Teacher Learning Plan

Exploring Robotics and Commands - Senior Infants

Digital Skills Curriculum 2025/26

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How to Use This Learning Plan

This learning plan provides an overview of the Exploring Robotics and Commands for Senior Infants, including it's structure, learning goals and outcomes, as well as guidance on how to effectively deliver the lessons.

Course Structure

The course is broken down into modules, units and lessons. Each unit focuses on a specific topic and contains several lessons that build on each other to develop students' skills progressively.

Student Access

Senior Infants students do not log into the platform. All lessons are teacher-led, with the teacher delivering the content and guiding students through activities.

Conducting a Lesson

Here's the recommended approach for starting a lesson:

1. Log in to your teacher account and open your class.
2. Locate and open the lesson you'll be covering.

All lessons are divided into clear, manageable steps, which you will lead the students through, often using your screen to display or demonstrate parts of the lesson.

Challenges

Most lessons include an optional challenge at the end. If time permits, these activities encourage students to extend their work from the lesson, enabling differentiation in learning.

Quizzes

Most lessons include an optional multiple-choice quiz at the end to reinforce key concepts. Students can select from three difficulty levels:

1. Easy: Focuses on basic concepts, simple recall, and foundational understanding.
2. Normal: Involves moderate complexity, requiring straightforward application of concepts.
3. Hard: Presents challenging questions that demand deeper analysis, application to edge cases, or complex scenarios.

Student Devices and Equipment

Students only need a tablet (such as an iPad). Some optional modules in the Digital Skills Curriculum may require additional equipment such as Bee Bots or Snap Circuits, which are specified in the module details.

Student devices can be shared amongst students (with them working in a group of 2 or 3) if necessary.

Need Help?

We're always happy to answer your questions and give advice. You can contact our team at info@digitalskills.org or 01 584 9955.

Solving Problems
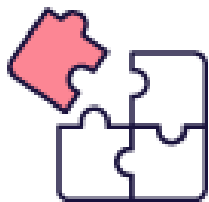
This module focuses on problem-solving skills, primarily through sequencing and conditional logic. Engage students with interactive games like 'Simon Says' and 'Robot Roger', and reinforce learning with worksheets. Use the whiteboard for visual demonstrations and remember to vary themes to maintain interest. Encourage students to learn at their own pace and ensure they understand each concept before moving on.

Duration	Equipment
Classroom hours ~4 hours	Required Equipment: • Interactive Display • IWB/Projector/Large Screen • Printer
Learning Goals	**Learning Outcomes**
1. Understand and apply the concept of sequencing through 'first/then' statements. 2. Comprehend and utilise 'if/then' statements to understand cause and effect. 3. Master the skill of putting events in order through various activities and games. 4. Learn to navigate and follow instructions using numbers and colours in a step-by-step manner. 5. Develop problem-solving skills and spatial awareness through grid navigation activities.	1. Apply 'first/then' statements and 'Bossy Words' to understand sequencing in coding. 2. Utilise 'if/then' statements to comprehend conditional logic through interactive activities. 3. Demonstrate understanding of event sequencing through games and worksheet activities. 4. Follow and give instructions for navigation using colours and numbers in games and worksheet activities. 5. Navigate a character on a 4x4 grid using up and down arrows, focusing on numbers, fruits, and colours. 6. Enhance problem-solving skills and spatial awareness by navigating a character on a 5x5 grid with various themes.

Module: Lessons

This module offers an insightful approach to understanding sequencing and conditional reasoning through structured activities. It guides teachers and students in exploring fundamental sequencing with 'first/then' statements, following instructions, and navigating grids. Engaging games and Jordan reinforce learning, fostering critical thinking and problem-solving skills in a clear, relatable manner.

Unit	Lesson	Difficulty	Duration	Quiz	Challenge
Lessons	Bossy Words	☐ Beginner	30	☐	☐
Lessons	First Things First: What Comes Next? Version 2	☐ Beginner	30	☐	☐
Lessons	Cause and Effect: If This Happens, Then What?	☐ Beginner	30	☐	☐
Lessons	Sequence Master: Putting Events in Order	☐ Beginner	30	☐	☐
Lessons	Number Path: Step-by-Step Navigation	☐ Beginner	30	☐	☐
Lessons	Grid Navigator: Cracking the 4x4 Code	☐ Beginner	30	☐	☐
Lessons	Grid Masters: Exploring the 5x5 Adventure	☐ Beginner	30	☐	☐

Unit: Lessons

Bossy Words

In this lesson, you'll explore the concept of sequencing through 'first/then' statements, a fundamental skill in coding. You'll learn about 'Bossy Words', play 'Simon Says', discuss instructions, and complete a 'First/Then' worksheet. You'll also engage in activities involving slideshows and a 'First/Then Cut and Stick Activity' to reinforce your understanding.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

> **Teacher Notes**: To spark curiosity, begin by creating an energetic classroom vibe with a circle setup for interactive discussions about instructional language. Prepare by ensuring all materials like worksheets and slideshows are ready, and familiarise yourself with the game rules to maintain smooth transitions. Engage students through physical activities and brainstorming, reinforcing sequencing with 'first/then' concepts. Watch for varying comprehension levels, offering extra prompts to quieter learners. Highlight the link between following instructions and coding logic, using movement-based games to sustain interest. Adapt pacing to keep everyone involved, ensuring a balance of fun and focus.

