

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

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



- 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

- 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

- 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

- 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

- 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

- 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

- 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

- 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

- 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

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

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

- 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

- 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

- 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

- 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

- 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

- 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

- 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

- 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

- 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

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

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

- 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

- 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

- I can create and save video content
- I can decide which filming techniques I will use
- I can outline the scenes of my video

- 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

- 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

- 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

- 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

- 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

- 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

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



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

- 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

- 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

- 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

- 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

- 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

- I can discuss the different types of media used on websites
- I can explore a website
- I know that websites are written in HTML

- 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

- 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

- 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

- 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"> <li>- I can create hyperlinks to link to other people's work</li> <li>- I can evaluate the user experience of a website</li> <li>- I can explain the implication of linking to content owned by others</li> </ul>			
<ul style="list-style-type: none"> <li>- I can explain that the way a variable changes can be defined</li> <li>- I can identify examples of information that is variable</li> <li>- I can identify that variables can hold numbers or letters</li> </ul>			
<ul style="list-style-type: none"> <li>- I can explain that a variable has a name and a value</li> <li>- I can identify a program variable as a placeholder in memory for a single value</li> <li>- I can recognise that the value of a variable can be changed</li> </ul>			
<ul style="list-style-type: none"> <li>- I can decide where in a program to change a variable</li> <li>- I can make use of an event in a program to set a variable</li> <li>- I can recognise that the value of a variable can be used by a program</li> </ul>			
<ul style="list-style-type: none"> <li>- I can choose the artwork for my project</li> <li>- I can create algorithms for my project</li> <li>- I can explain my design choices</li> </ul>			
<ul style="list-style-type: none"> <li>- I can choose a name that identifies the role of a variable</li> <li>- I can create the artwork for my project</li> <li>- I can test the code that I have written</li> </ul>			
<ul style="list-style-type: none"> <li>- I can identify ways that my game could be improved</li> <li>- I can share my game with others</li> <li>- I can use variables to extend my game</li> </ul>			
<ul style="list-style-type: none"> <li>- I can collect data</li> <li>- I can enter data into a spreadsheet</li> <li>- I can suggest how to structure my data</li> </ul>			
<ul style="list-style-type: none"> <li>- I can apply an appropriate format to a cell</li> <li>- I can choose an appropriate format for a cell</li> <li>- I can explain what an item of data is</li> </ul>			
<ul style="list-style-type: none"> <li>- I can construct a formula in a spreadsheet</li> <li>- I can explain which data types can be used in calculations</li> <li>- I can identify that changing inputs changes outputs</li> </ul>			

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

- 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

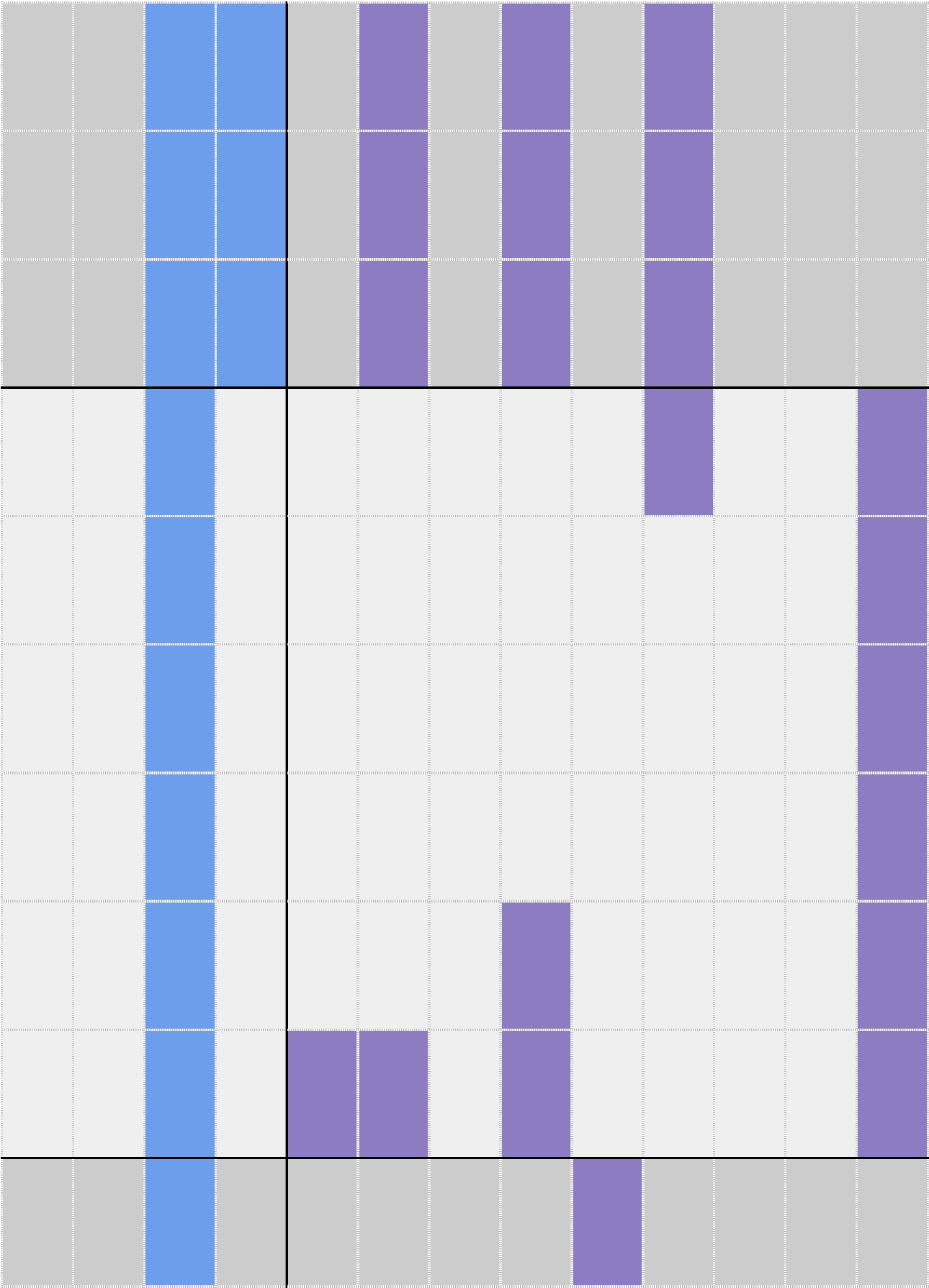
- I can experiment with different physical inputs
- I can explain that checking a variable doesn't change its value
- I can use a condition to change a variable

