

Year Group	Suggested Order	Unit Name	Lesson
3	1	Computing systems and networks – Connecting computers	1
3	1	Computing systems and networks – Connecting computers	2
3	1	Computing systems and networks – Connecting computers	3
3	1	Computing systems and networks – Connecting computers	4
3	1	Computing systems and networks – Connecting computers	5
3	1	Computing systems and networks – Connecting computers	6
3	2	Creating media - Stop-frame animation	1
3	2	Creating media - Stop-frame animation	2
3	2	Creating media - Stop-frame animation	3
3	2	Creating media - Stop-frame animation	4

3	2	Creating media - Stop-frame animation	5
3	2	Creating media - Stop-frame animation	6
3	3	Programming A - Sequencing sounds	1
3	3	Programming A - Sequencing sounds	2
3	3	Programming A - Sequencing sounds	3
3	3	Programming A - Sequencing sounds	4
3	3	Programming A - Sequencing sounds	5
3	3	Programming A - Sequencing sounds	6
3	4	Data and information – Branching databases	1
3	4	Data and information – Branching databases	2

3	4	Data and information – Branching databases	3
3	4	Data and information – Branching databases	4
3	4	Data and information – Branching databases	5
3	4	Data and information – Branching databases	6
3	5	Creating media – Desktop publishing	1
3	5	Creating media – Desktop publishing	2
3	5	Creating media – Desktop publishing	3
3	5	Creating media – Desktop publishing	4
3	5	Creating media – Desktop publishing	5
3	5	Creating media – Desktop publishing	6

3	6	Programming B - Events and actions in programs	1
3	6	Programming B - Events and actions in programs	2
3	6	Programming B - Events and actions in programs	3
3	6	Programming B - Events and actions in programs	4
3	6	Programming B - Events and actions in programs	5
3	6	Programming B - Events and actions in programs	6
4	1	Computing systems and networks – The Internet	1
4	1	Computing systems and networks – The Internet	2
4	1	Computing systems and networks – The Internet	3
4	1	Computing systems and networks – The Internet	4

4	1	Computing systems and networks – The Internet	5
4	1	Computing systems and networks – The Internet	6
4	2	Creating media - Audio production	1
4	2	Creating media - Audio production	2
4	2	Creating media - Audio production	3
4	2	Creating media - Audio production	4
4	2	Creating media - Audio production	5
4	2	Creating media - Audio production	6
4	3	Programming A – Repetition in shapes	1
4	3	Programming A – Repetition in shapes	2

4	3	Programming A – Repetition in shapes	3
4	3	Programming A – Repetition in shapes	4
4	3	Programming A – Repetition in shapes	5
4	3	Programming A – Repetition in shapes	6
4	4	Data and information – Data logging	1
4	4	Data and information – Data logging	2
4	4	Data and information – Data logging	3
4	4	Data and information – Data logging	4
4	4	Data and information – Data logging	5
4	4	Data and information – Data logging	6

4	5	Creating media – Photo editing	1
4	5	Creating media – Photo editing	2
4	5	Creating media – Photo editing	3
4	5	Creating media – Photo editing	4
4	5	Creating media – Photo editing	5
4	5	Creating media – Photo editing	6
4	6	Programming B – Repetition in games	1
4	6	Programming B – Repetition in games	2
4	6	Programming B – Repetition in games	3
4	6	Programming B – Repetition in games	4

4	6	Programming B – Repetition in games	5
4	6	Programming B – Repetition in games	6
5	1	Computing systems and networks - Systems and searching	1
5	1	Computing systems and networks - Systems and searching	2
5	1	Computing systems and networks - Systems and searching	3
5	1	Computing systems and networks - Systems and searching	4
5	1	Computing systems and networks - Systems and searching	5
5	1	Computing systems and networks - Systems and searching	6
5	2	Creating media - Video production	1
5	2	Creating media - Video production	2

5	2	Creating media - Video production	3
5	2	Creating media - Video production	4
5	2	Creating media - Video production	5
5	2	Creating media - Video production	6
5	3	Programming A – Selection in physical computing	1
5	3	Programming A – Selection in physical computing	2
5	3	Programming A – Selection in physical computing	3
5	3	Programming A – Selection in physical computing	4
5	3	Programming A – Selection in physical computing	5
5	3	Programming A – Selection in physical computing	6

5	4	Data and information – Flat-file databases	1
5	4	Data and information – Flat-file databases	2
5	4	Data and information – Flat-file databases	3
5	4	Data and information – Flat-file databases	4
5	4	Data and information – Flat-file databases	5
5	4	Data and information – Flat-file databases	6
5	5	Creating media – Introduction to vector graphics	1
5	5	Creating media – Introduction to vector graphics	2
5	5	Creating media – Introduction to vector graphics	3
5	5	Creating media – Introduction to vector graphics	4

5	5	Creating media – Introduction to vector graphics	5
5	5	Creating media – Introduction to vector graphics	6
5	6	Programming B – Selection in quizzes	1
5	6	Programming B – Selection in quizzes	2
5	6	Programming B – Selection in quizzes	3
5	6	Programming B – Selection in quizzes	4
5	6	Programming B – Selection in quizzes	5
5	6	Programming B – Selection in quizzes	6
6	1	Computing systems and networks - Communication and collaboration	1
6	1	Computing systems and networks - Communication and collaboration	2

6	1	Computing systems and networks - Communication and collaboration	3
6	1	Computing systems and networks - Communication and collaboration	4
6	1	Computing systems and networks - Communication and collaboration	5
6	1	Computing systems and networks - Communication and collaboration	6
6	2	Creating media – Web page creation	1
6	2	Creating media – Web page creation	2
6	2	Creating media – Web page creation	3
6	2	Creating media – Web page creation	4
6	2	Creating media – Web page creation	5
6	2	Creating media – Web page creation	6

6	3	Programming A – Variables in games	1
6	3	Programming A – Variables in games	2
6	3	Programming A – Variables in games	3
6	3	Programming A – Variables in games	4
6	3	Programming A – Variables in games	5
6	3	Programming A – Variables in games	6
6	4	Data and information – Spreadsheets	1
6	4	Data and information – Spreadsheets	2
6	4	Data and information – Spreadsheets	3
6	4	Data and information – Spreadsheets	4

6	4	Data and information – Spreadsheets	5
6	4	Data and information – Spreadsheets	6
6	5	Creating media – 3D Modelling	1
6	5	Creating media – 3D Modelling	2
6	5	Creating media – 3D Modelling	3
6	5	Creating media – 3D Modelling	4
6	5	Creating media – 3D Modelling	5
6	5	Creating media – 3D Modelling	6
6	6	Programming B - Sensing movement	1
6	6	Programming B - Sensing movement	2

6	6	Programming B - Sensing movement	3
6	6	Programming B - Sensing movement	4
6	6	Programming B - Sensing movement	5
6	6	Programming B - Sensing movement	6

Learning Objectives

-To explain how digital devices function

-To identify input and output devices

-To recognise how digital devices can change the way we work

-To explain how a computer network can be used to share information

-To explore how digital devices can be connected

-To recognise the physical components of a network

-To explain that animation is a sequence of drawings or photographs

-To relate animated movement with a sequence of images

-To plan an animation

-To identify the need to work consistently and carefully

-To review and improve an animation

-To evaluate the impact of adding other media to an animation

-To explore a new programming environment

-To identify that commands have an outcome

-To explain that a program has a start

-To recognise that a sequence of commands can have an order

-To change the appearance of my project

-To create a project from a task description

-To create questions with yes/no answers

-To identify the attributes needed to collect data about an object

-To create a branching database

-To explain why it is helpful for a database to be well structured

-To plan the structure of a branching database

-To independently create an identification tool

-To recognise how text and images convey information

-To recognise that text and layout can be edited

-To choose appropriate page settings

-To add content to a desktop publishing publication

-To consider how different layouts can suit different purposes

-To consider the benefits of desktop publishing

-To explain how a sprite moves in an existing project

-To create a program to move a sprite in four directions

-To adapt a program to a new context

-To develop my program by adding features

-To identify and fix bugs in a program

-To design and create a maze-based challenge

-To describe how networks physically connect to other networks

-To recognise how networked devices make up the internet

-To outline how websites can be shared via the World Wide Web (WWW)

-To describe how content can be added and accessed on the World Wide Web (WWW)

-To recognise how the content of the WWW is created by people

-To evaluate the consequences of unreliable content

-To identify that sound can be recorded

-To explain that audio recordings can be edited

-To recognise the different parts of creating a podcast project

-To apply audio editing skills independently

-To combine audio to enhance my podcast project

-To evaluate the effective use of audio

-To identify that accuracy in programming is important

-To create a program in a text-based language

-To explain what 'repeat' means

-To modify a count-controlled loop to produce a given outcome

-To decompose a task into small steps

-To create a program that uses count-controlled loops to produce a given outcome

-To explain that data gathered over time can be used to answer questions

-To use a digital device to collect data automatically

-To explain that a data logger collects 'data points' from sensors over time

-To recognise how a computer can help us analyse data

-To identify the data needed to answer questions

-To use data from sensors to answer questions

-To explain that the composition of digital images can be changed

-To explain that colours can be changed in digital images

-To explain how cloning can be used in photo editing

-To explain that images can be combined

-To combine images for a purpose

-To evaluate how changes can improve an image

-To develop the use of count-controlled loops in a different programming environment

-To explain that in programming there are infinite loops and count controlled loops

-To develop a design that includes two or more loops which run at the same time

-To modify an infinite loop in a given program

-To design a project that includes repetition

-To create a project that includes repetition

-To explain that computers can be connected together to form systems

-To recognise the role of computer systems in our lives

-To experiment with search engines

-To describe how search engines select results

-To explain how search results are ranked

-To recognise why the order of results is important, and to whom

-To explain what makes a video effective

-To identify digital devices that can record video

-To capture video using a range of techniques

-To create a storyboard

-To identify that video can be improved through reshooting and editing

-To consider the impact of the choices made when making and sharing a video

-To control a simple circuit connected to a computer

-To write a program that includes count-controlled loops

-To explain that a loop can stop when a condition is met

-To explain that a loop can be used to repeatedly check whether a condition has been met

-To design a physical project that includes selection

-To create a program that controls a physical computing project

-To use a form to record information

-To compare paper and computer-based databases

-To outline how you can answer questions by grouping and then sorting data

-To explain that tools can be used to select specific data

-To explain that computer programs can be used to compare data visually

-To use a real-world database to answer questions

-To identify that drawing tools can be used to produce different outcomes

-To create a vector drawing by combining shapes

-To use tools to achieve a desired effect

-To recognise that vector drawings consist of layers

-To group objects to make them easier to work with

-To apply what I have learned about vector drawings

-To explain how selection is used in computer programs

-To relate that a conditional statement connects a condition to an outcome

-To explain how selection directs the flow of a program

-To design a program which uses selection

-To create a program which uses selection

-To evaluate my program

-To explain the importance of internet addresses

-To recognise how data is transferred across the internet

-To explain how sharing information online can help people to work together

-To evaluate different ways of working together online

-To recognise how we communicate using technology

-To evaluate different methods of online communication

-To review an existing website and consider its structure

-To plan the features of a web page

-To consider the ownership and use of images (copyright)