Required equipment for this lesson:

- Printer
- Interactive Display

Learning Goals	Learning Outcomes
1. Develop understanding of 'Bossy Words' as instructions or commands. 2. Enhance ability to identify and use 'Bossy Words' in context. 3. Understand the importance of following instructions in daily life. 4. Grasp the concept of sequencing through 'first/then' statements. 5. Apply 'first/then' sequencing in practical activities.	1. Identify and understand the concept of 'Bossy Words' as instructions or commands. 2. Participate in the 'Simon Says' game, demonstrating comprehension of instructions. 3. Discuss and provide examples of instructions followed in daily life. 4. Understand and apply the concept of 'first/then' in sequencing everyday activities. 5. Complete the 'First/Then Cut and Stick Activity', demonstrating ability to sequence events logically.

First Things First: What Comes Next? Version 2

This lesson guides teachers through activities to help students understand the concept of sequencing everyday activities using 'first/then' statements. Activities include discussing 'Bossy Words', playing 'Simon Says', discussing instructions, and completing a 'First/Then' worksheet. This lesson lays the foundation for understanding the logical order of coding instructions.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark student curiosity, begin by connecting the idea of sequencing to everyday routines, making it relatable and engaging. Prepare by printing worksheets and familiarising yourself with the 'Simon Says' game rules and the interactive story. During facilitation, encourage active participation in discussions about 'bossy words' and 'first/then' concepts, ensuring all students contribute ideas. Watch for challenges like confusion over game instructions; clarify rules with examples. For effective delivery, maintain high energy during activities and offer differentiation by pairing struggling students with peers for worksheet tasks, fostering collaboration and understanding.

Required equipment for this lesson:

- IWB/Projector/Large Screen

Learning Goals	Learning Outcomes
1. Understand the concept of sequencing using 'first/then' statements.	1. Identify and use 'first/then' statements to describe the sequence of everyday activities.
2. Recognise the importance of logical order in everyday activities.	2. Apply the concept of sequencing by matching 'first' actions with corresponding 'then' actions in a worksheet activity.
3. Apply sequencing skills through interactive games and worksheets.	3. Create an original 'first/then' sequence by drawing or illustrating a pair of related actions.
4. Develop the ability to follow and give clear instructions.	4. Recognise and follow instructions using 'bossy words' during a game of Simon Says.
5. Build foundational skills for logical thinking and coding concepts.	5. Demonstrate understanding of logical order by correctly predicting 'what comes next' in a sequencing game.

Cause and Effect: If This Happens, Then What?

In this lesson, you'll guide your students through interactive activities to understand 'if/then' statements. You'll start with an 'If/Then' Simon Says game, followed by an interactive whiteboard game. Finally, students will complete an 'If/Then' activity worksheet to reinforce their understanding of conditional logic.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark curiosity, begin by connecting cause and effect to everyday decisions, preparing students for interactive games and worksheets that build logical thinking. Set up a lively classroom space for a group game, ensuring clear instructions for the 'if/then' commands to maintain engagement. During the digital slideshow activity, monitor for tech glitches and assist students who struggle with dragging options. Encourage creativity in the worksheet task by valuing diverse responses, while gently guiding off-topic ideas back to conditional logic. Keep energy high with expressive delivery and rotate leadership roles to boost participation.

Required equipment for this lesson:

- Printer
- Interactive Display

Learning Goals	Learning Outcomes
1. Understand and apply the concept of 'if/then' statements through interactive activities.	1. Understand and apply the concept of 'if/then' statements through interactive activities.
2. Develop critical thinking skills by predicting outcomes in various 'if' scenarios.	2. Participate effectively in an 'If/Then' version of Simon Says, demonstrating comprehension of conditional instructions.
3. Enhance communication skills by discussing and explaining their choices during activities.	3. Engage with an 'If/Then' interactive whiteboard game, making appropriate choices based on given scenarios.
4. Improve creativity and expression through drawing responses in the 'If/Then' worksheet activity.	4. Complete an 'If/Then' activity worksheet, demonstrating the ability to predict outcomes based on given conditions.
5. Build foundational knowledge of conditional logic, a key concept in coding.	5. Exhibit understanding of conditional logic, a fundamental concept in coding, through discussion and explanation of their choices.

Sequence Master: Putting Events in Order

This lesson guides you, the teacher, in introducing the concept of sequencing to your students. You'll start with a 'Follow the Leader' game, move on to whiteboard sequencing activities, and use interactive games. The lesson concludes with a sequencing worksheet activity for students to apply their learning.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark curiosity, begin by preparing a lively classroom space for interactive games and ensuring all digital sequencing activities are loaded in fullscreen mode for clear visuals. Engage young learners with the 'Follow the Leader' warm-up, using daily routine themes to connect sequencing to real life, and gradually introduce 'if/then' rules to build logical thinking. During whiteboard activities, encourage students to explain their ordering choices to deepen understanding. Be mindful of varying attention spans—keep energy high with enthusiasm and offer extra drawing tasks for early finishers. Simplify instructions for clarity to ensure every child grasps the concept.