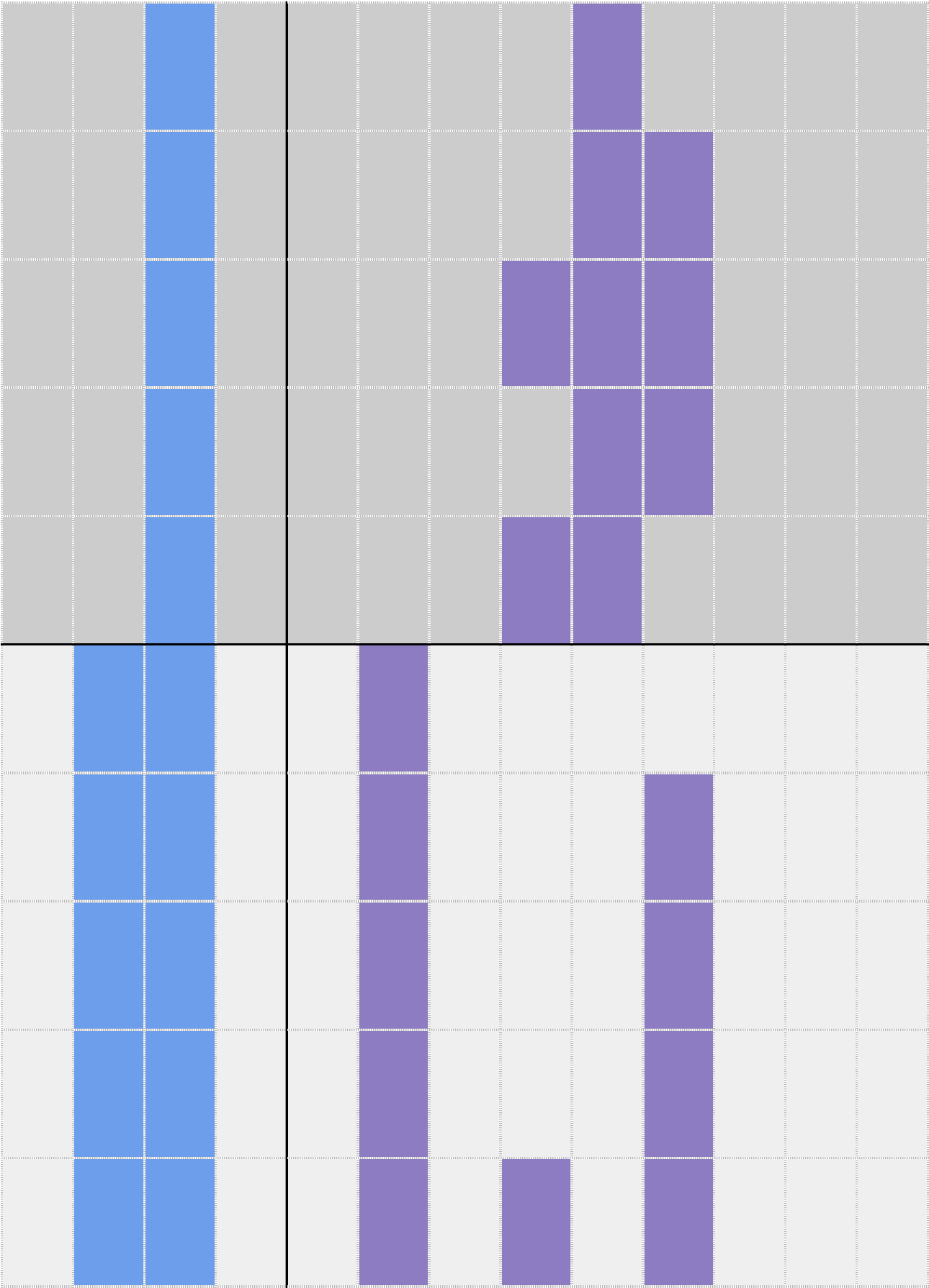
- I can explain the importance of the order of conditions in else, if statements
- I can modify a program to achieve a different outcome
- I can use an operand (e.g. <=>) in an if, then statement

- 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

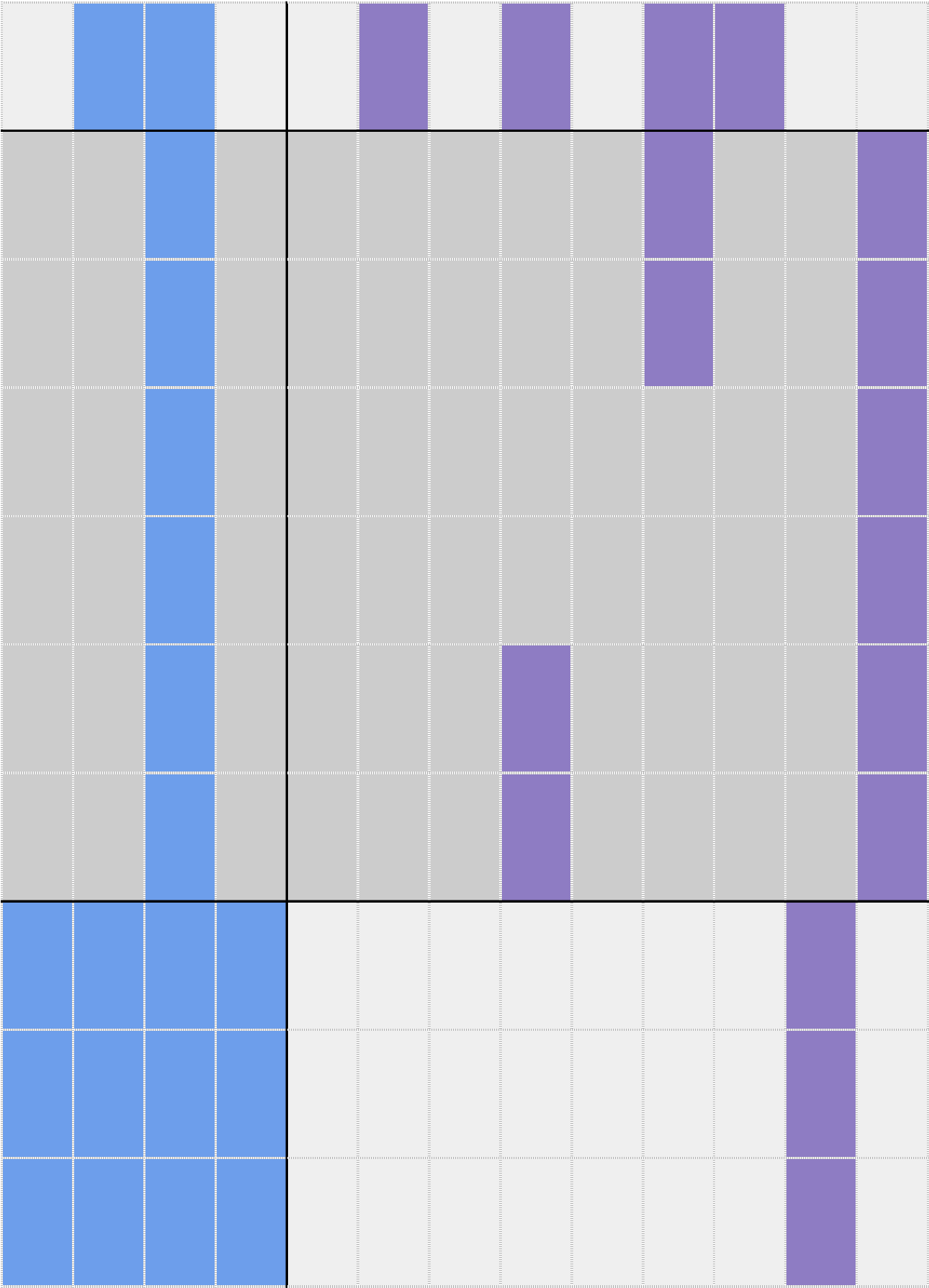
- I can create a program based on my design
- I can test my program against my design
- I can use a range of approaches to find and fix bugs