-To recognise the need to preview pages

-To outline the need for a navigation path

-To recognise the implications of linking to content owned by other people

-To define a 'variable' as something that is changeable

-To explain why a variable is used in a program

-To choose how to improve a game by using variables

-To design a project that builds on a given example

-To use my design to create a project

-To evaluate my project

-To create a data set in a spreadsheet

-To build a data set in a spreadsheet

-To explain that formulas can be used to produce calculated data

-To apply formulas to data

-To create a spreadsheet to plan an event

-To choose suitable ways to present data

-To recognise that you can work in three dimensions on a computer

-To identify that digital 3D objects can be modified

-To recognise that objects can be combined in a 3D model

-To create a 3D model for a given purpose

-To plan my own 3D model

-To create my own digital 3D model

-To create a program to run on a controllable device

-To explain that selection can control the flow of a program

-To update a variable with a user input

-To use a conditional statement to compare a variable to a value

-To design a project that uses inputs and outputs on a controllable device

-To develop a program to use inputs and outputs on a controllable device

Success Criteria	National Curriculum		
	2.1	2.2	2.3
<ul style="list-style-type: none"> -I can explain that digital devices accept inputs - I can explain that digital devices produce outputs - I can follow a process 			
<ul style="list-style-type: none"> -I can classify input and output devices - I can describe a simple process - I can design a digital device 			
<ul style="list-style-type: none"> -I can explain how I use digital devices for different activities - I can recognise similarities between using digital devices and non-digital tools - I can suggest differences between using digital devices and non-digital tools 			
<ul style="list-style-type: none"> -I can discuss why we need a network switch - I can explain how messages are passed through multiple connections - I can recognise different connections 			
<ul style="list-style-type: none"> -I can demonstrate how information can be passed between devices - I can explain the role of a switch, server, and wireless access point in a network - I can recognise that a computer network is made up of a number of devices 			
<ul style="list-style-type: none"> -I can identify how devices in a network are connected together - I can identify networked devices around me - I can identify the benefits of computer networks 			
<ul style="list-style-type: none"> -I can create an effective flip book—style animation - I can draw a sequence of pictures - I can explain how an animation/flip book works 			
<ul style="list-style-type: none"> -I can create an effective stop-frame animation - I can explain why little changes are needed for each frame - I can predict what an animation will look like 			
<ul style="list-style-type: none"> -I can break down a story into settings, characters and events - I can create a storyboard - I can describe an animation that is achievable on screen 			
<ul style="list-style-type: none"> -I can evaluate the quality of my animation - I can review a sequence of frames to check my work - I can use onion skinning to help me make small changes between frames 			

<ul style="list-style-type: none"> -I can evaluate another learner's animation - I can explain ways to make my animation better - I can improve my animation based on feedback 			
<ul style="list-style-type: none"> -I can add other media to my animation - I can evaluate my final film - I can explain why I added other media to my animation 			
<ul style="list-style-type: none"> -I can explain that objects in Scratch have attributes (linked to) - I can identify the objects in a Scratch project (sprites, backdrops) - I can recognise that commands in Scratch are represented as blocks 	■	■	■
<ul style="list-style-type: none"> -I can choose a word which describes an on-screen action for my plan - I can create a program following a design - I can identify that each sprite is controlled by the commands I choose 	■	■	■
<ul style="list-style-type: none"> -I can create a sequence of connected commands - I can explain that the objects in my project will respond exactly to the code - I can start a program in different ways 	■	■	■
<ul style="list-style-type: none"> -I can combine sound commands - I can explain what a sequence is - I can order notes into a sequence 	■	■	■
<ul style="list-style-type: none"> -I can build a sequence of commands - I can decide the actions for each sprite in a program - I can make design choices for my artwork 	■	■	■
<ul style="list-style-type: none"> -I can identify and name the objects I will need for a project - I can implement my algorithm as code - I can relate a task description to a design 	■	■	■
<ul style="list-style-type: none"> -I can create two groups of objects separated by one attribute - I can investigate questions with yes/no answers - I can make up a yes/no question about a collection of objects 			
<ul style="list-style-type: none"> -I can arrange objects into a tree structure - I can create a group of objects within an existing group - I can select an attribute to separate objects into groups 			

<ul style="list-style-type: none"> -I can group objects using my own yes/no questions - I can select objects to arrange in a branching database - I can test my branching database to see if it works <ul style="list-style-type: none"> -I can compare two branching database structures - I can create yes/no questions using given attributes - I can explain that questions need to be ordered carefully to split objects into similarly sized groups <ul style="list-style-type: none"> -I can create a physical version of a branching database - I can create questions that will enable objects to be uniquely identified - I can independently create questions to use in a branching database <ul style="list-style-type: none"> -I can create a branching database that reflects my plan - I can suggest real-world uses for branching databases - I can work with a partner to test my identification tool 	
<ul style="list-style-type: none"> -I can explain the difference between text and images - I can identify the advantages and disadvantages of using text and images - I can recognise that text and images can communicate messages clearly <ul style="list-style-type: none"> -I can change font style, size, and colours for a given purpose - I can edit text - I can explain that text can be changed to communicate more clearly <ul style="list-style-type: none"> -I can create a template for a particular purpose - I can define the term 'page orientation' - I can recognise placeholders and say why they are important <ul style="list-style-type: none"> -I can choose the best locations for my content - I can make changes to content after I've added it - I can paste text and images to create a magazine cover <ul style="list-style-type: none"> -I can choose a suitable layout for a given purpose - I can identify different layouts - I can match a layout to a purpose <ul style="list-style-type: none"> -I can compare work made on desktop publishing to work created by hand - I can identify the uses of desktop publishing in the real world - I can say why desktop publishing might be helpful 	

<ul style="list-style-type: none"> -I can choose which keys to use for actions and explain my choices - I can explain the relationship between an event and an action - I can identify a way to improve a program 			
<ul style="list-style-type: none"> -I can choose a character for my project - I can choose a suitable size for a character in a maze - I can program movement 			
<ul style="list-style-type: none"> -I can choose blocks to set up my program - I can consider the real world when making design choices - I can use a programming extension 			
<ul style="list-style-type: none"> -I can build more sequences of commands to make my design work - I can choose suitable keys to turn on additional features - I can identify additional features (from a given set of blocks) 			
<ul style="list-style-type: none"> -I can match a piece of code to an outcome - I can modify a program using a design - I can test a program against a given design 			
<ul style="list-style-type: none"> -I can evaluate my project - I can implement my design - I can make design choices and justify them 			
<ul style="list-style-type: none"> -I can demonstrate how information is shared across the internet - I can describe the internet as a network of networks - I can discuss why a network needs protecting 			
<ul style="list-style-type: none"> -I can describe networked devices and how they connect - I can explain that the internet is used to provide many services - I can recognise that the World Wide Web contains websites and web pages 			
<ul style="list-style-type: none"> -I can describe how to access websites on the WWW - I can describe where websites are stored when uploaded to the WWW - I can explain the types of media that can be shared on the WWW 			
<ul style="list-style-type: none"> -I can explain that internet services can be used to create content online - I can explain what media can be found on websites - I can recognise that I can add content to the WWW 			

<ul style="list-style-type: none"> -I can explain that there are rules to protect content - I can explain that websites and their content are created by people - I can suggest who owns the content on websites 			
<ul style="list-style-type: none"> -I can explain that not everything on the World Wide Web is true - I can explain why I need to think carefully before I share or reshare content - I can explain why some information I find online may not be honest, accurate, or legal 			
<ul style="list-style-type: none"> -I can explain that the person who records the sound can say who is allowed to use it - I can identify the input and output devices used to record and play sound - I can use a computer to record audio 			
<ul style="list-style-type: none"> -I can discuss what sounds can be added to a podcast - I can inspect the soundwave view to know where to trim my recording - I can re-record my voice to improve my recording 			
<ul style="list-style-type: none"> -I can explain how sounds can be combined to make a podcast more engaging - I can plan appropriate content for a podcast - I can save my project so the different parts remain editable 			
<ul style="list-style-type: none"> -I can improve my voice recordings - I can record content following my plan - I can review the quality of my recordings 			
<ul style="list-style-type: none"> -I can arrange multiple sounds to create the effect I want - I can explain the difference between saving a project and exporting an audio file - I can open my project to continue working on it 			
<ul style="list-style-type: none"> -I can choose appropriate edits to improve my podcast - I can listen to an audio recording to identify its strengths - I can suggest improvements to an audio recording 			
<ul style="list-style-type: none"> -I can create a code snippet for a given purpose - I can explain the effect of changing a value of a command - I can program a computer by typing commands 			
<ul style="list-style-type: none"> -I can test my algorithm in a text-based language - I can use a template to create a design for my program - I can write an algorithm to produce a given outcome 			

<ul style="list-style-type: none"> -I can identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves - I can identify patterns in a sequence - I can use a count-controlled loop to produce a given outcome 			
<ul style="list-style-type: none"> -I can choose which values to change in a loop - I can identify the effect of changing the number of times a task is repeated - I can predict the outcome of a program containing a count-controlled loop 			
<ul style="list-style-type: none"> -I can explain that a computer can repeatedly call a procedure - I can identify 'chunks' of actions in the real world - I can use a procedure in a program 			
<ul style="list-style-type: none"> -I can design a program that includes count-controlled loops - I can develop my program by debugging it - I can make use of my design to write a program 			
<ul style="list-style-type: none"> -I can choose a data set to answer a given question - I can identify data that can be gathered over time - I can suggest questions that can be answered using a given data set 			
<ul style="list-style-type: none"> -I can explain what data can be collected using sensors - I can identify that data from sensors can be recorded - I can use data from a sensor to answer a given question 			
<ul style="list-style-type: none"> -I can identify the intervals used to collect data - I can recognise that a data logger collects data at given points - I can talk about the data that I have captured 			
<ul style="list-style-type: none"> -I can explain that there are different ways to view data - I can sort data to find information - I can view data at different levels of detail 			
<ul style="list-style-type: none"> -I can plan how to collect data using a data logger - I can propose a question that can be answered using logged data - I can use a data logger to collect data 			
<ul style="list-style-type: none"> -I can draw conclusions from the data that I have collected - I can explain the benefits of using a data logger - I can interpret data that has been collected using a data logger 			