Required equipment for this lesson:

- Printer
- Interactive Display

Learning Goals	Learning Outcomes
1. Understand and apply the concept of sequencing through interactive activities and games.	1. Imitate actions accurately in the 'Follow the Leader' game.
2. Develop the ability to follow instructions and mimic actions in a 'Follow the Leader' game.	2. Understand and explain the concept of sequencing.
3. Engage in critical thinking by explaining reasoning when completing sequences.	3. Complete sequencing activities correctly using interactive games.
4. Apply sequencing skills in a practical context by arranging events in the correct order on a worksheet.	4. Apply sequencing skills to arrange images in the correct order on a worksheet.
5. Express creativity and reinforce learning by creating a personal sequence of events.	5. Create a personal sequence of events, demonstrating understanding and creativity.

Number Path: Step-by-Step Navigation

In this interactive lesson, you'll start by playing 'Robot Roger', a game that teaches you to follow and give instructions. You'll then move on to direction games, using colours and numbers to guide a frog to a target. Finally, you'll complete a worksheet activity, moving a counter on a number line based on given instructions.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark enthusiasm, begin by setting up a playful environment for interactive games that teach grid navigation and direction-giving skills. Prepare by ensuring access to a projector or large screen for digital activities and printing worksheets for the final task. Facilitate by demonstrating each game, starting with simple instructions and increasing complexity, while rotating roles to maintain engagement. Focus on key concepts like spatial awareness and sequencing, connecting them to real-world problem-solving. Watch for students struggling with precision in instructions, offering gentle reminders to be specific. Keep the energy light and encouraging for effective delivery.

Required equipment for this lesson:

- Printer
- Interactive Display

Learning Goals	Learning Outcomes
1. Understand and apply the concept of forward and backward movement on a number line.	1. Understand and apply the concept of forward and backward movement on a number line.
2. Develop skills in giving and following instructions accurately.	2. Follow and give clear, specific instructions in the context of a game.
3. Enhance problem-solving abilities and logical thinking through interactive games.	3. Develop spatial awareness and sequencing skills through direction games.
4. Improve spatial awareness and sequencing skills.	4. Apply basic coding concepts in a practical, interactive setting.
5. Apply knowledge of addition and subtraction in a practical context.	5. Use a number line to solve problems involving addition and subtraction.

Grid Navigator: Cracking the 4x4 Code

This lesson begins with a fun game of 'Simon Says' to practice following instructions. You'll then explore a 4x4 grid on an interactive whiteboard, learning how to navigate a character using up and down arrows. You'll play different versions of a grid game, focusing on numbers, fruits, and colours. Finally, you'll complete a worksheet activity involving a frog navigating a 4x4 grid to find fruit.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark enthusiasm, begin with a lively round of Simon Says to sharpen students' listening skills, gradually increasing command complexity to maintain focus. Prepare by reviewing the suggested commands and ensuring the interactive whiteboard is set up for the 4x4 grid activities with varied themes like numbers, fruits, and colours to sustain engagement. Facilitate hands-on practice by letting students take turns navigating the grid, reinforcing directional concepts. Anticipate challenges with worksheet tasks by guiding slower learners through examples. Encourage peer collaboration to boost confidence and ensure all grasp the navigation logic effectively.

Required equipment for this lesson:

- Printer

Learning Goals	Learning Outcomes
1. Develop ability to follow instructions through interactive games.	1. Follow instructions accurately during a game of Simon Says.
2. Understand and apply the concept of a 4x4 grid.	2. Understand and navigate a 4x4 grid using up and down arrows.
3. Utilise directional language to navigate a character on a grid.	3. Apply grid navigation skills to different themed interactive games.
4. Identify and differentiate between numbers, fruits, and colours in a grid format.	4. Identify and name numbers, fruits, and colours in the context of a 4x4 grid game.
5. Apply grid navigation skills to solve worksheet problems independently.	5. Complete a grid worksheet independently, using directional instructions to locate items.

Grid Masters: Exploring the 5x5 Adventure

In this interactive lesson, you'll navigate a character on a 5x5 grid, enhancing your problem-solving skills and spatial awareness. You'll play a fun 'Robot Statues' game, review the 4x4 grid, and then move onto the 5x5 grid. You'll explore different themes like letters, animals, and sports, learning at your own pace.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark student enthusiasm, begin by connecting the concept of grid navigation to real-world scenarios like map reading or game design, setting an engaging tone for the interactive activities. Prepare by ensuring the interactive whiteboard is ready and worksheets are printed for the 5x5 grid tasks. Facilitate the robot statues game with clear commands to build spatial awareness, and guide students through the transition from 4x4 to 5x5 grids with whole-class practice before individual attempts. Watch for struggles with the larger grid, offering extra support as needed, and encourage peer collaboration during the check-up session for deeper understanding.