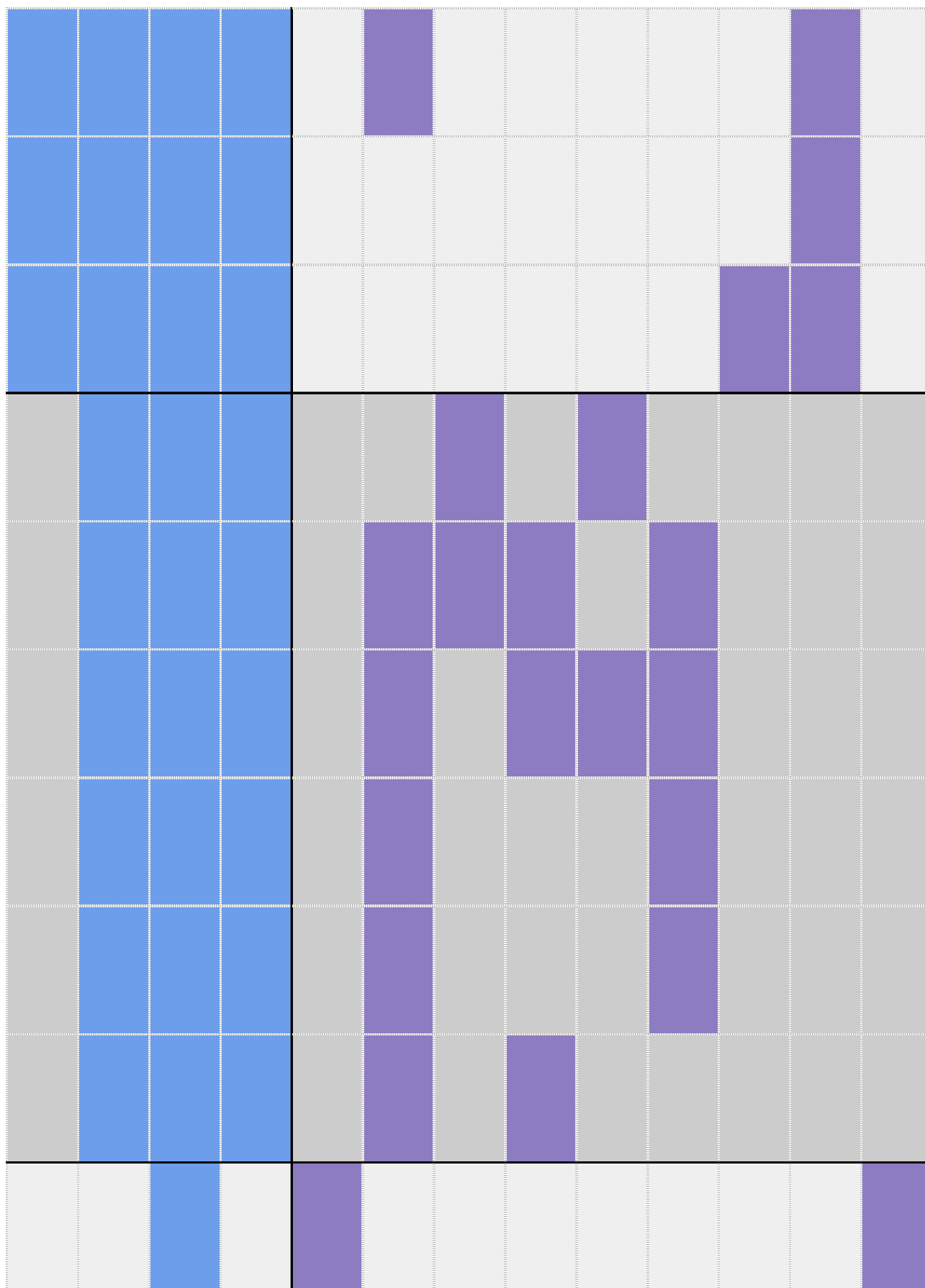
[illegible]

