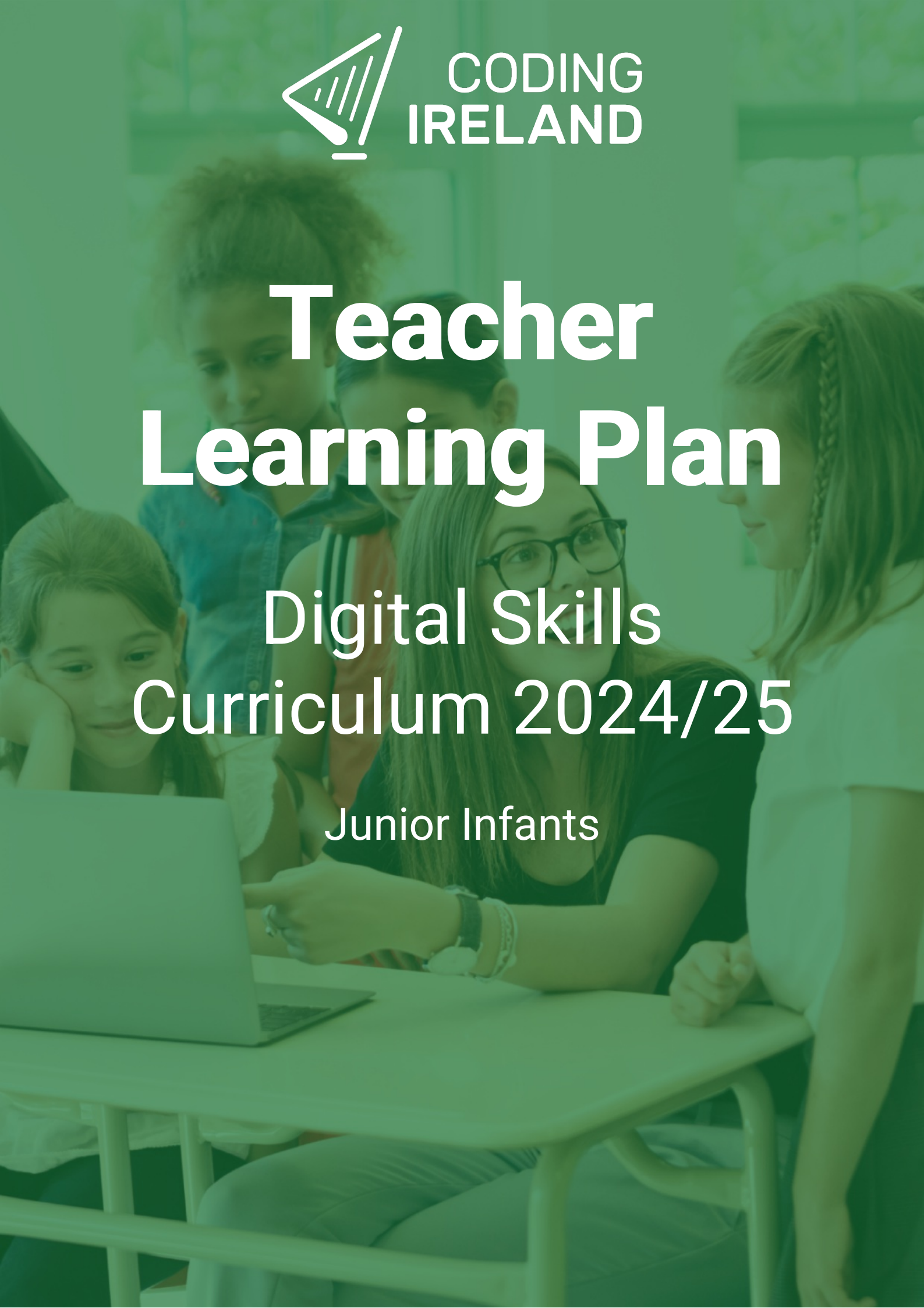

CODING IRELAND

Teacher Learning Plan

Digital Skills Curriculum 2024/25

Junior Infants

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How to Use This Learning Plan

This learning plan provides an overview of all the modules available for Junior Infants, including their units, learning goals, and outcomes. Each module is designed to support both new and experienced teachers with easy-to-follow, step-by-step lessons.