<ul style="list-style-type: none"> -I can explain why I might crop an image - I can improve an image by rotating it - I can use photo editing software to crop an image 	
<ul style="list-style-type: none"> -I can experiment with different colour effects - I can explain that different colour effects make you think and feel different things - I can explain why I chose certain colour effects 	
<ul style="list-style-type: none"> -I can add to the composition of an image by cloning - I can identify how a photo edit can be improved - I can remove parts of an image using cloning 	
<ul style="list-style-type: none"> -I can experiment with tools to select and copy part of an image - I can explain why photos might be edited - I can use a range of tools to copy between images 	
<ul style="list-style-type: none"> -I can choose suitable images for my project - I can create a project that is a combination of other images - I can describe the image I want to create 	
<ul style="list-style-type: none"> -I can combine text and my image to complete the project - I can review images against a given criteria - I can use feedback to guide making changes 	
<ul style="list-style-type: none"> -I can list an everyday task as a set of instructions including repetition - I can modify a snippet of code to create a given outcome - I can predict the outcome of a snippet of code 	
<ul style="list-style-type: none"> -I can choose when to use a count-controlled and an infinite loop - I can modify loops to produce a given outcome - I can recognise that some programming languages enable more than one process to be run at once 	
<ul style="list-style-type: none"> -I can choose which action will be repeated for each object - I can evaluate the effectiveness of the repeated sequences used in my program - I can explain what the outcome of the repeated action should be 	
<ul style="list-style-type: none"> -I can explain the effect of my changes - I can identify which parts of a loop can be changed - I can re-use existing code snippets on new sprites 	

<ul style="list-style-type: none"> -I can develop my own design explaining what my project will do - I can evaluate the use of repetition in a project - I can select key parts of a given project to use in my own design 			
<ul style="list-style-type: none"> -I can build a program that follows my design - I can evaluate the steps I followed when building my project - I can refine the algorithm in my design 			
<ul style="list-style-type: none"> -I can describe that a computer system features inputs, processes, and outputs - I can explain that computer systems communicate with other devices - I can explain that systems are built using a number of parts 			
<ul style="list-style-type: none"> -I can explain the benefits of a given computer system - I can identify tasks that are managed by computer systems - I can identify the human elements of a computer system 			
<ul style="list-style-type: none"> -I can compare results from different search engines - I can make use of a web search to find specific information - I can refine my web search 			
<ul style="list-style-type: none"> -I can explain why we need tools to find things online - I can recognise the role of web crawlers in creating an index - I can relate a search term to the search engine's index 			
<ul style="list-style-type: none"> -I can explain that a search engine follows rules to rank results - I can give examples of criteria used by search engines to rank results - I can order a list by rank 			
<ul style="list-style-type: none"> -I can describe some of the ways that search results can be influenced - I can explain how search engines make money - I can recognise some of the limitations of search engines 			
<ul style="list-style-type: none"> -I can compare features in different videos - I can explain that video is a visual media format - I can identify features of videos 			
<ul style="list-style-type: none"> -I can experiment with different camera angles - I can identify and find features on a digital video recording device - I can make use of a microphone 			

<ul style="list-style-type: none"> -I can capture video using a range of filming techniques - I can review how effective my video is - I can suggest filming techniques for a given purpose 			
<ul style="list-style-type: none"> -I can create and save video content - I can decide which filming techniques I will use - I can outline the scenes of my video 			
<ul style="list-style-type: none"> -I can explain how to improve a video by reshooting and editing - I can select the correct tools to make edits to my video - I can store, retrieve, and export my recording to a computer 			
<ul style="list-style-type: none"> -I can evaluate my video and share my opinions - I can make edits to my video and improve the final outcome - I can recognise that my choices when making a video will impact on the quality of the final outcome 			
<ul style="list-style-type: none"> -I can create a simple circuit and connect it to a microcontroller - I can explain what an infinite loop does - I can program a microcontroller to make an LED switch on 	■	■	■
<ul style="list-style-type: none"> -I can connect more than one output component to a microcontroller - I can design sequences that use count-controlled loops - I can use a count-controlled loop to control outputs 	■	■	■
<ul style="list-style-type: none"> -I can design a conditional loop - I can explain that a condition is either true or false - I can program a microcontroller to respond to an input 	■	■	■
<ul style="list-style-type: none"> -I can explain that a condition being met can start an action - I can identify a condition and an action in my project - I can use selection (an 'if...then...' statement) to direct the flow of a program 	■	■	■
<ul style="list-style-type: none"> -I can create a detailed drawing of my project - I can describe what my project will do - I can identify a real-world example of a condition starting an action 	■	■	■
<ul style="list-style-type: none"> -I can test and debug my project - I can use selection to produce an intended outcome - I can write an algorithm that describes what my model will do 	■	■	■

<ul style="list-style-type: none"> -I can create a database using cards - I can explain how information can be recorded - I can order, sort, and group my data cards <ul style="list-style-type: none"> -I can choose which field to sort data by to answer a given question - I can explain what a field and a record is in a database - I can navigate a flat-file database to compare different views of information <ul style="list-style-type: none"> -I can combine grouping and sorting to answer specific questions - I can explain that data can be grouped using chosen values - I can group information using a database <ul style="list-style-type: none"> -I can choose multiple criteria to answer a given question - I can choose which field and value are required to answer a given question - I can outline how 'AND' and 'OR' can be used to refine data selection <ul style="list-style-type: none"> -I can explain the benefits of using a computer to create charts - I can refine a chart by selecting a particular filter - I can select an appropriate chart to visually compare data <ul style="list-style-type: none"> -I can ask questions that will need more than one field to answer - I can present my findings to a group - I can refine a search in a real-world context 	
<ul style="list-style-type: none"> -I can discuss how vector drawings are different from paper-based drawings - I can experiment with the shape and line tools - I can recognise that vector drawings are made using shapes <ul style="list-style-type: none"> -I can explain that each element added to a vector drawing is an object - I can identify the shapes used to make a vector drawing - I can move, resize, and rotate objects I have duplicated <ul style="list-style-type: none"> -I can explain how alignment grids and resize handles can be used to improve consistency - I can modify objects to create a new image - I can use the zoom tool to help me add detail to my drawings <ul style="list-style-type: none"> -I can change the order of layers in a vector drawing - I can identify that each added object creates a new layer in the drawing - I can use layering to create an image 	

<ul style="list-style-type: none"> -I can copy part of a drawing by duplicating several objects - I can recognise when I need to group and ungroup objects - I can reuse a group of objects to further develop my vector drawing 			
<ul style="list-style-type: none"> -I can compare vector drawings to freehand paint drawings - I can create a vector drawing for a specific purpose - I can reflect on the skills I have used and why I have used them 			
<ul style="list-style-type: none"> -I can identify conditions in a program - I can modify a condition in a program - I can recall how conditions are used in selection 	■	■	■
<ul style="list-style-type: none"> -I can create a program with different outcomes using selection - I can identify the condition and outcomes in an 'if... then... else...' statement - I can use selection in an infinite loop to check a condition 	■	■	■
<ul style="list-style-type: none"> -I can design the flow of a program which contains 'if... then... else...' - I can explain that program flow can branch according to a condition - I can show that a condition can direct program flow in one of two ways 	■	■	■
<ul style="list-style-type: none"> -I can identify the outcome of user input in an algorithm - I can outline a given task - I can use a design format to outline my project 	■	■	■
<ul style="list-style-type: none"> -I can implement my algorithm to create the first section of my program - I can share my program with others - I can test my program 	■	■	■
<ul style="list-style-type: none"> -I can extend my program further - I can identify the setup code I need in my program - I can identify ways the program could be improved 	■	■	■
<ul style="list-style-type: none"> -I can describe how computers use addresses to access websites - I can explain that internet devices have addresses - I can recognise that data is transferred using agreed methods 			
<ul style="list-style-type: none"> -I can explain that all data transferred over the internet is in packets - I can explain that data is transferred over networks in packets - I can identify and explain the main parts of a data packet 			

<ul style="list-style-type: none"> -I can explain that the internet allows different media to be shared - I can recognise how to access shared files stored online - I can send information over the internet in different ways 	
<ul style="list-style-type: none"> -I can explain how the internet enables effective collaboration - I can identify different ways of working together online - I can recognise that working together on the internet can be public or private 	
<ul style="list-style-type: none"> -I can choose methods of communication to suit particular purposes - I can explain the different ways in which people communicate - I can identify that there are a variety of ways to communicate over the internet 	
<ul style="list-style-type: none"> -I can compare different methods of communicating on the internet - I can decide when I should and should not share information online - I can explain that communication on the internet may not be private 	
<ul style="list-style-type: none"> -I can discuss the different types of media used on websites - I can explore a website - I know that websites are written in HTML 	
<ul style="list-style-type: none"> -I can draw a web page layout that suits my purpose - I can recognise the common features of a web page - I can suggest media to include on my page 	
<ul style="list-style-type: none"> -I can describe what is meant by the term 'fair use' - I can find copyright-free images - I can say why I should use copyright-free images 	
<ul style="list-style-type: none"> -I can add content to my own web page - I can evaluate what my web page looks like on different devices and suggest/make edits - I can preview what my web page looks like 	
<ul style="list-style-type: none"> -I can describe why navigation paths are useful - I can explain what a navigation path is - I can make multiple web pages and link them using hyperlinks 	
<ul style="list-style-type: none"> -I can create hyperlinks to link to other people's work - I can evaluate the user experience of a website - I can explain the implication of linking to content owned by others 	

<ul style="list-style-type: none"> -I can explain that the way a variable changes can be defined - I can identify examples of information that is variable - I can identify that variables can hold numbers or letters 			
<ul style="list-style-type: none"> -I can explain that a variable has a name and a value - I can identify a program variable as a placeholder in memory for a single value - I can recognise that the value of a variable can be changed 			
<ul style="list-style-type: none"> -I can decide where in a program to change a variable - I can make use of an event in a program to set a variable - I can recognise that the value of a variable can be used by a program 			
<ul style="list-style-type: none"> -I can choose the artwork for my project - I can create algorithms for my project - I can explain my design choices 			
<ul style="list-style-type: none"> -I can choose a name that identifies the role of a variable - I can create the artwork for my project - I can test the code that I have written 			
<ul style="list-style-type: none"> -I can identify ways that my game could be improved - I can share my game with others - I can use variables to extend my game 			
<ul style="list-style-type: none"> -I can collect data - I can enter data into a spreadsheet - I can suggest how to structure my data 			
<ul style="list-style-type: none"> -I can apply an appropriate format to a cell - I can choose an appropriate format for a cell - I can explain what an item of data is 			
<ul style="list-style-type: none"> -I can construct a formula in a spreadsheet - I can explain which data types can be used in calculations - I can identify that changing inputs changes outputs 			
<ul style="list-style-type: none"> -I can apply a formula to multiple cells by duplicating it - I can calculate data using different operations - I can create a formula which includes a range of cells 			