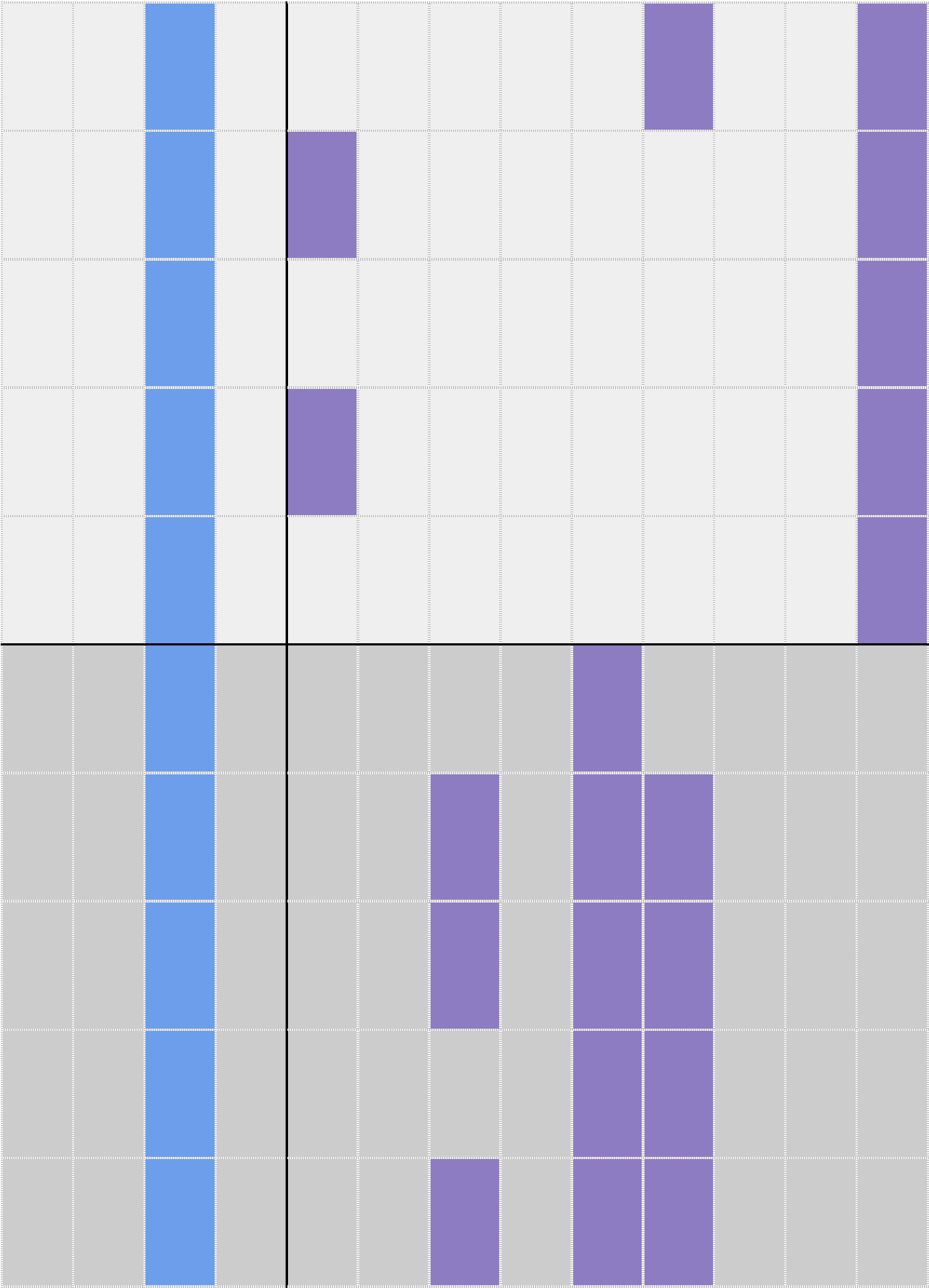


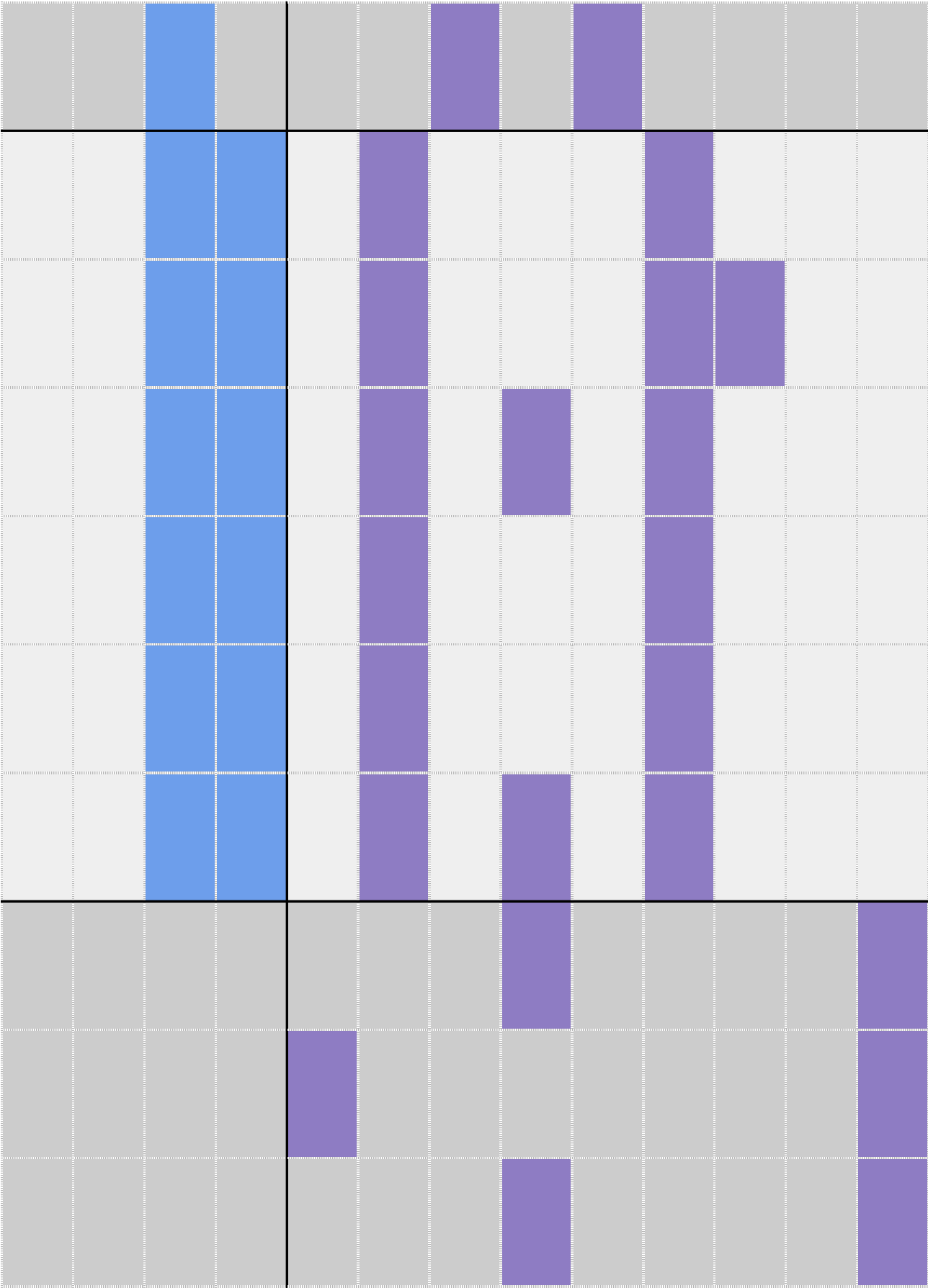


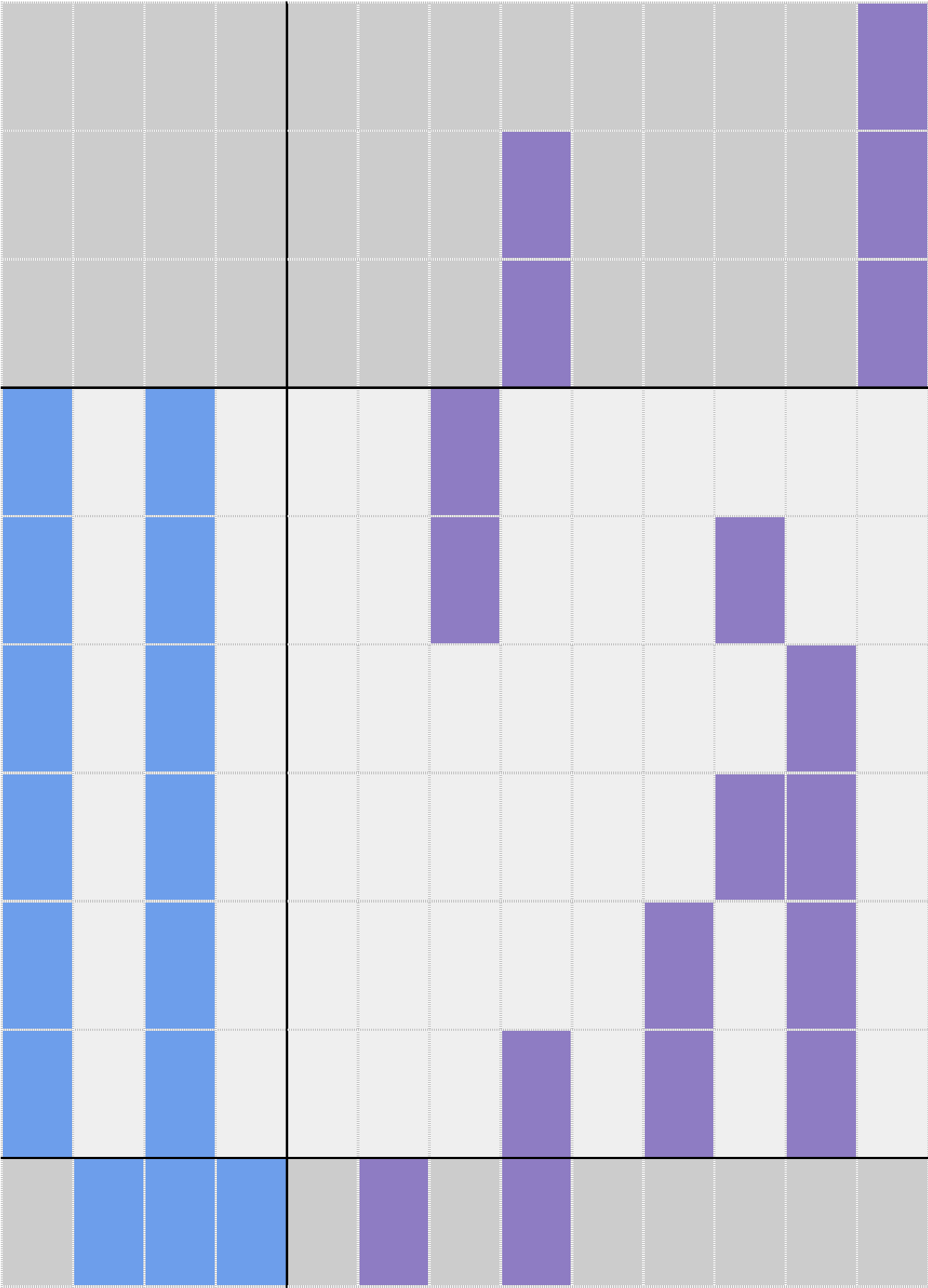


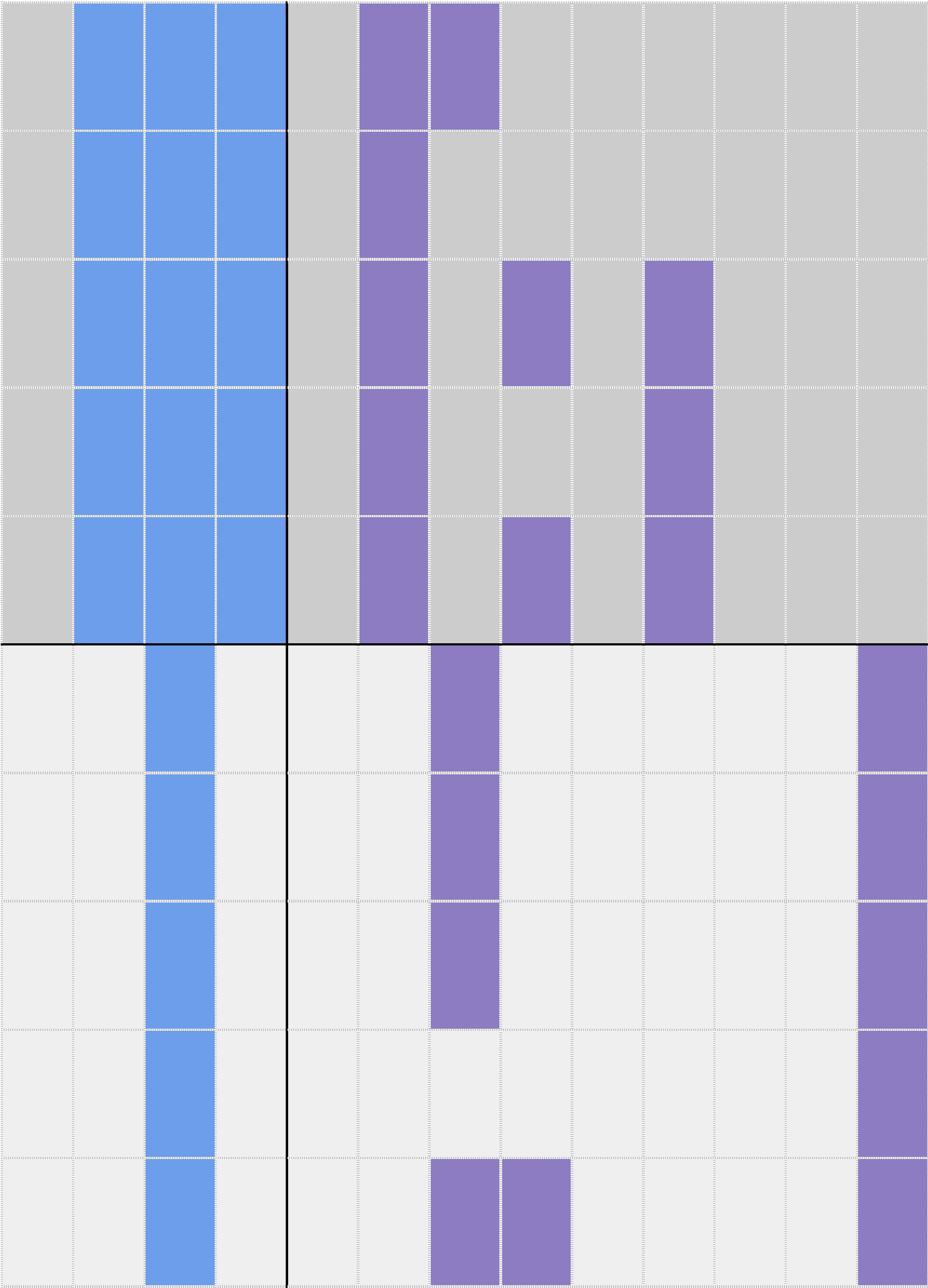


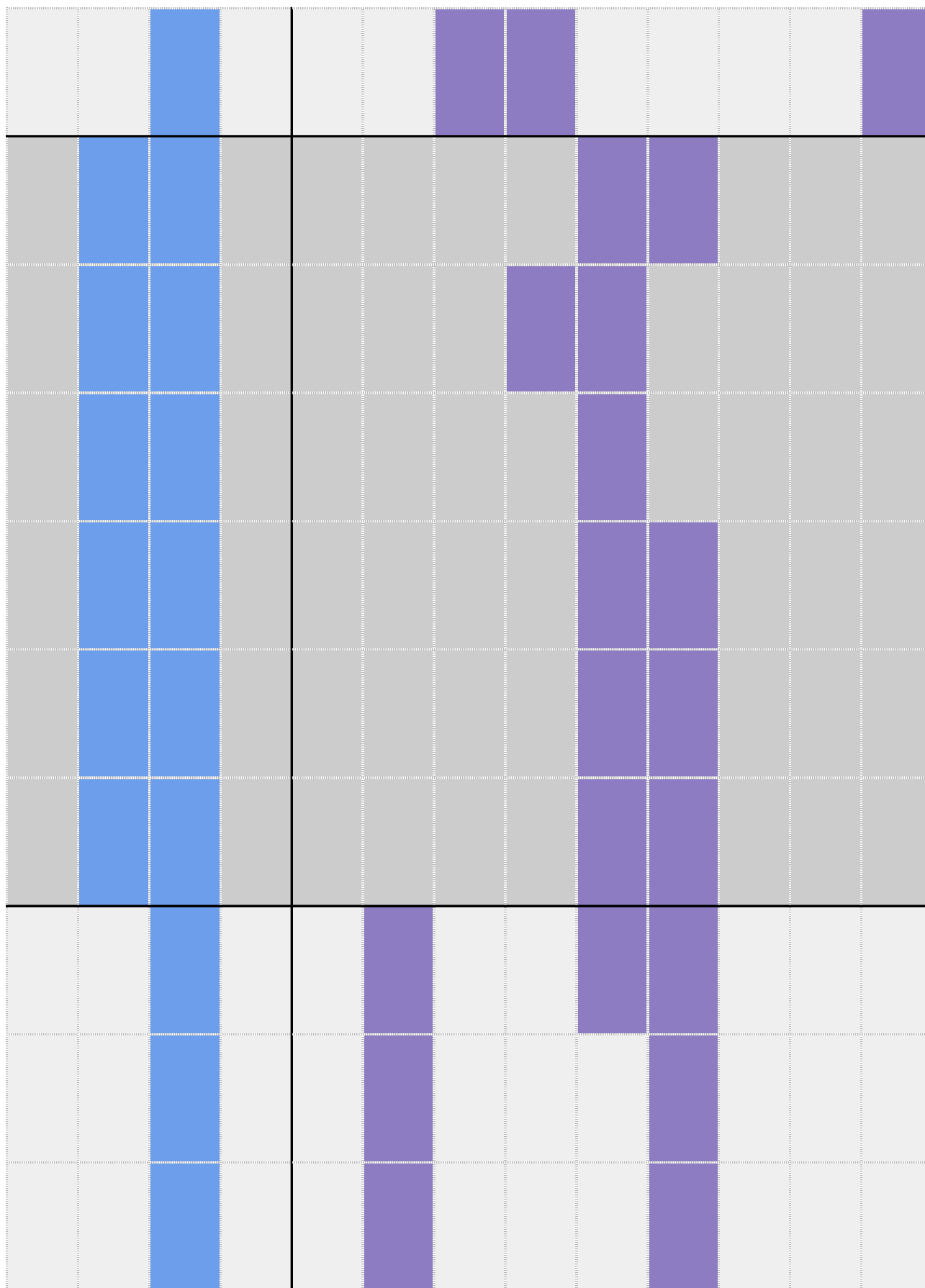


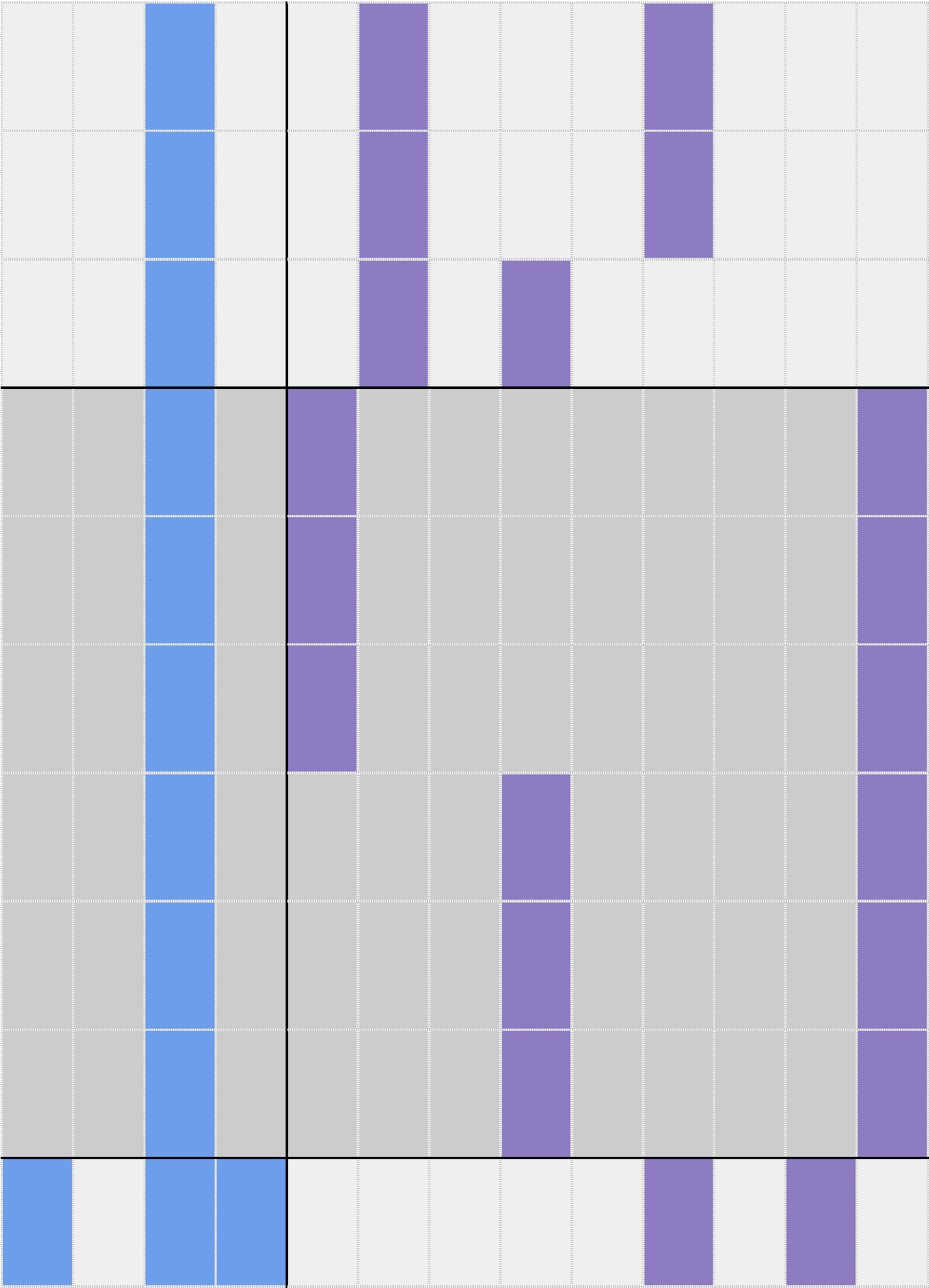




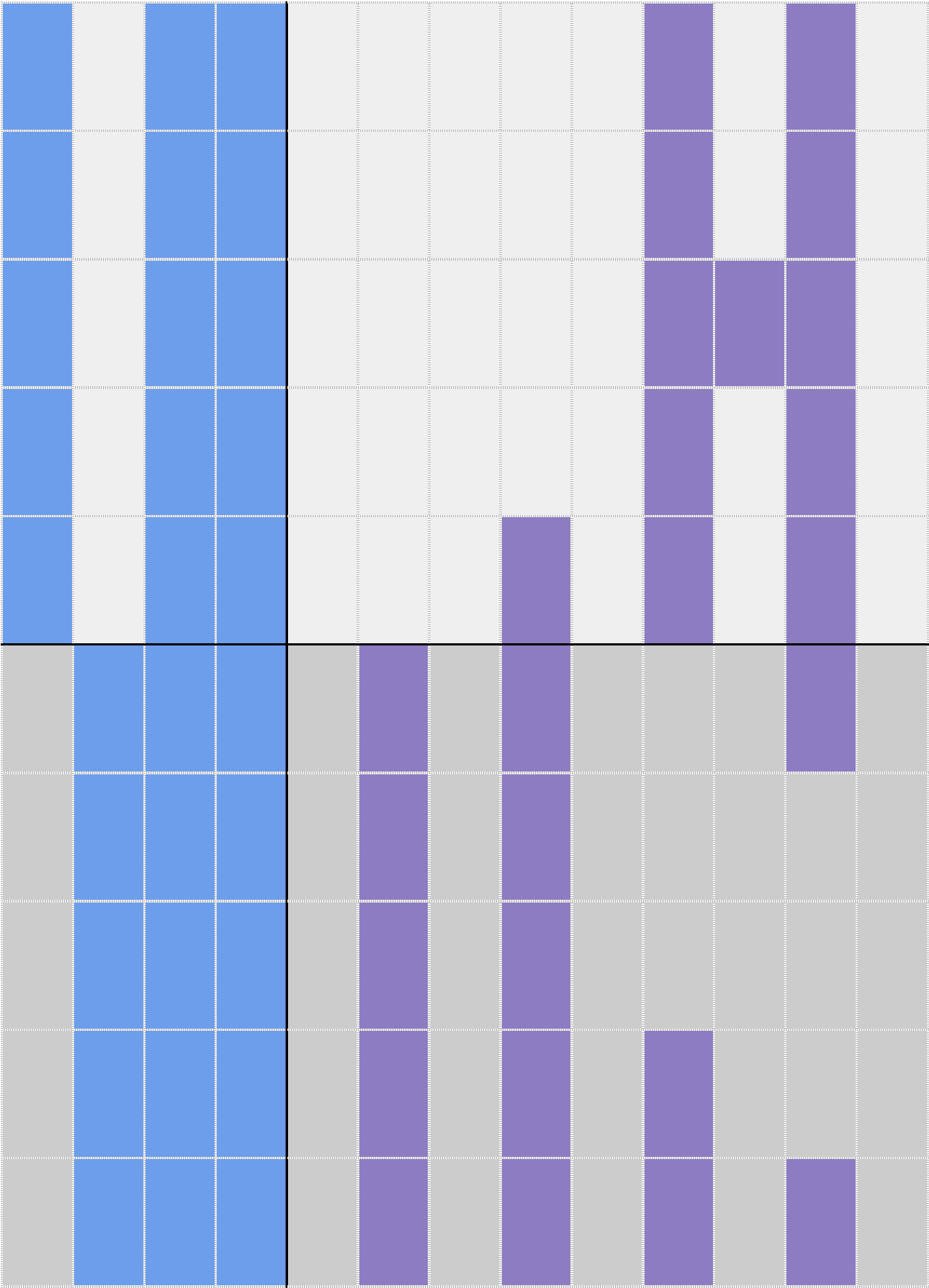


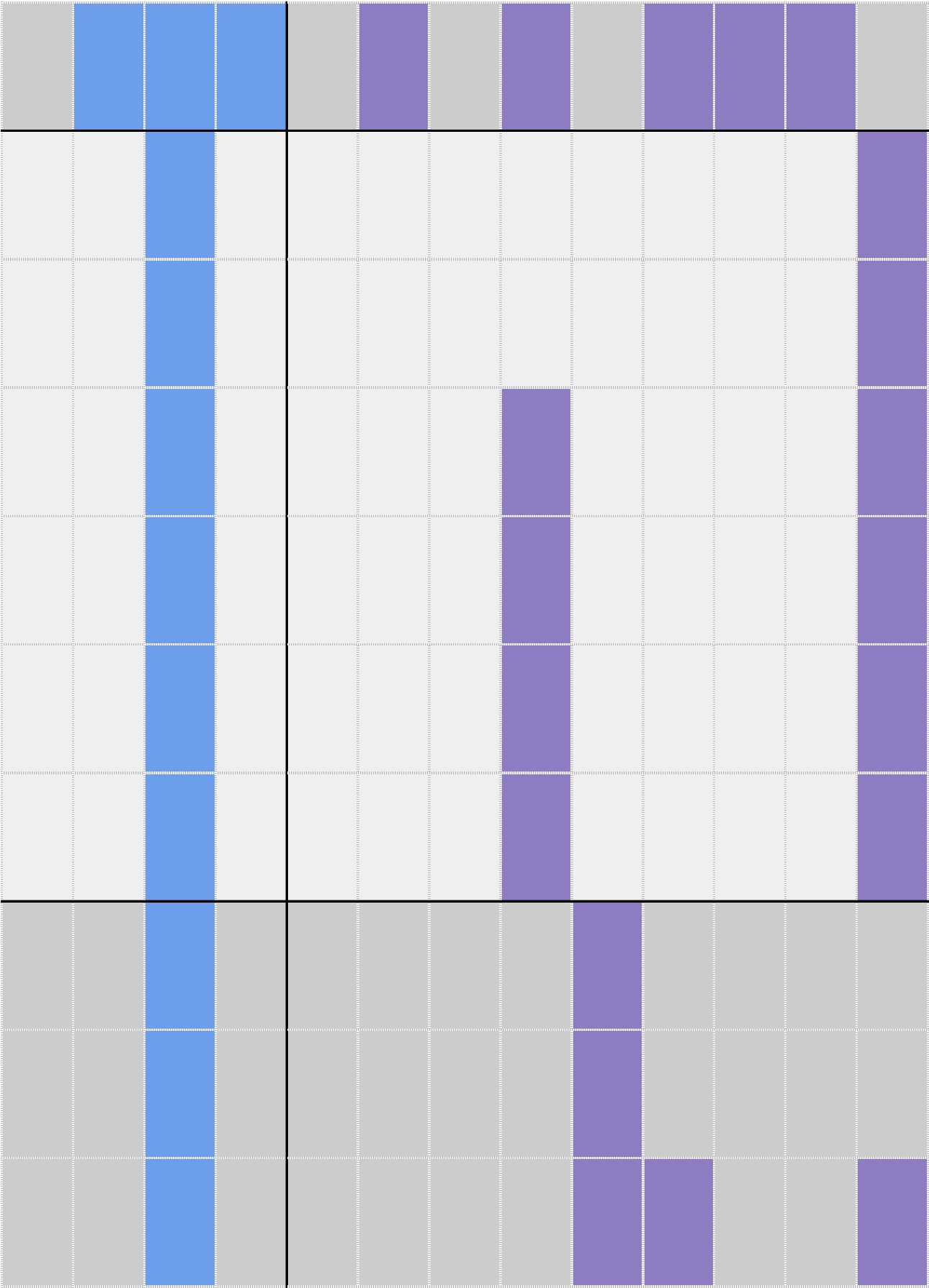


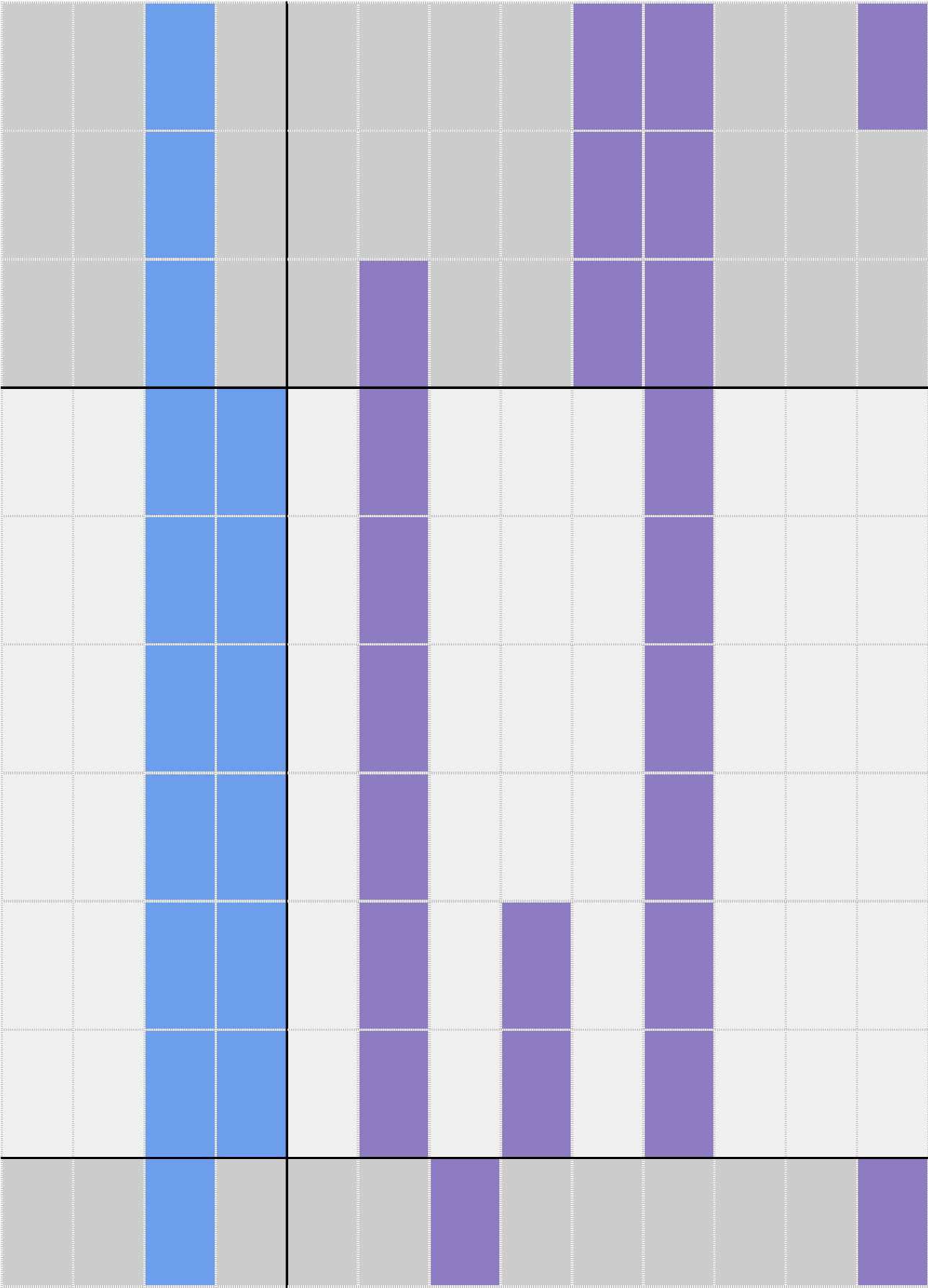


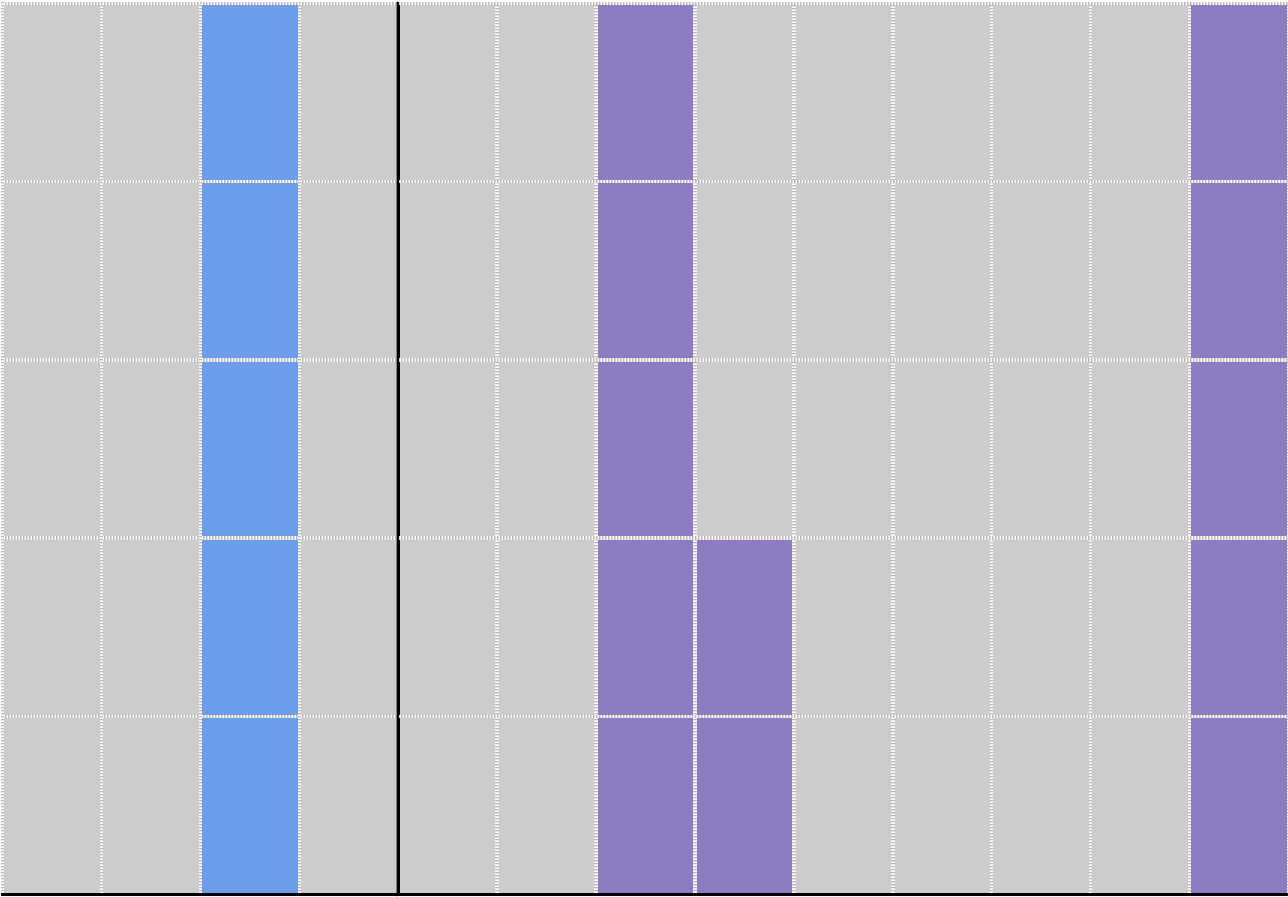












SS	Cross Curricular Links	Education for a Connected World