Required equipment for this lesson:

- IWB/Projector/Large Screen

Learning Goals	Learning Outcomes
1. Develop critical thinking and problem-solving skills through navigating a character on a 5x5 grid. 2. Enhance understanding of directions and spatial awareness through interactive games and activities. 3. Improve command recognition and response through participation in the 'Robot Statues' game. 4. Reinforce knowledge of 4x4 grid navigation as a foundation for understanding 5x5 grids. 5. Apply learned skills to navigate different themed 5x5 grids, including letters, animals, and sports.	1. Understand and follow simple commands in the 'Robot Statues' game, demonstrating their ability to respond to instructions. 2. Recall the principles of navigating a 4x4 grid, reinforcing their previous learning. 3. Identify the differences between a 4x4 and a 5x5 grid, enhancing their spatial awareness. 4. Successfully navigate a character on a 5x5 grid, applying their understanding of directions. 5. Demonstrate their learning by completing tasks on different themed 5x5 grids (letters, animals, sports), showing adaptability and problem-solving skills.

Creative Stories

This module introduces students to the basics of coding through Scratch Junior, using engaging themes and characters. Each week, students will learn new skills, from basic motion blocks to advanced coding tricks. Encourage creativity and exploration during free play time. For early finishers, provide additional challenges to keep them engaged. Remember to recap previous lessons to reinforce learning.

Duration	Equipment
Classroom hours ~3 hours	Students can use any of these devices: • iPad/Tablet

Learning Goals	Learning Outcomes
1. Master the basics of Scratch Junior, including creating a project, exploring the interface, and using basic motion blocks. 2. Develop skills in changing backgrounds and creating unique character routines within Scratch Junior. 3. Learn to add and control multiple characters, enhancing their interaction within the Scratch Junior environment. 4. Gain proficiency in controlling character size and movement, including complex tasks like programming a car to drive across a city background. 5. Understand and apply concepts of character speed control and command sequencing to create interactive scenarios like a race. 6. Develop advanced programming skills such as looping and repeating actions, and apply these to create complex character movements.	1. Master the use of basic motion blocks to move characters in Scratch Junior. 2. Create unique dance routines and change backgrounds in Scratch Junior. 3. Add a second character and make characters walk together in Scratch Junior. 4. Programme a car to drive across a city background and resize it in Scratch Junior. 5. Control character speed, sequence commands, and create an animal race in Scratch Junior. 6. Programme a spaceman to float in space, repeat actions, and create a 'space dance' in Scratch Junior.

Module: Lessons

This module introduces young learners to the fundamentals of programming using Scratch Jr. Through engaging lessons, students explore character movement, background changes, and basic coding concepts like sequencing and looping. Interactive challenges and free play opportunities encourage creativity, problem-solving, and experimentation in a supportive, hands-on environment.

Unit	Lesson	Difficulty	Duration	Quiz	Challenge
Lessons	On the Move: Getting Characters in Action	☐ Beginner	30	☐	☐
Lessons	Dance Party: Make Your Characters Groove	☐ Beginner	30	☐	☐
Lessons	Double the Fun: Adding a Friend for a Walk	☐ Beginner	30	☐	☐
Lessons	City Cruise: Driving Through the Streets	☐ Beginner	30	☐	☐
Lessons	Ready, Set, Race! Programming Speedy Sprites	☐ Beginner	30	☐	☐
Lessons	Floating in Space: Looping with the Spaceman	☐ Beginner	30	☐	☐

Unit: Lessons

On the Move: Getting Characters in Action

As the teacher, guide students through an introduction to Scratch Junior using a slideshow featuring Scratch the Cat. Demonstrate opening the app, creating a project, and exploring motion blocks. Set a challenge to move Scratch across the screen and allow time for experimentation.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark curiosity, start by engaging students with the slideshow about the main character, ensuring they connect emotionally with the narrative. Prepare by testing the Scratch Junior app on all devices beforehand to avoid technical hiccups. During facilitation, demonstrate app navigation and project creation clearly before distributing tablets, encouraging questions about on-screen elements to foster critical thinking. Highlight the stage, blocks toolbox, and code areas as key concepts, while guiding students through basic motion blocks. Anticipate challenges with block sequencing and offer extra support to struggling learners. Wrap up with free play to boost creativity and confidence.

Students can use any of these devices (and can share if necessary):

- iPad/Tablet

Learning Goals	Learning Outcomes
- Understand the basic concept and purpose of the Scratch Junior application. - Learn how to create a new project in Scratch Junior. - Identify and understand the functions of the main areas in a Scratch Junior project: the Stage Area, Blocks Toolbox, and Code Area. - Learn how to use basic motion blocks to control the movements of Scratch the Cat. - Apply the knowledge of motion blocks to complete a challenge of moving Scratch the Cat across the screen. - Develop creativity and problem-solving skills through free play and exploration of the Scratch Junior application.	- Identify and describe the main features of the Scratch Junior interface. - Create a new project in Scratch Junior. - Understand and apply the function of basic motion blocks in Scratch Junior. - Program Scratch the Cat to move across the screen using a sequence of instructions. - Experiment with different blocks and sequences to control Scratch the Cat's movements.