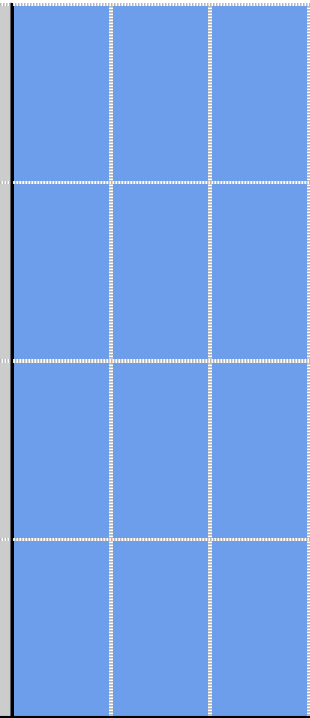
<ul style="list-style-type: none"> -I can apply a formula to calculate the data I need to answer questions - I can explain why data should be organised - I can use a spreadsheet to answer questions <ul style="list-style-type: none"> -I can produce a chart - I can suggest when to use a table or chart - I can use a chart to show the answer to questions 	
<ul style="list-style-type: none"> -I can add 3D shapes to a project - I can move 3D shapes relative to one another - I can view 3D shapes from different perspectives <ul style="list-style-type: none"> -I can lift/lower 3D objects - I can recolour a 3D object - I can resize an object in three dimensions <ul style="list-style-type: none"> -I can duplicate 3D objects - I can group 3D objects - I can rotate objects in three dimensions <ul style="list-style-type: none"> -I can accurately size 3D objects - I can combine a number of 3D objects - I can show that placeholders can create holes in 3D objects <ul style="list-style-type: none"> -I can analyse a 3D model - I can choose objects to use in a 3D model - I can combine objects in a design <ul style="list-style-type: none"> -I can construct a 3D model based on a design - I can explain how my 3D model could be improved - I can modify my 3D model to improve it 	
<ul style="list-style-type: none"> -I can apply my knowledge of programming to a new environment - I can test my program on an emulator - I can transfer my program to a controllable device <ul style="list-style-type: none"> -I can determine the flow of a program using selection - I can identify examples of conditions in the real world - I can use a variable in an if, then, else statement to select the flow of a program 	

- I can experiment with different physical inputs
- I can explain that checking a variable doesn't change its value
- I can use a condition to change a variable

- I can explain the importance of the order of conditions in else, if statements
- I can modify a program to achieve a different outcome
- I can use an operand (e.g. <=>) in an if, then statement

- I can decide what variables to include in a project
- I can design the algorithm for my project
- I can design the program flow for my project

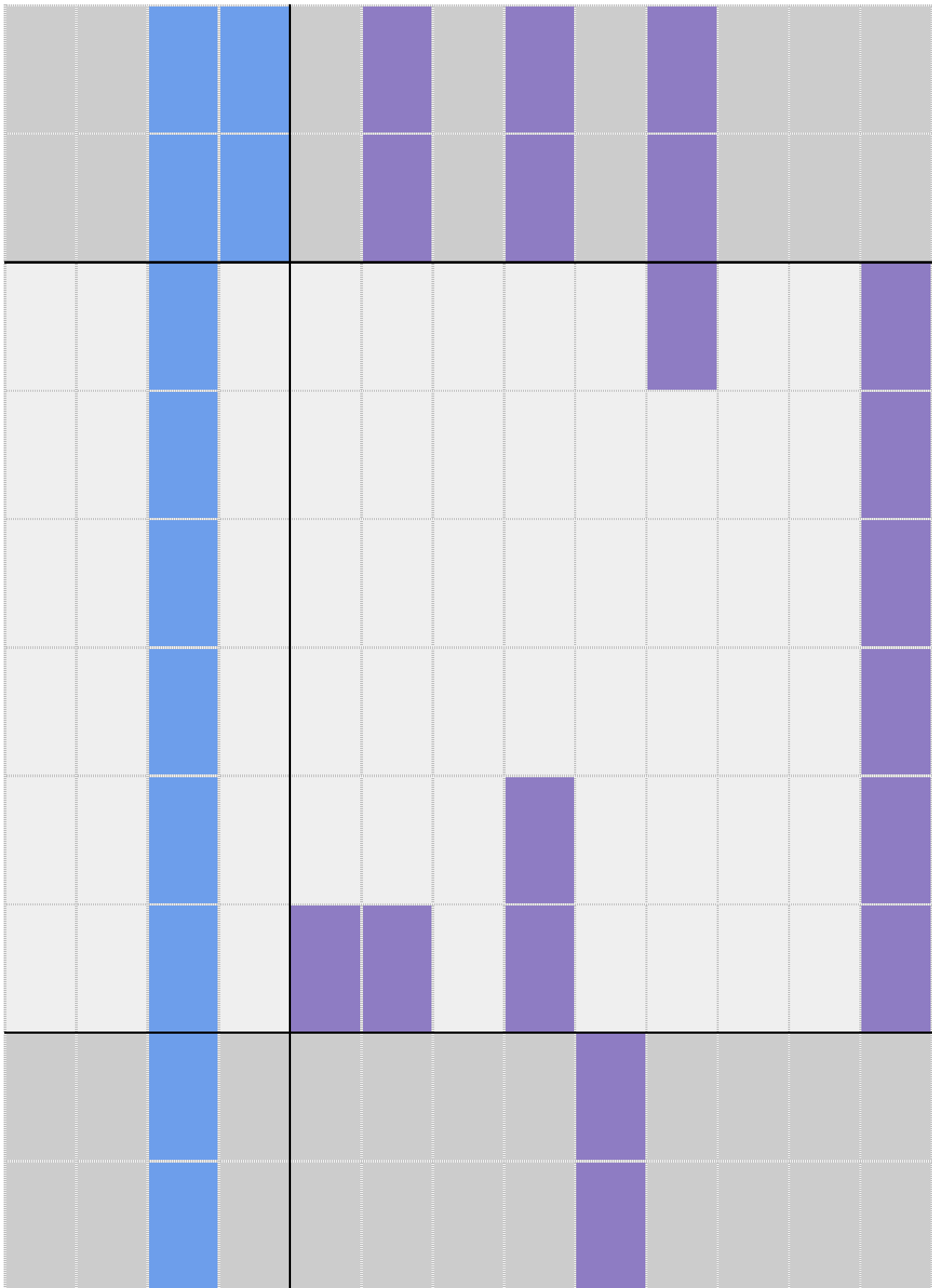
- I can create a program based on my design
- I can test my program against my design
- I can use a range of approaches to find and fix bugs

