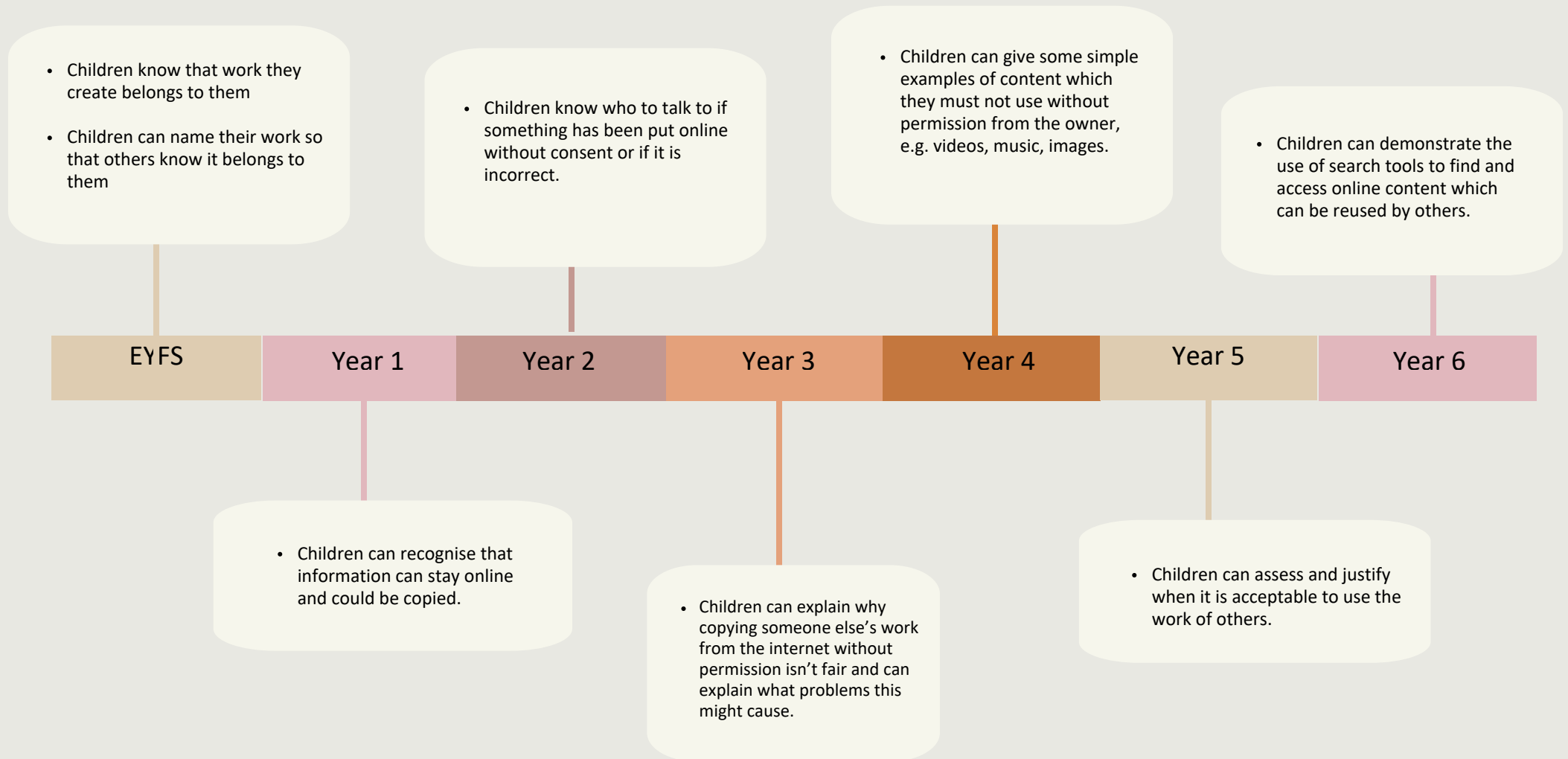
Progression of Internet Safety Concepts - Privacy and Security



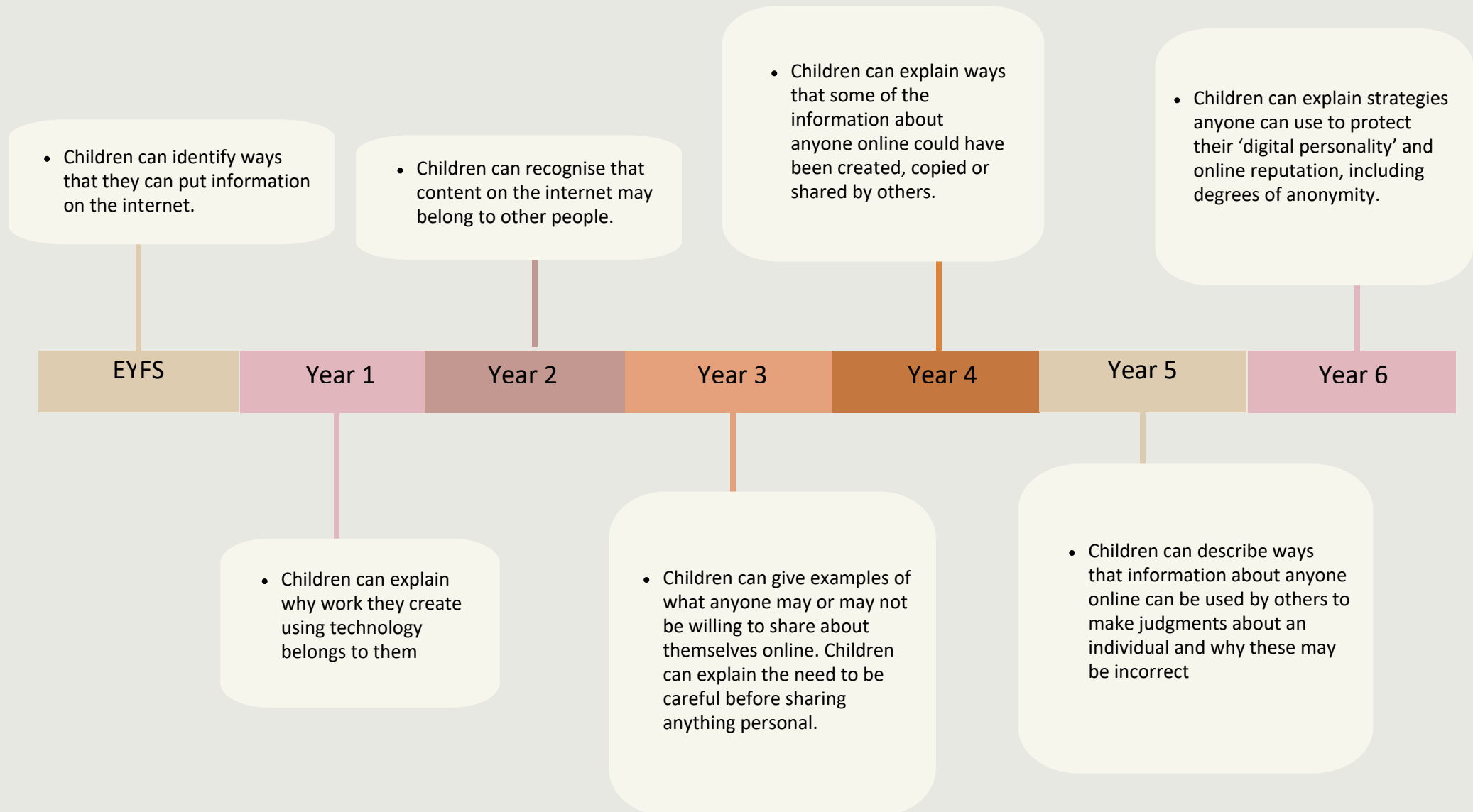