Dance Party: Make Your Characters Groove

As the teacher, guide your students through animating Scratch Jr. characters with dance moves using movement blocks. Help them change backgrounds to a stage setting, discuss favourite dance moves, and encourage creativity with unique routines and free play.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To ignite creativity, start by encouraging students to imagine their favourite dance moves before diving into Scratch Jr. Prepare by reviewing the slideshow to recap prior learning, ensuring a smooth transition into changing backgrounds and coding dance sequences. Facilitate hands-on exploration with movement blocks, guiding students step-by-step on their devices while fostering discussion about dance ideas. Keep engagement high by inviting them to test and tweak their animations. Watch for struggles with block sequencing—offer hints like parallel coding for complex moves. Wrap up with free play to nurture experimentation and deepen coding confidence.

Students can use any of these devices (and can share if necessary):

- iPad/Tablet

Learning Goals	Learning Outcomes
1. Understand and apply the concept of changing backgrounds in Scratch Junior.	1. Recall and apply knowledge from the 'Scratch The Cat' lesson.
2. Develop a dance routine for Scratch the Cat using motion blocks.	2. Change the background of a project in Scratch Junior.
3. Experiment with different motions and sequences to create a unique dance.	3. Create a dance routine for Scratch the Cat using motion blocks.
4. Explore and experiment with the app independently during free play.	4. Experiment with different motions and sequences to create a unique dance.
5. Enhance creativity and deepen understanding of Scratch Junior through open-ended tasks.	5. Explore and experiment with the Scratch Junior app during free play.

Double the Fun: Adding a Friend for a Walk

Guide your students through an engaging Scratch Jr. lesson where they'll learn to add a second character and code both to walk together. Demonstrate key steps, encourage testing, and allow free play for creativity at the end.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark student curiosity, begin by connecting the idea of characters walking together to real-life friendships or teamwork, setting a relatable tone. Prepare by reviewing the provided slideshow to ensure a smooth recap of Scratch Jr. basics. During facilitation, demonstrate each coding step clearly, especially when switching between characters, to avoid confusion. Engage students by encouraging personal character choices and creative backdrops. Watch for challenges like syncing movements—offer one-on-one support if needed. For effective delivery, balance structured tasks with free play, allowing space for experimentation while reinforcing key coding concepts like individual character instructions.

Students can use any of these devices (and can share if necessary):

- iPad/Tablet

Learning Goals	Learning Outcomes
- Students will understand and recap the basic functionalities of Scratch Jr, including how to add motion blocks and change backgrounds. - Students will learn how to add a second character to their Scratch Jr project and understand the importance of coding each character separately. - Students will be able to create a sequence of movement blocks for each character, ensuring they move in sync. - Advanced students will learn how to optimize their code by making Scratch the Cat move multiple steps with just one block. - Students will develop problem-solving skills by experimenting with different numbers and movements to make the characters walk smoothly together. - Students will foster creativity and exploration by creating new adventures for Scratch and his friend during free play.	- Recall and apply the use of motion blocks and changing backgrounds in Scratch Jr. - Add a new character to a Scratch Jr project and code it separately. - Create a sequence of movement blocks for two characters, ensuring they move in sync. - Experiment with different numbers and movements to make characters walk smoothly together. - Explore the Scratch Jr app independently, adding more characters or changing the background.

City Cruise: Driving Through the Streets

As the teacher, guide students through a creative coding activity. Start with a charades game using action cards, then introduce a Scratch Jr project where they'll program a car to drive across a city scene, adding movements and experimenting with resizing.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark student excitement, begin by preparing action cards for a lively charades game, ensuring they're cut and ready in a container for easy access. Facilitate this warm-up by encouraging guesses and laughter to build energy before transitioning to the Scratch Jr programming task. Focus on guiding students through selecting a car, setting a city backdrop, and coding movement, while clearly demonstrating each technical step. Watch for struggles with block sequencing, offering hands-on support as needed. For advanced learners, introduce resizing options to stretch their skills, and end with free play to foster creativity through exploration.

Students can use any of these devices (and can share if necessary):

- iPad/Tablet

Learning Goals	Learning Outcomes
1. Understand and apply the process of removing and adding characters in a digital project.	1. Demonstrate ability to remove characters from a project in the application.
2. Develop the ability to change backgrounds in a digital environment.	2. Create a sequence involving a car character driving across a city background.
3. Gain skills in recreating a digital scenario with minimal guidance.	3. Recreate a given video sequence independently.
4. Acquire advanced skills in resizing characters within a digital project.	4. Apply advanced skills to resize the car character within the sequence.
5. Enhance creativity and exploration by adding diverse elements to a digital scenario.	5. Explore the application further by adding different types of vehicles and experimenting with their placement and movement.

Ready, Set, Race! Programming Speedy Sprites

Get ready to create an exciting animal race in Scratch Jr.! You'll learn to add sprites, set backgrounds, and programme movements. Adjust speeds to make your characters race across the screen and see who wins!