		<ul style="list-style-type: none"> <li>- Copyright and ownership</li> <li>- Managing online information</li> </ul>
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		<ul style="list-style-type: none"> <li>- Copyright and ownership</li> <li>- Managing online information</li> </ul>

[illegible]

		<ul style="list-style-type: none"><li>- Copyright and ownership</li><li>- Managing online information</li></ul>
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		<ul style="list-style-type: none"><li>- Copyright and ownership</li><li>- Managing online information</li></ul>

[illegible]



[illegible]

[illegible]

		<ul style="list-style-type: none"><li>- Copyright and ownership</li><li>- Self-image and identity</li></ul>
		<ul style="list-style-type: none"><li>- Copyright and ownership</li><li>- Self-image and identity</li></ul>
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		- Copyright and ownership
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		- Copyright and ownership
		- Copyright and ownership
		- Copyright and ownership
		- Copyright and ownership
		- Managing online information - Online relationships - Online reputation - Self-image and identity



		- Copyright and ownership
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		- Copyright and ownership
		- Copyright and ownership
		<ul style="list-style-type: none"> <li>- Managing online information</li> <li>- Online reputation</li> </ul>

		<ul style="list-style-type: none"><li>- Managing online information</li><li>- Online reputation</li></ul>
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		<ul style="list-style-type: none"><li>- Copyright and ownership</li><li>- Online relationships</li></ul>
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[illegible]

[illegible]

A 5x5 grid of squares, all of which are shaded gray. The grid is composed of 25 squares in total, arranged in 5 rows and 5 columns. All squares are filled with a solid gray color.