Progression of Internet Safety Concepts - Online Relationships



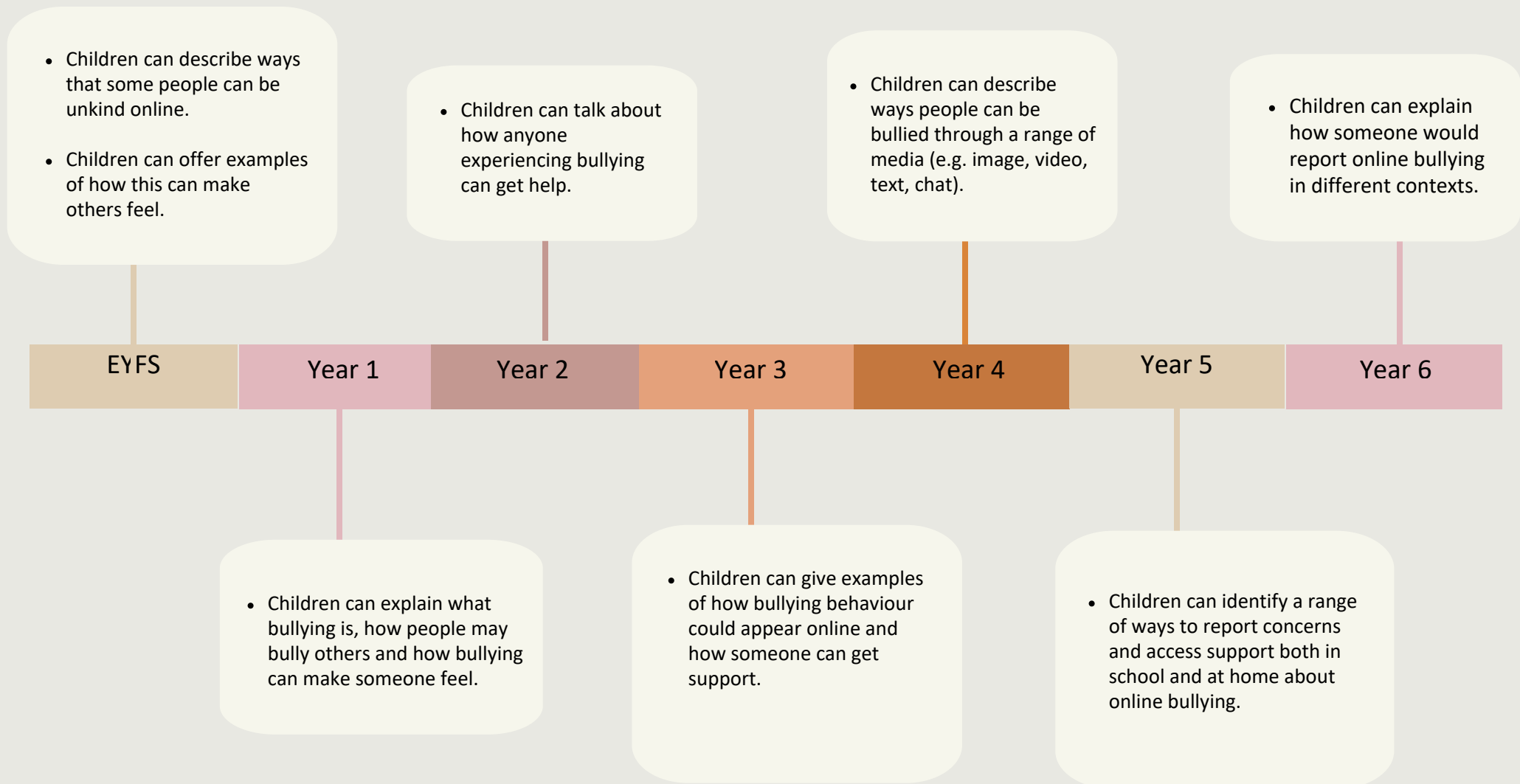
Progression of Internet Safety Concepts - Copyright and Ownership PROJECT EVOLVE