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To ignite student excitement, begin by linking programming to real-world races, asking students to predict outcomes based on animal speeds. Prepare by ensuring Scratch Jr. is installed and test sprite additions and speed blocks beforehand. During facilitation, guide students through selecting diverse sprites and backgrounds, emphasising sequencing with green flag blocks. Engage them by encouraging predictions and discussions on speed variations. Watch for struggles with block placement or app navigation, offering one-on-one support as needed. For effective delivery, allow time for free play to foster creativity, ensuring all students run their races and share results.

Students can use any of these devices (and can share if necessary):

- iPad/Tablet

Learning Goals	Learning Outcomes
1. Understand and apply basic programming concepts using Scratch Jr.	1. Understand and apply the process of creating a new project in Scratch Jr.
2. Manipulate sprites by adding, removing, and controlling their speed.	2. Select, add, and position sprites from the Scratch Jr. library.
3. Apply sequencing skills to create a desired outcome in a digital project.	3. Choose and set a suitable background for a project.
4. Develop critical thinking by predicting and observing the outcome of the programmed race.	4. Programme sprites to move across the screen using movement blocks.
5. Explore creativity by designing and programming a unique race with different sprites.	5. Adjust the speed of sprites using the speed block to create a competitive race.

Floating in Space: Looping with the Spaceman

As the teacher, guide your students through a Scratch Jr. lesson on coding loops. Introduce space movement concepts, help them set up a spaceman sprite with a space background, and demonstrate using repeat blocks for continuous floating motion.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark curiosity, begin by connecting the coding activity to real-world space exploration, asking students how astronauts move in weightless environments. Prepare by ensuring Scratch Jr. is set up on devices and familiarise yourself with movement and repeat blocks for smooth demonstrations. Facilitate discussions on floating motions, guiding students through sprite and background setup, and encourage creativity during customisation and free play. Watch for challenges like block placement errors, offering hands-on support as needed. Keep engagement high by celebrating unique space dances, reinforcing the loop concept with each repeating pattern they create.

Students can use any of these devices (and can share if necessary):

- iPad/Tablet

Learning Goals	Learning Outcomes
1. Understand and apply the concept of loops in coding using the repeat block in Scratch Jr.	1. Understand and apply the concept of repeating actions using the repeat block in Scratch Jr.
2. Program a spaceman character to simulate floating in space using a sequence of movement blocks.	2. Programme a spaceman character to simulate floating in space using a series of movement blocks.
3. Explore the concept of space movement and how it differs from movement on Earth.	3. Utilise the repeat block to create an endless floating motion, demonstrating an understanding of loops in coding.
4. Customise a character in Scratch Jr. using the camera feature to personalise the spaceman.	4. Create a "space dance" by experimenting with different sequences of movements and using the repeat block to create patterns or loops.
5. Apply creativity and coding skills to create a unique 'space dance' using different sequences of movements and loops.	5. Customise the astronaut character in Scratch Jr., demonstrating creativity and personalisation in coding.

Exploring Robotics and Commands

This module involves guiding students through the exploration of robotics using Bee-Bots. The lessons are designed to progressively build students' understanding of commands and sequencing. Encourage hands-on participation and group activities to foster problem-solving and collaborative skills. Remember to recap previous lessons to reinforce learning. The module concludes with students applying their skills to trace digital numbers, reinforcing number recognition and programming.

Duration	Equipment
Classroom hours ~3 hours	Required Equipment: • Bee-Bots
Learning Goals	**Learning Outcomes**
1. Master the operation and programming of Bee-Bot robots. 2. Develop understanding of directional commands and sequencing. 3. Apply logical thinking and problem-solving skills in coding activities. 4. Enhance spatial awareness and collaborative skills through group activities. 5. Reinforce number recognition and sequencing skills in the context of programming.	1. Master the operation of Bee-Bot, including forward and backward movements. 2. Understand and execute lateral movements with Bee-Bot, including turns and changes in direction. 3. Apply directional commands and sequencing to perform tasks such as planting flowers using Bee-Bot. 4. Enhance programming skills and understanding of sequencing through activities like guiding Bee-Bot to a specific location. 5. Develop spatial awareness and problem-solving skills by programming Bee-Bot to draw shapes and trace numbers.

Module: Lessons

Unit	Lesson	Difficulty	Duration	Quiz	Challenge
Lessons	Bee-Bot Basics: Forward and Backward Fun!	☐ Beginner	25	☐	☐
Lessons	Twist and Turn: Bee-Bot's Lateral Moves	☐ Beginner	25	☐	☐
Lessons	Flower Power: Planting with Bee-Bots	☐ Beginner	30	☐	☐
Lessons	Bee-Bot's Bloom Hunt: Finding Flowers	☐ Beginner	30	☐	☐
Lessons	Square Dancing: Drawing Shapes with Bee-Bot	☐ Beginner	30	☐	☐
Lessons	Number Tracer: Bee-Bot's Digital Path	☐ Beginner	30	☐	☐

Unit: Lessons

Bee-Bot Basics: Forward and Backward Fun!