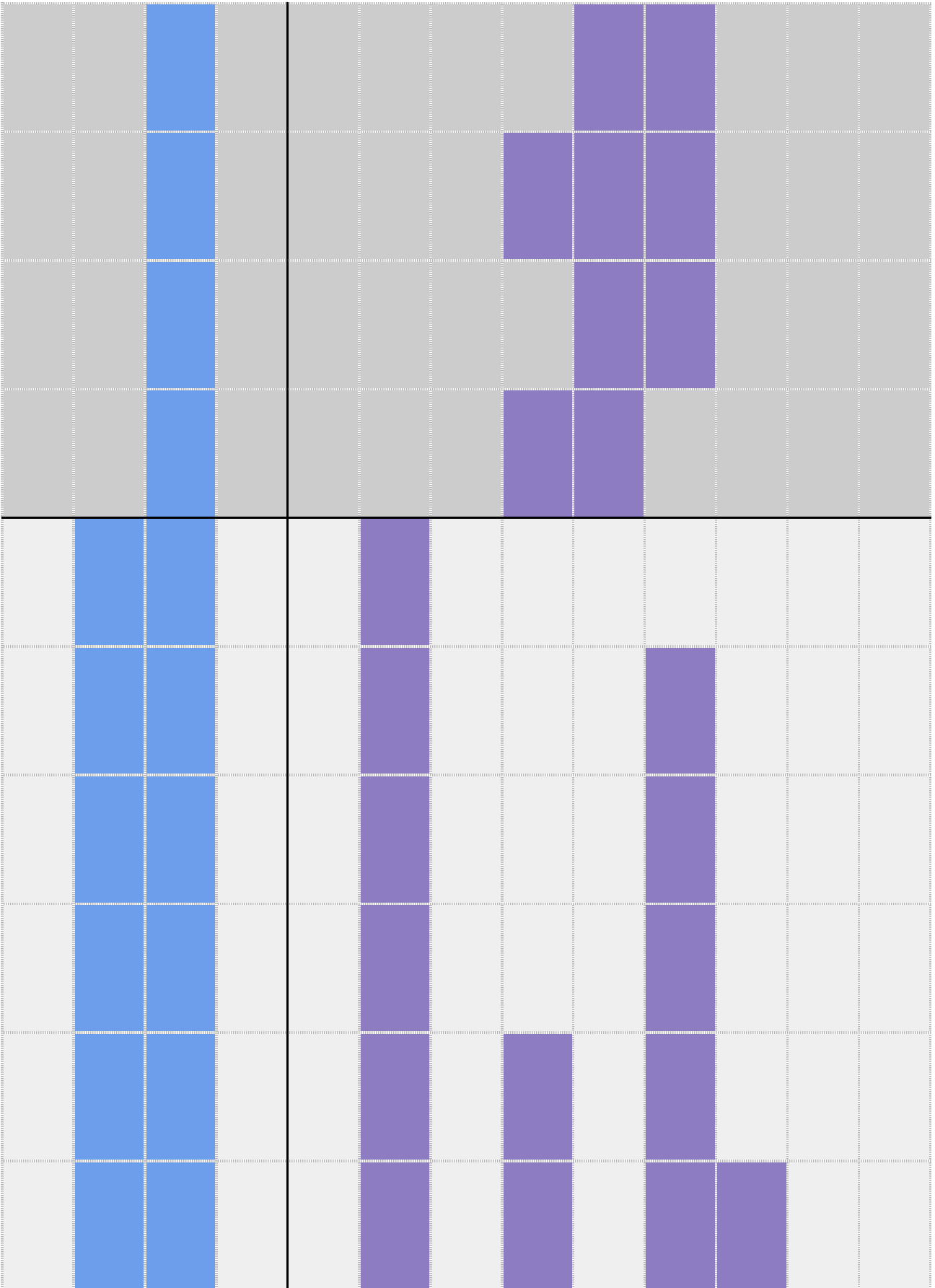


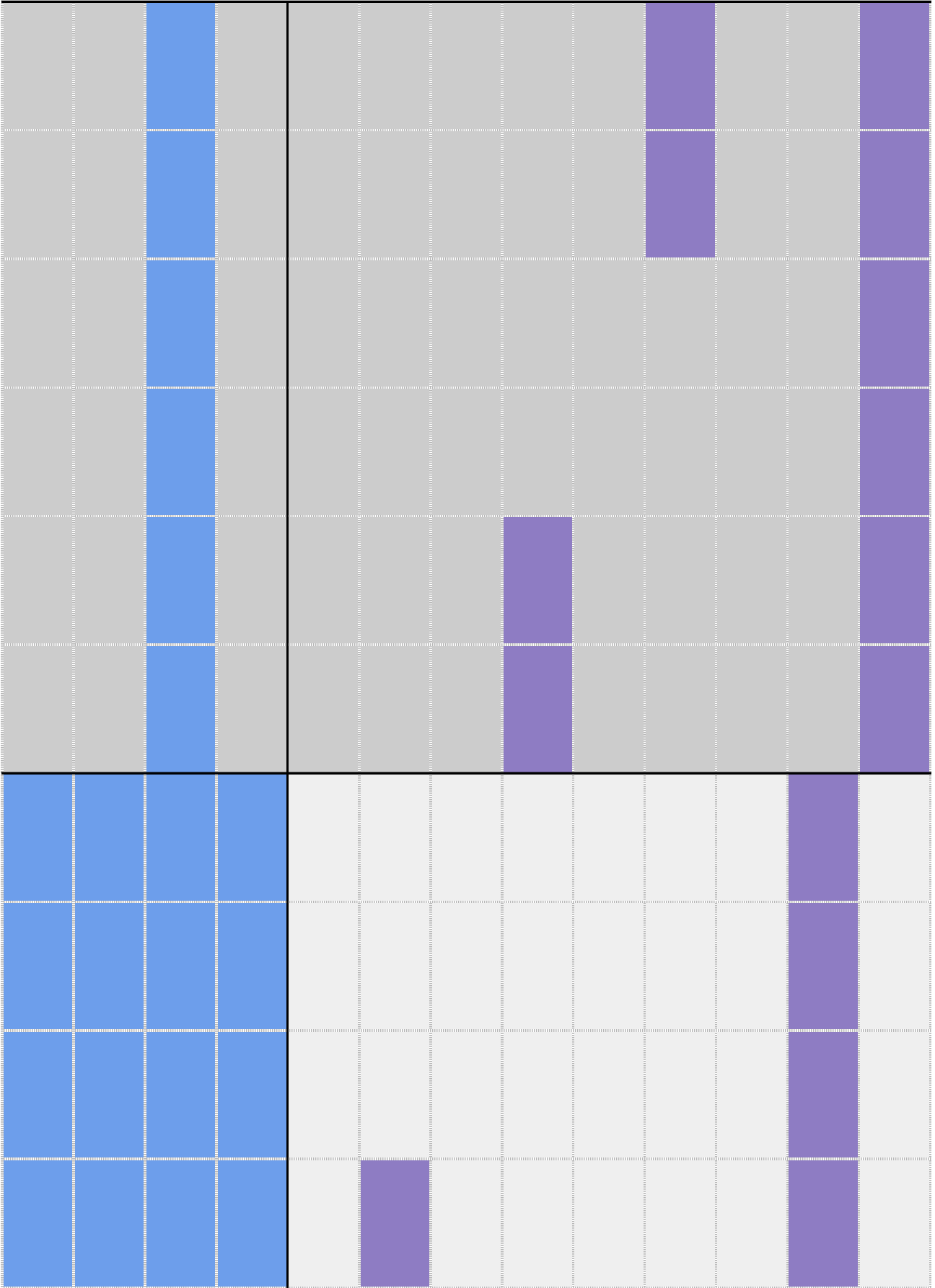
Curriculum Links

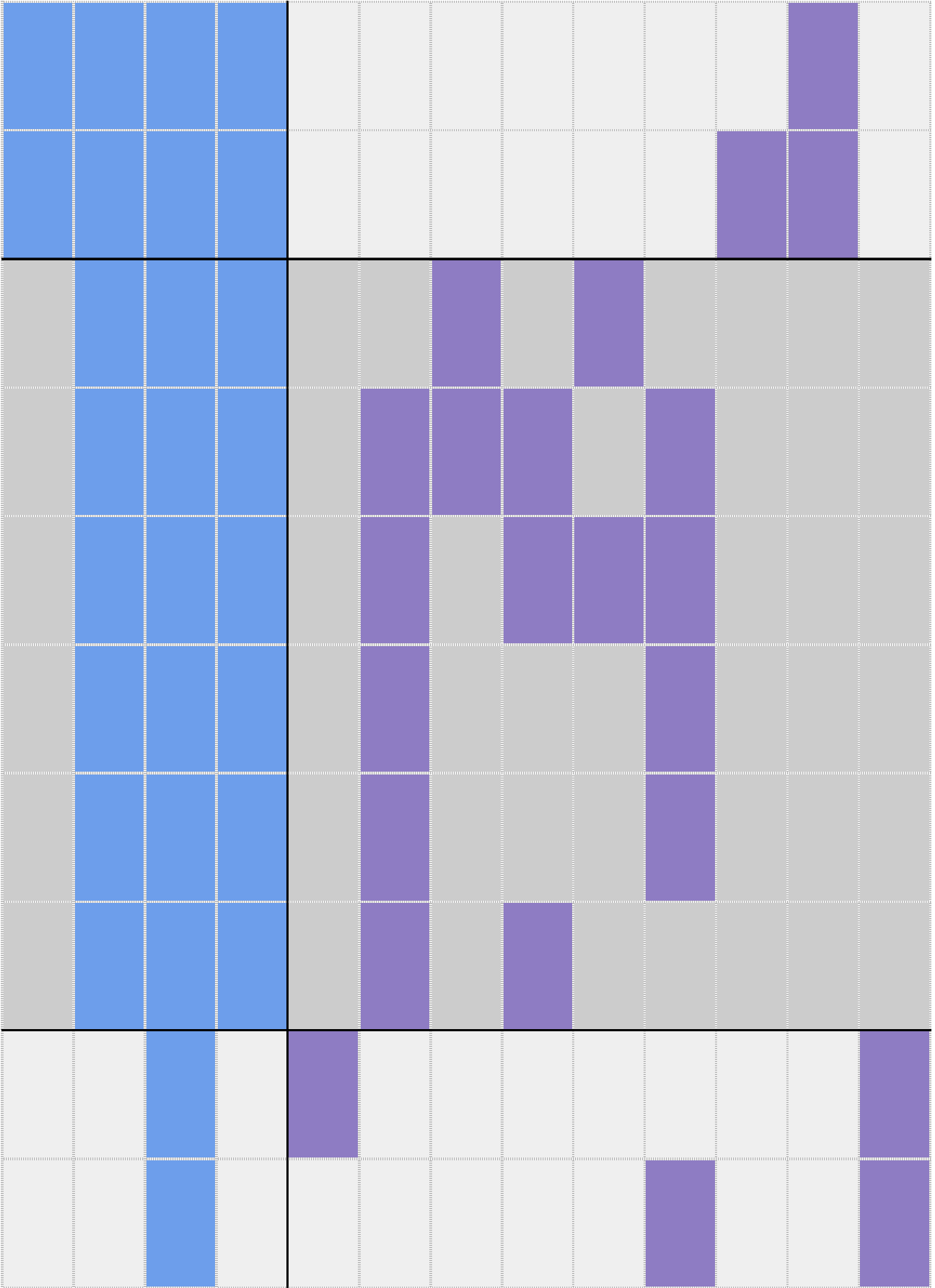