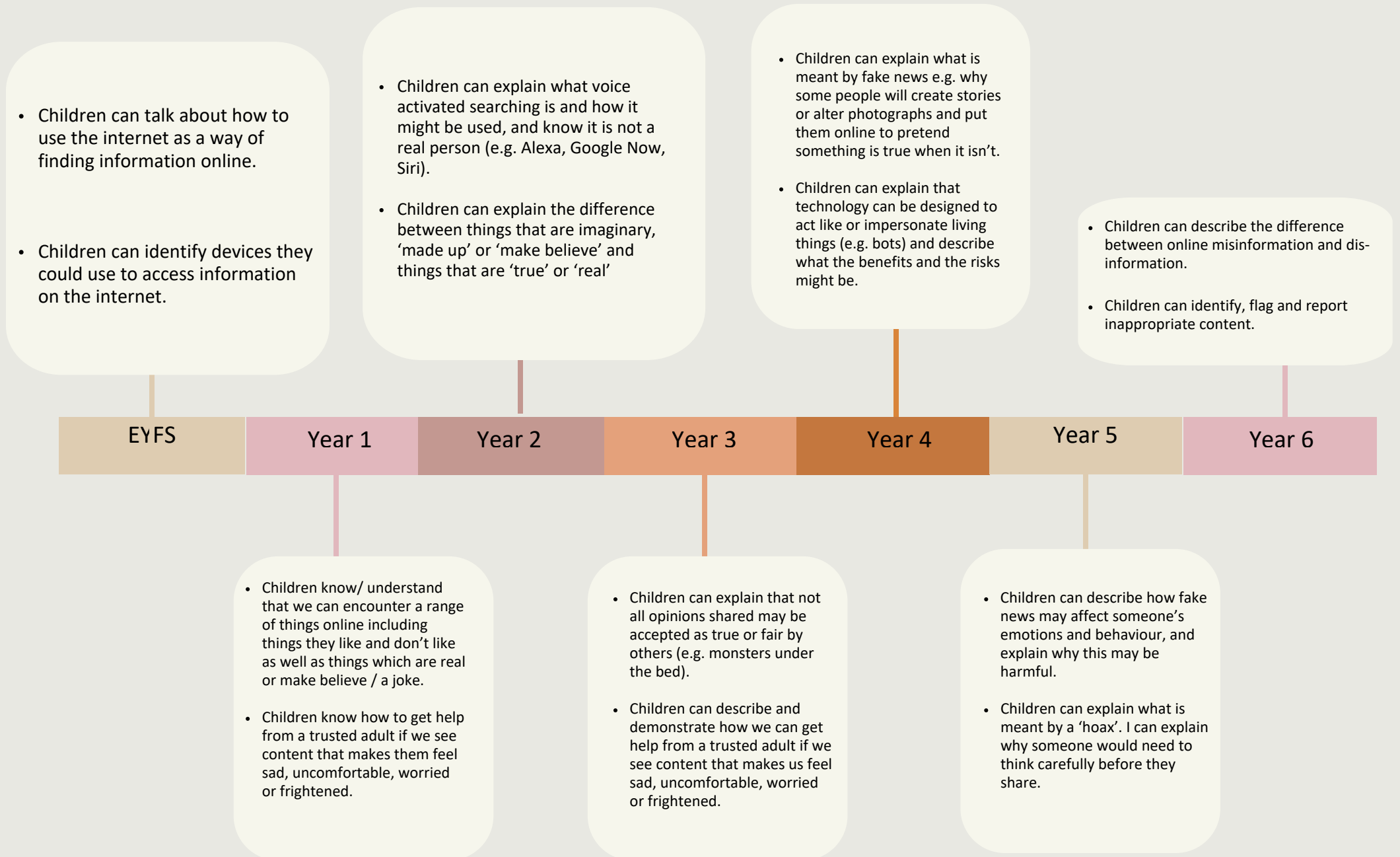
Progression of Internet Safety Concepts - Online Reputation



Progression of Internet Safety Concepts - Online Bullying



Progression of Internet Safety Concepts - Managing Online Information



Progression of Internet Safety Concepts - Health, Wellbeing and Lifestyle