In this lesson, you will guide your students in exploring the Bee-Bot, a programmable robot. The lesson involves introducing the Bee-Bot, conducting number strip and colour-based activities, demonstrating Bee-Bot operations, and facilitating student practice. The students will learn to give commands, clear the code, and engage in a group activity. The lesson concludes with a wrap-up reinforcing the skills learned.

☐ Beginner	☐ 25 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark curiosity, begin by setting up interactive digital games on a large screen to introduce directional concepts before hands-on robot exploration. Ensure you have number mats or printable cards ready for demonstrations and group activities, focusing on forward and backward movements. Engage students by inviting them to give instructions during both virtual and physical tasks, fostering critical thinking with guiding questions. Be mindful of potential confusion with clearing prior commands, so reinforce this habit with a fun chant and gesture. Tailor support for varied skill levels, ensuring all students feel confident while exploring these foundational programming ideas.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
1. Understand the basic functions and controls of a Bee-Bot. 2. Develop skills to instruct Bee-Bot to move forward and backward using a number line. 3. Apply knowledge of Bee-Bot controls in a game-based activity. 4. Comprehend the importance of 'clearing the code' before entering new instructions. 5. Work collaboratively in small groups to guide Bee-Bot along a number line.	1. Identify and describe the basic functions of a Bee-Bot. 2. Successfully instruct a Bee-Bot to move forward and backward using the appropriate buttons. 3. Apply the concept of 'clearing the code' before entering new instructions to a Bee-Bot. 4. Participate in direction games, demonstrating understanding of how to give instructions to a Bee-Bot. 5. Work collaboratively in small groups to guide a Bee-Bot along a number line.

Twist and Turn: Bee-Bot's Lateral Moves

In this lesson, you'll guide your students in mastering the art of turning Beebots. You'll recap straight line movements, demonstrate lateral movements, and allow students to practice these skills. The lesson concludes with a review and discussion of the day's learning. Remember, turning is key to navigating Beebots around corners and changing direction.

☐ Beginner	☐ 25 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To engage young learners effectively, start by revisiting forward and backward movements with a quick interactive game to build confidence before introducing turning skills. Prepare a Bee-Bot and grid mat for clear demonstrations, focusing on the distinction between turning and moving, as students often confuse these actions. Facilitate hands-on practice in small groups, using themed mats or targets to make tasks exciting and purposeful. Watch for struggles with spatial concepts and offer extra guidance as needed. Wrap up with a reflective discussion to reinforce learning and celebrate progress, ensuring a supportive and interactive experience.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
1. Understand and apply the concept of turning in Beebot navigation.	1. Understand and demonstrate the difference between turning and moving the Bee-Bot.
2. Differentiate between turning and moving actions in Beebot operation.	2. Successfully navigate the Bee-Bot to turn left and right using the appropriate buttons.
3. Execute sequences of turn and move commands to guide Beebot to specific locations.	3. Combine turning and moving commands to guide the Bee-Bot in desired directions.
4. Develop spatial awareness and precise programming skills through hands-on Beebot practice.	4. Apply turning and moving commands to reach specific points on a grid.
5. Engage in reflective discussion to reinforce learning and identify areas for improvement.	5. Reflect on the challenges and successes experienced during the lesson, reinforcing understanding of Bee-Bot navigation.

Flower Power: Planting with Bee-Bots

In this lesson, you'll guide students through a series of activities to reinforce their understanding of directional commands and sequencing. They'll start by acting as Bee-Bots, then practice programming on an interactive whiteboard, and finally, use real Bee-Bots to plant flowers on a grid mat. The activities are designed to provide hands-on experience with logical thinking and problem-solving processes essential for coding.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark excitement, begin by embodying a programmable robot with your own movements, guiding students to mimic these actions as they play a lively game of following commands. Prepare by downloading and printing directional cards and flower resources, ensuring mats and Bee-Bots are ready for hands-on planting activities. Engage students through group work, encouraging them to program paths and place flowers on grids, reinforcing sequencing and directional skills. Watch for confusion with commands, offering clear demonstrations to troubleshoot. Differentiate by letting confident students act as programmers, fostering peer learning and boosting motivation through interactive, real-world problem-solving.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
1. Develop understanding and application of directional commands in a fun and interactive manner.	1. Demonstrate understanding of Bee-Bot movements through physical imitation.
2. Enhance problem-solving skills through the use of Bee-Bots and directional cards.	2. Apply Bee-Bot programming commands in a digital practice session.
3. Improve logical thinking by programming Bee-Bots to follow specific sequences.	3. Utilise Bee-Bot commands to navigate a grid and 'plant flowers' in a hands-on game.
4. Gain hands-on experience in coding through the 'Planting Flowers' game.	4. Interpret and follow specific directional commands using Bee-Bot Directional Cards.
5. Reinforce the concept of sequencing and its importance in coding.	5. Reflect on the logical thinking and problem-solving processes used during the lesson.