Teach Computing Taxonomy

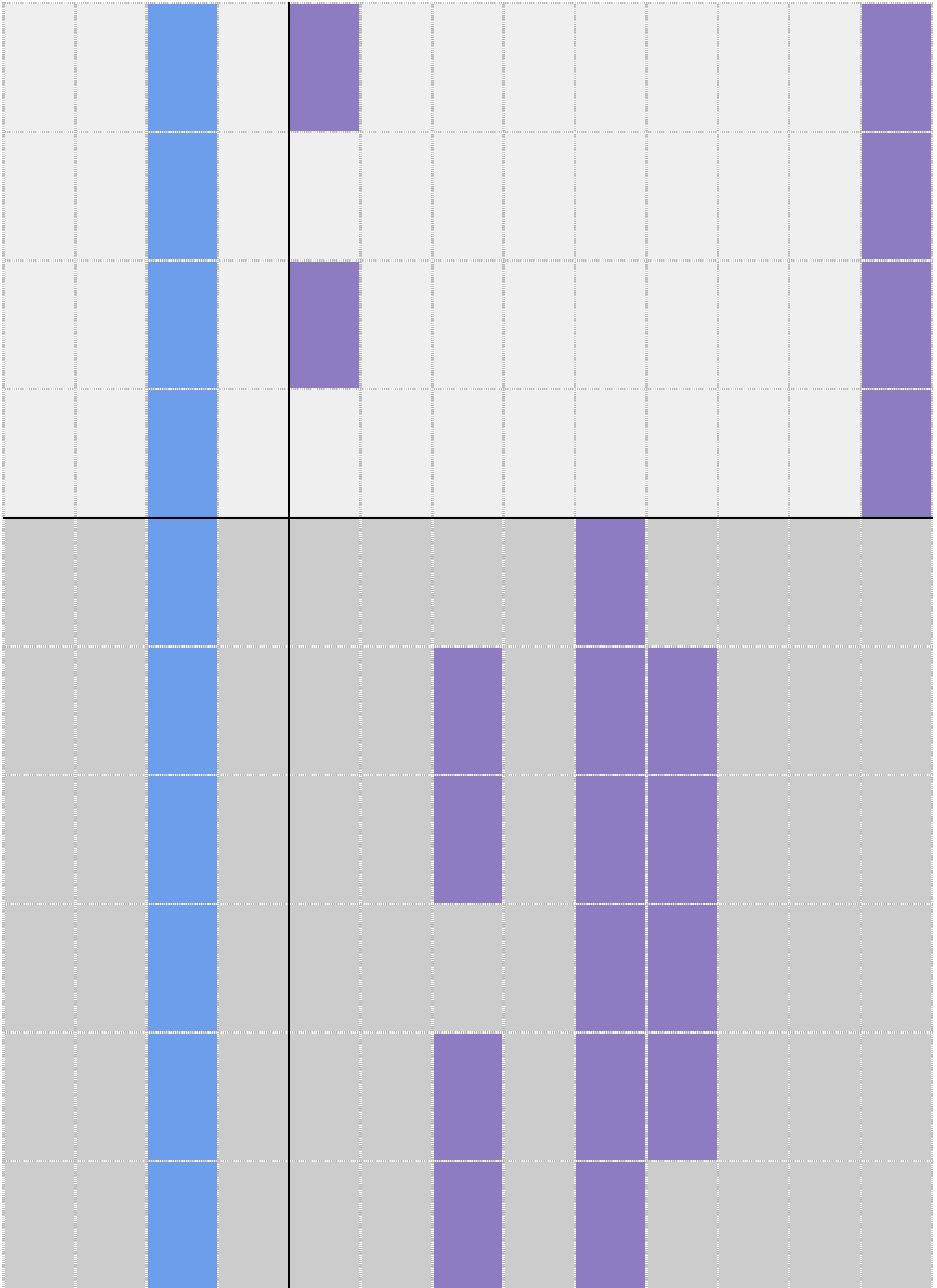
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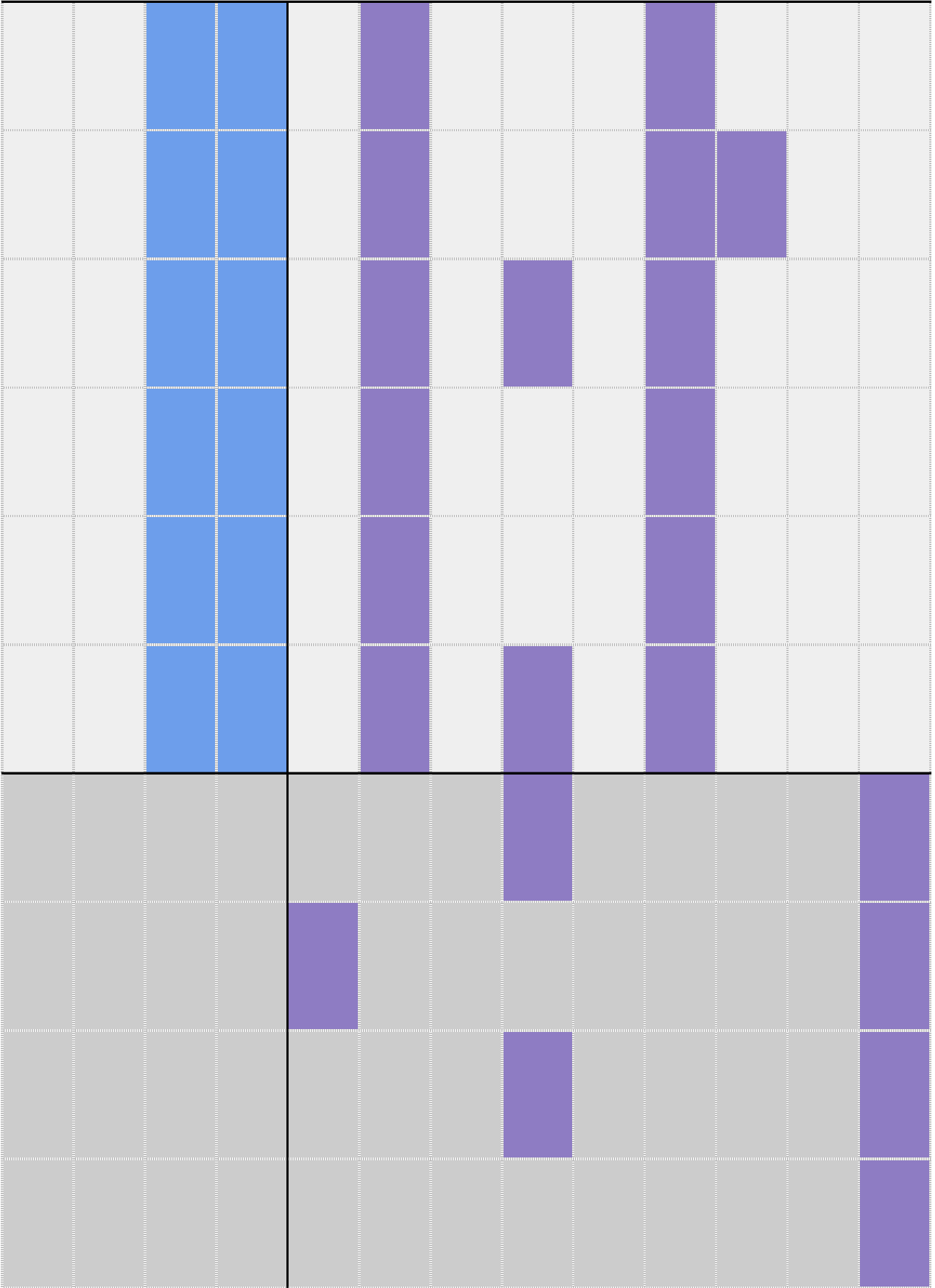


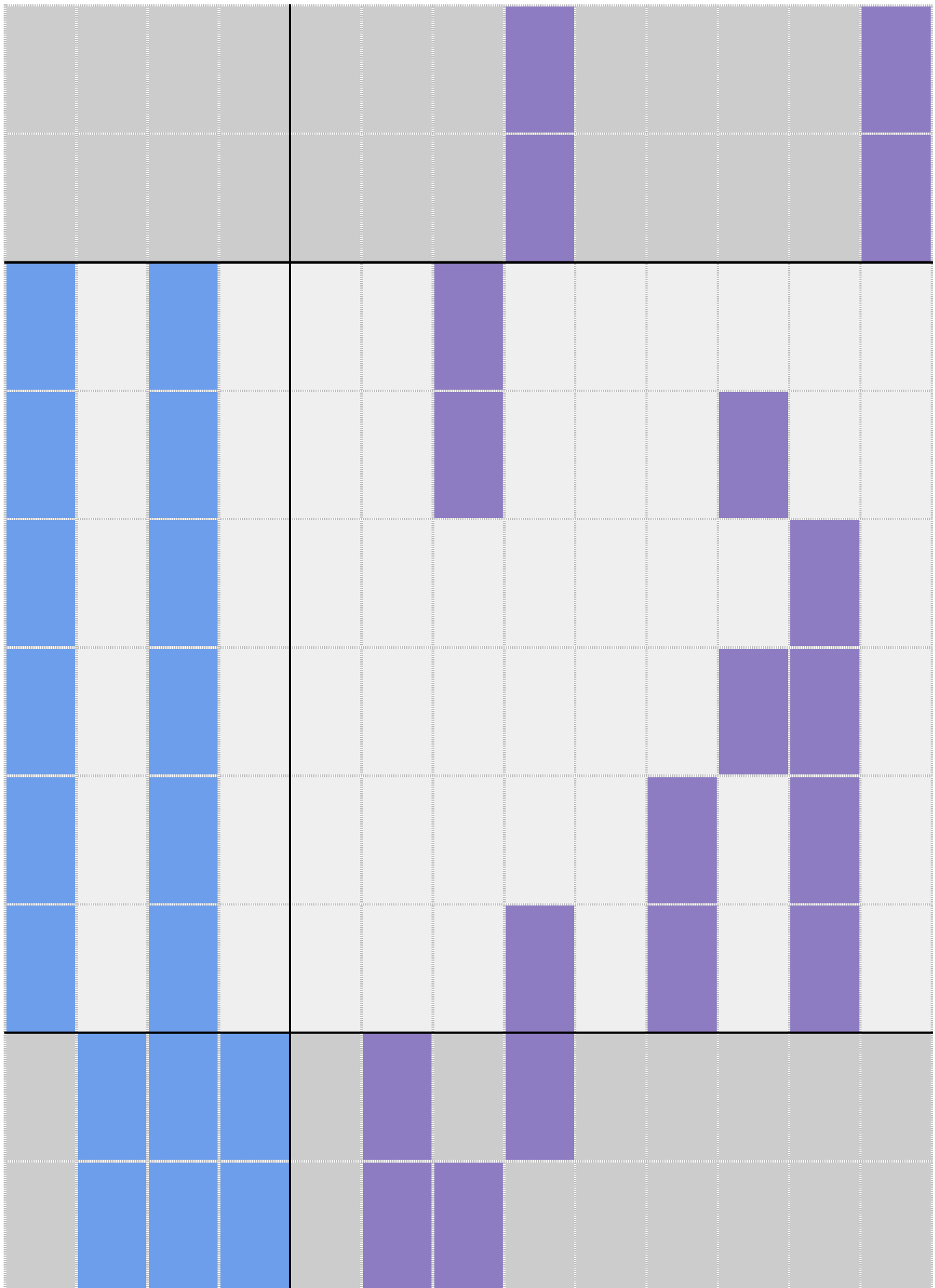


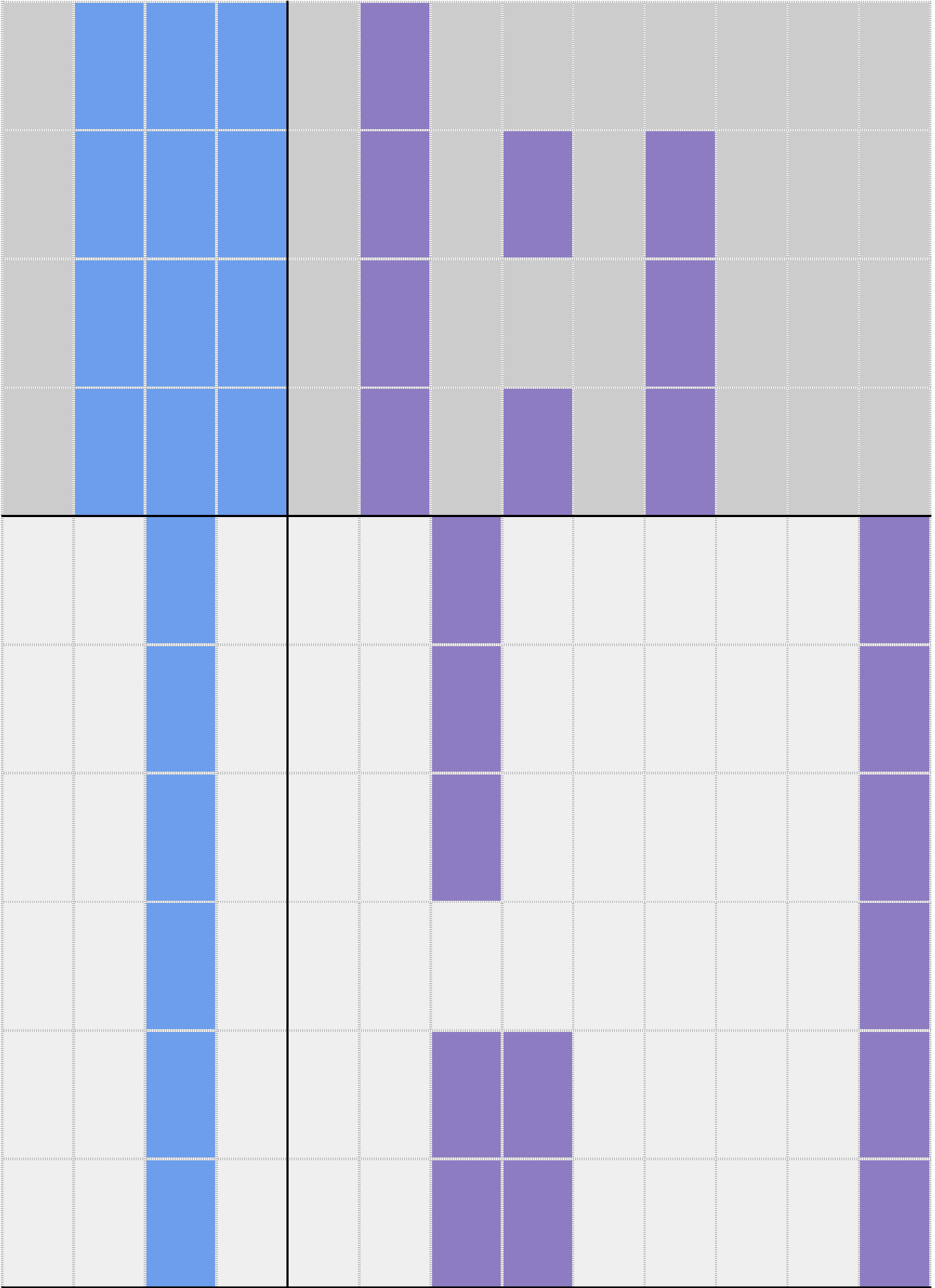


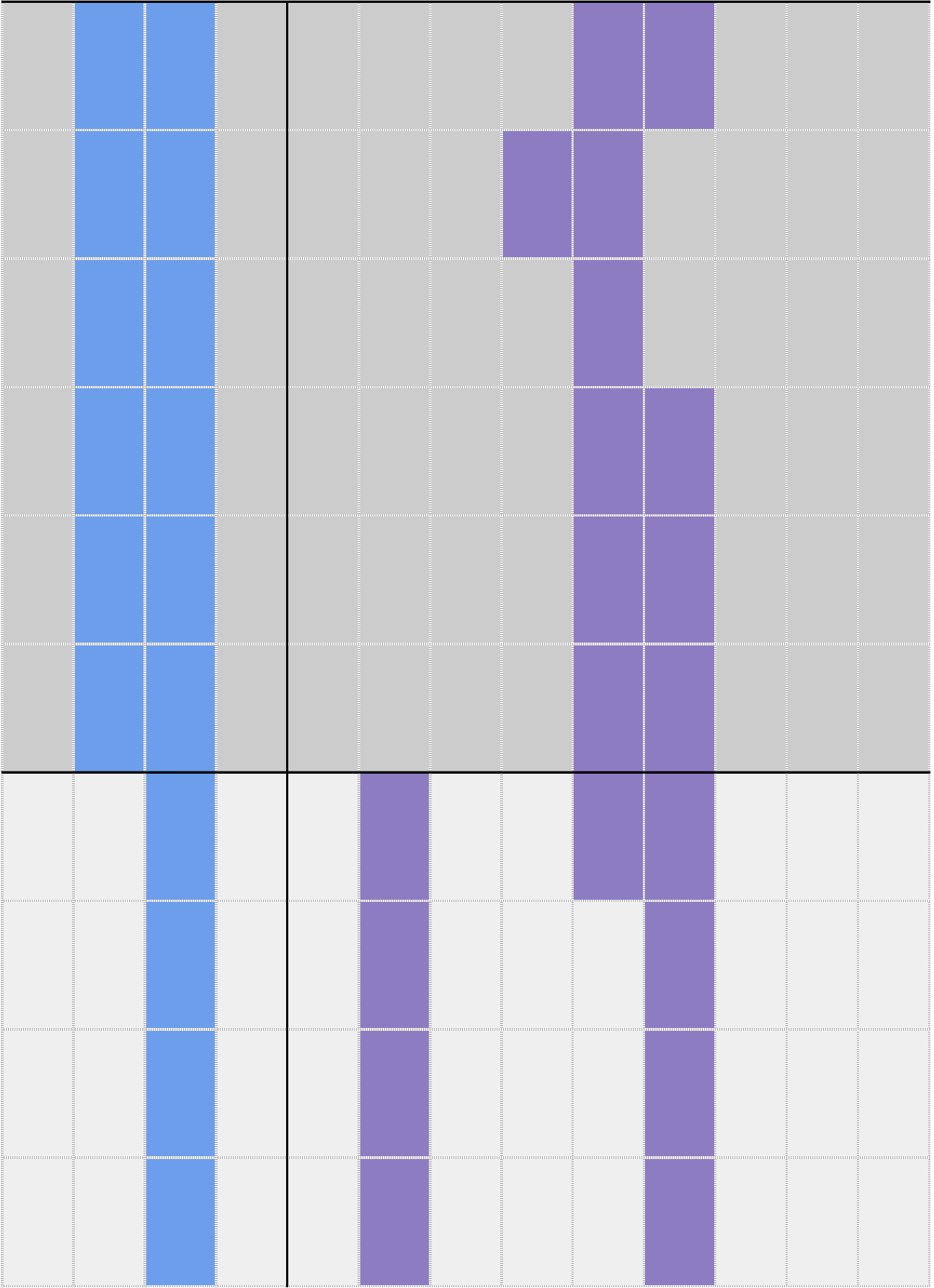


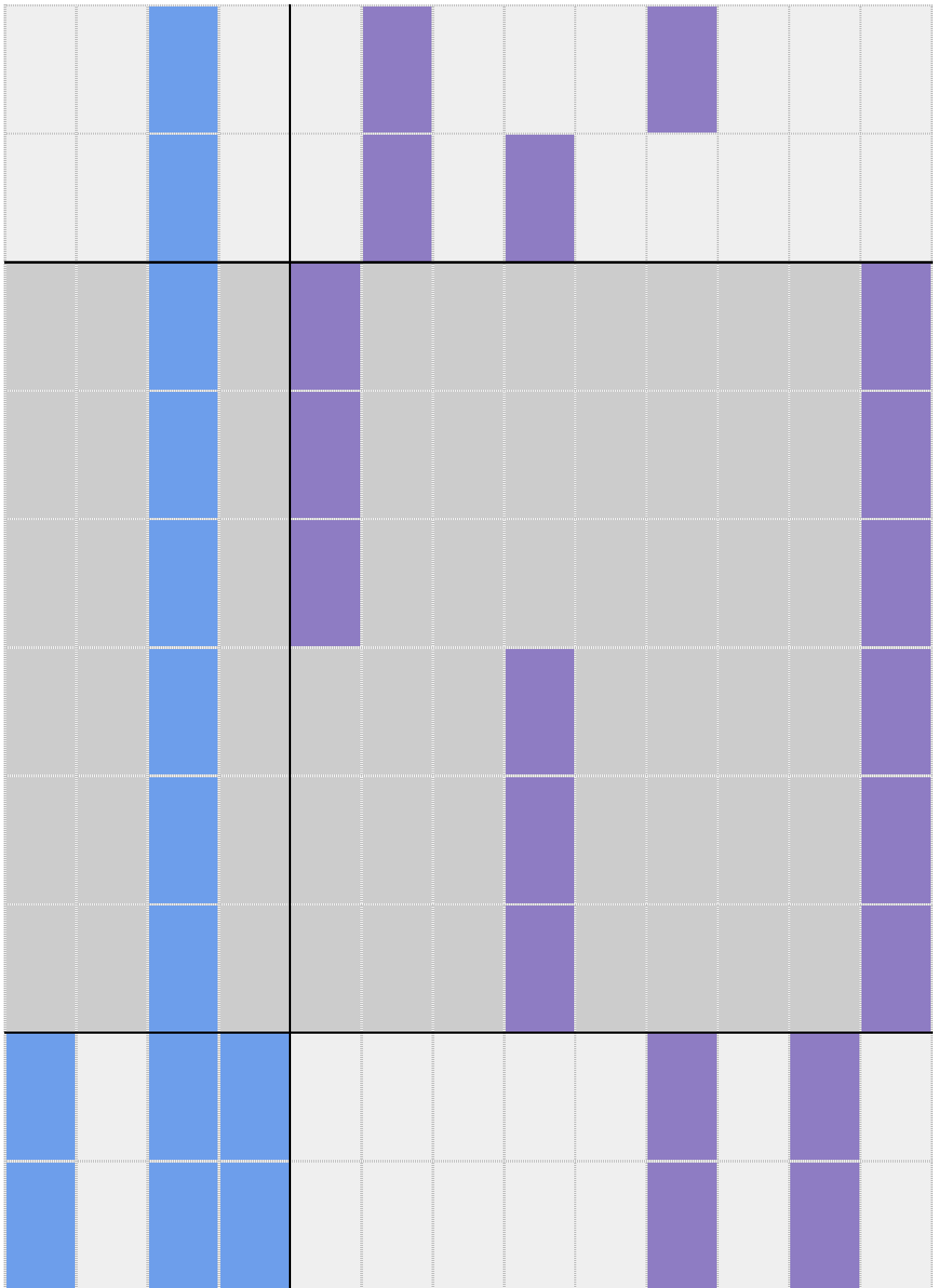


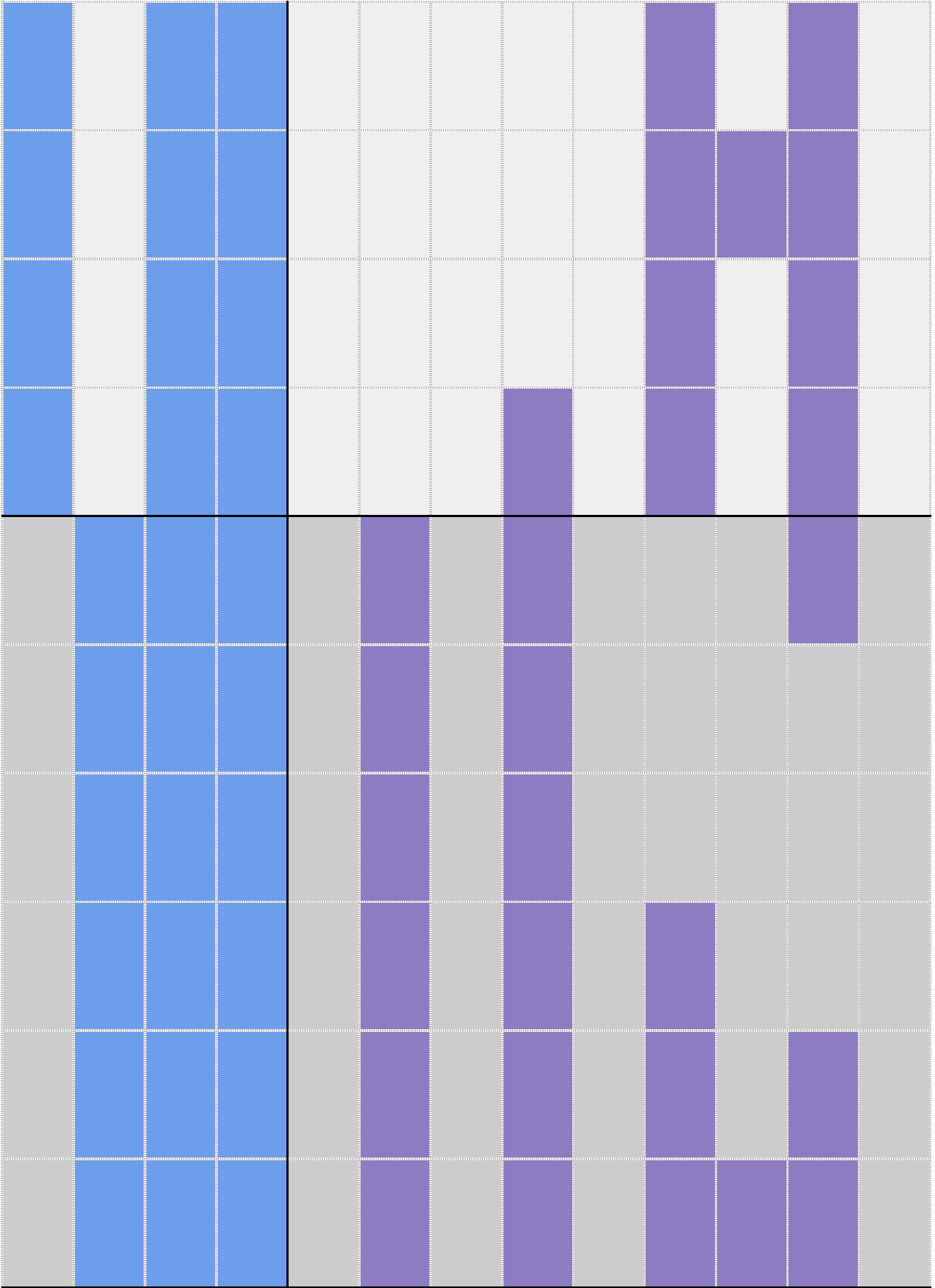


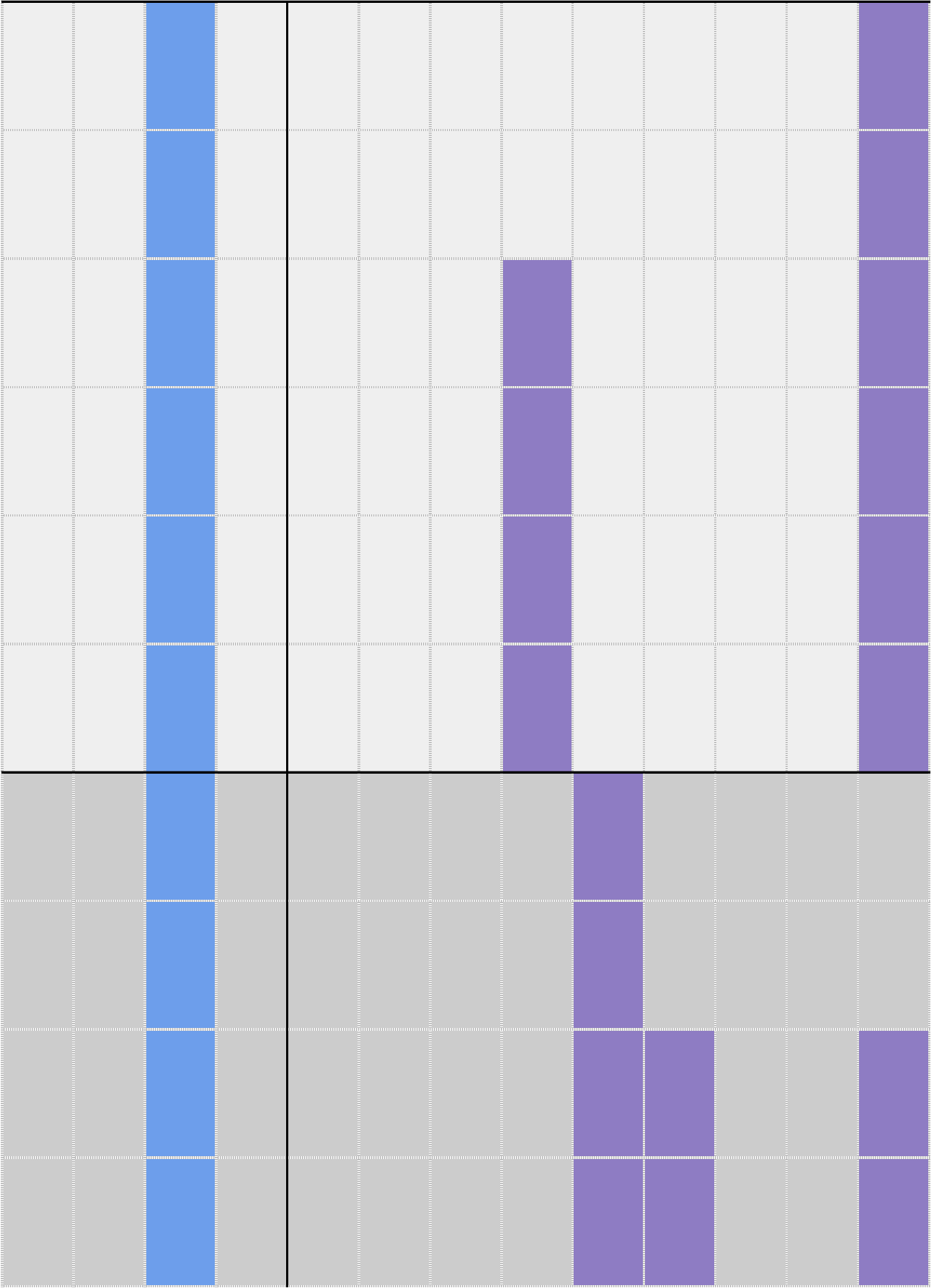


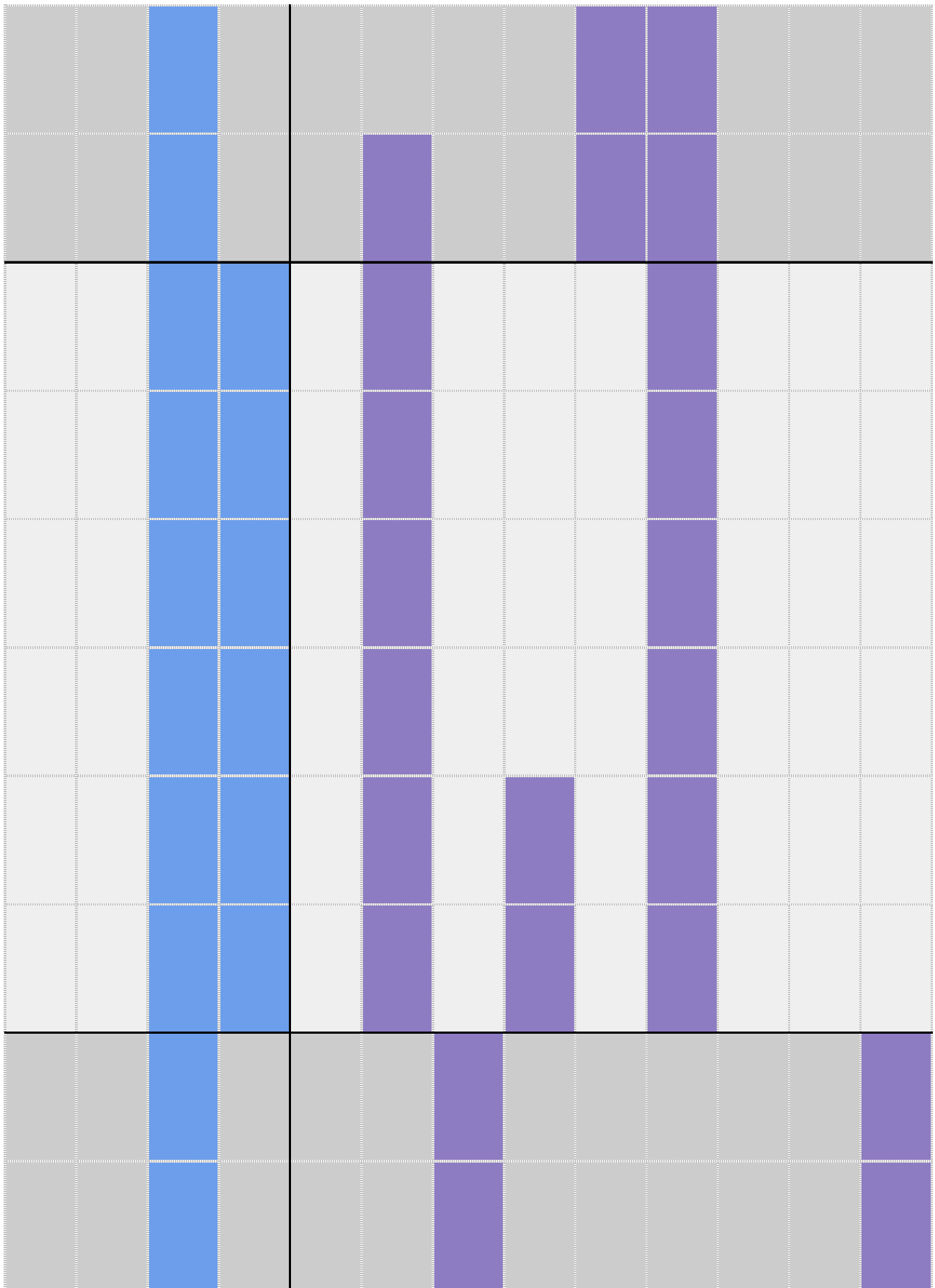


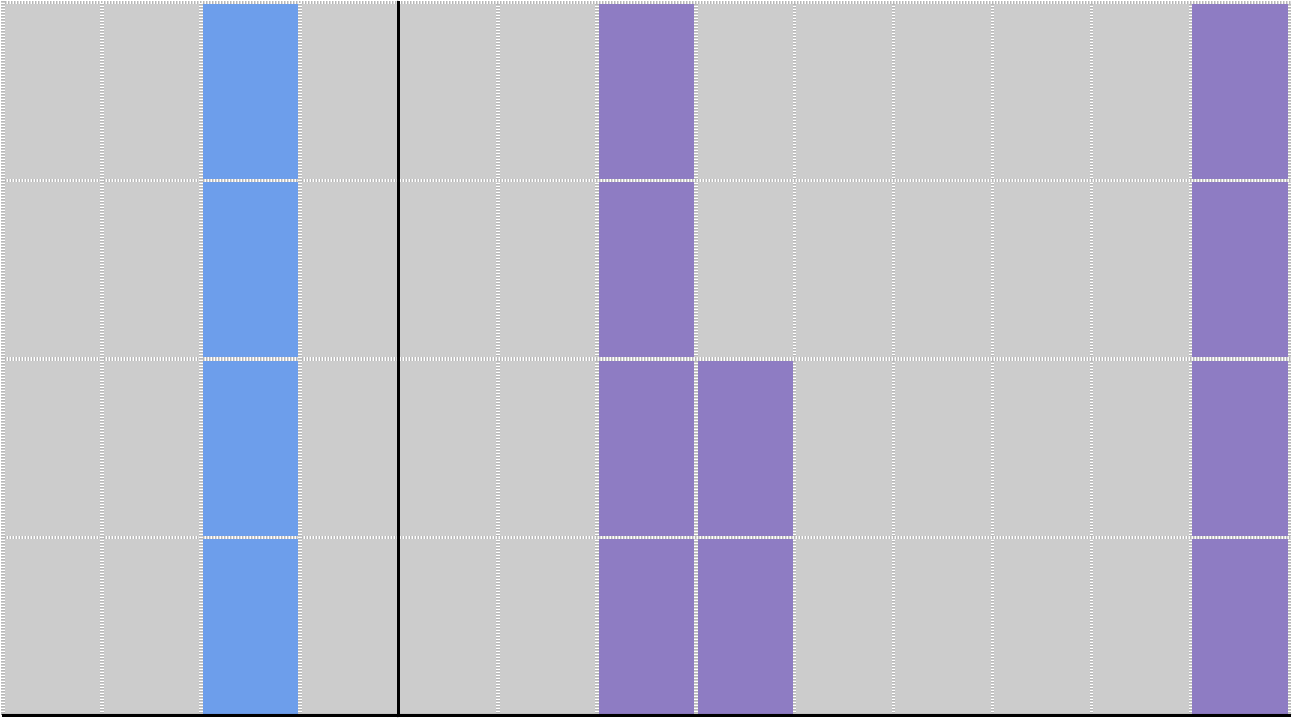












SS	Cross Curricular Links	Education for a Connected World
		<ul style="list-style-type: none"> - Copyright and ownership - Managing online information
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		- Copyright and ownership
		- Managing online information - Online relationships - Online reputation - Self-image and identity
		- Managing online information - Online relationships - Online reputation - Self-image and identity

		- Privacy and security
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