Bee-Bot's Bloom Hunt: Finding Flowers

In this lesson, you'll guide your students through a series of engaging Bee-Bot activities. They'll act as Bee-Bots, plan and input commands, and work in groups to guide a Bee-Bot to a flower on a grid. This lesson aims to enhance their programming skills and understanding of sequencing.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: Encourage student curiosity by connecting programming to real-world problem-solving as you prepare for this interactive lesson with Bee-Bots. Set up grids, whiteboards, and flower printouts in advance, ensuring each group has materials for hands-on tasks. Facilitate engagement by guiding students through acting as robots and planning routes, reinforcing sequencing skills during the whiteboard demo. Watch for challenges like unclear instructions, offering gentle prompts to rethink steps. Differentiate by allowing early finishers to explore free play, fostering creativity. Deliver with enthusiasm, celebrating small wins to build confidence in their coding journey.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
1. Develop problem-solving skills through planning and sequencing instructions for Bee-Bot.	1. Demonstrate understanding of programming by acting as Bee-Bots and following commands.
2. Understand and apply the concept of programming by inputting planned commands into Bee-Bot.	2. Plan and map out routes for Bee-Bot using a whiteboard, demonstrating problem-solving skills and understanding of sequencing.
3. Enhance teamwork and communication skills by collaborating in small groups to guide Bee-Bot to a target.	3. Guide a LadyBird-Bot to find animals on a grid using correct commands in an interactive whiteboard game.
4. Gain confidence in programming through iterative testing and adjustment of commands.	4. Work in small groups to guide a Bee-Bot to a flower on a grid mat, demonstrating understanding of command sequences and testing them.
5. Appreciate the importance of precise instructions and logical sequencing in coding.	5. Reflect on the importance of precise commands and correct sequencing in programming during wrap up discussion.

Square Dancing: Drawing Shapes with Bee-Bot

In this lesson, you'll guide your students in understanding directional commands and spatial awareness through programming Bee-Bots to move in square shapes. They'll play a game, draw squares, trace numbers, and work in groups to program Bee-Bots. This will enhance their sequencing, problem-solving, and collaborative skills, setting a strong foundation for advanced coding concepts.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark student motivation, begin by connecting the activity to real-world problem-solving, like navigating a robot through a maze. Prepare by ensuring Bee-Bots, grids, and whiteboards are ready for group work, and test the interactive game beforehand. Facilitate engagement by rotating roles in the "student as Bee-Bot" game, encouraging precise verbal instructions. Focus on key concepts like sequencing and spatial awareness while guiding students to program squares of varying sizes. Watch for challenges in precision during programming, offering hints to struggling groups. Deliver effectively by fostering collaboration and celebrating small successes to build confidence.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
1. Develop understanding of sequencing and spatial awareness through programming Bee-Bots to move in square shapes.	1. Master the use of directional commands to program Bee-Bots to move in square shapes.
2. Enhance precision and planning skills in programming by creating both small and large squares.	2. Develop an understanding of sequencing and spatial awareness through the programming of Bee-Bots.
3. Improve problem-solving abilities by adjusting the number of forward steps between each turn to create larger squares.	3. Understand the importance of precision and planning in programming by creating both small and large squares.
4. Strengthen collaborative skills through group work in programming Bee-Bots.	4. Enhance problem-solving and collaborative skills by working in groups to program Bee-Bots.
5. Build a strong foundation in logical thinking and programming for more advanced coding concepts in the future.	5. Prepare for more advanced coding concepts by building a strong foundation in logical thinking and programming.

Number Tracer: Bee-Bot's Digital Path

In this lesson, you'll guide students through programming Bee-Bots to trace digital numbers. Starting with a slideshow of digital numbers, students will then plan Bee-Bot paths on whiteboards before practising with an interactive game. Finally, they'll use Bee-Bots to trace numbers on a mat, reinforcing number recognition, sequencing skills, and programming.

☐ Beginner	☐ 30 mins	☐ Student Quiz	☐ Student Challenge

Teacher Notes: To spark curiosity, begin by preparing a slideshow of digital numbers and ensuring Bee-Bots and mats are ready for hands-on practice. Guide students through observing unique digital shapes, encouraging discussion to build engagement. Facilitate whiteboard planning to reinforce critical thinking before tracing with Bee-Bots, and demonstrate programming on an interactive board to clarify sequencing. Watch for challenges like incorrect command sequences, offering gentle prompts to troubleshoot. Differentiate by pairing students for extension tasks, fostering collaboration. Keep energy high with positive feedback, linking skills to real-world coding concepts for lasting impact.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
1. Develop understanding and recognition of digital number shapes.	1. Identify and differentiate between standard and digital number formats.
2. Enhance critical thinking through planning and sequencing of Bee-Bot commands.	2. Plan and sequence commands for Bee-Bot to trace digital numbers.
3. Improve ability to execute planned commands using Bee-Bots.	3. Execute the planned commands using Bee-Bot on a digital platform.
4. Engage in interactive learning through digital tracing practice.	4. Apply critical thinking to program Bee-Bot to trace numbers on a physical mat.
5. Apply knowledge of digital numbers and programming in a challenging extension activity.	5. Engage in peer learning through an extension activity, demonstrating understanding of number shapes and programming process.

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