Lesson Types

There are two types of lessons in the Digital Skills Curriculum:

- **Teacher-Led Lessons** – The teacher directs and leads students through the lesson, guiding them through the activities and discussions.
- **Teacher/Student-Led Lessons** – Teachers can choose to lead the lesson, or students can follow the step-by-step instructions to work through it independently.

Younger students require a fully guided approach, while older students often benefit from working at their own pace with teacher support as needed.

Flexible Curriculum Approach

Teachers have the flexibility to choose the modules that best fit their class needs. While there are enough lessons to cover a full school year, it is not necessary to complete all the modules. This allows teachers to tailor the learning experience to their students while ensuring they meet their educational goals.

Student Access

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

Getting Started

1. **Review the Learning Plan:** Each module includes an overview of its goals, learning outcomes, lesson structure, and required resources. Start by familiarising yourself with the curriculum's scope.
2. **Plan Your Lessons:** Every lesson includes step-by-step guidance, accessible from your teacher dashboard. Adjust the pacing and delivery method based on your students' needs.
3. **Check Required Equipment:** Most lessons only require a laptop, Chromebook, or tablet. Some modules may include additional materials like microbits or LEDs. The required equipment is listed at the start of each module and each individual lesson.
4. **Support Student Learning:** Encourage students to work through the lessons. No prior coding experience is required—teachers can learn alongside their students.
5. **Use Assessments:** Each lesson includes a multiple-choice quiz to help assess student understanding and track progress.
6. **Need Help?:** We're always happy to answer your questions and give advice. You can contact our team at info@codingireland.ie or 01 584 9955.

Module: Exploring Patterns

This module guides teachers through a series of lessons designed to introduce students to the concept of sequencing and logical order, essential for understanding coding instructions. The module includes interactive games, discussions, and worksheet activities, progressing from simple 'first/then' statements to more complex grid navigation tasks. Teachers are advised to explain concepts clearly, make learning fun and relatable, and encourage students to visualise movements and explain their thought processes.

Duration	**Equipment**
3 weeks	Required Equipment: • Interactive Display • Pen & Paper • Printer
Module Goals	**Module Outcomes**
1. Understand and apply the concept of sequencing everyday activities using 'first/then' statements. 2. Recognise and predict outcomes based on given conditions using 'if/then' statements. 3. Arrange steps of daily activities in the correct logical order to reinforce the concept of sequencing. 4. Learn and apply the concept of grid navigation through interactive games and activities. 5. Expand understanding of grid navigation from a 3x3 to a 4x4 grid, including moving a character to different targets.	1. Understand and apply the concept of sequencing everyday activities using 'first/then' statements. 2. Sequence actions using "if/then" statements to understand cause and effect relationships. 3. Arrange steps of daily activities in the correct order to understand the logical flow of events. 4. Learn and apply the concept of grid navigation through forward and backward movement. 5. Navigate a character on a larger 4x4 grid, expanding from the previous understanding of a 3x3 grid.

Week 1

Lesson: First Things First: What Comes Next?

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, teachers will guide students through activities to understand the concept of sequencing everyday activities using 'first/then' statements. The lesson begins with a discussion on 'Bossy Words' and a game of 'Simon Says' to introduce the concept of following instructions. Teachers will then engage students in a discussion about instructions and their importance. The lesson concludes with a 'First/Then' worksheet activity where students match 'first' and 'then' pictures and create their own sequences. Teachers should explain concepts in a simple, clear, and engaging manner, making learning fun and relatable to everyday life.

Required equipment for this lesson:

- Printer
- Pen & Paper
- Interactive Display

Learning Goals	Learning Outcomes
• Students will understand the concept of sequencing and the importance of following instructions in order. • Students will be able to identify 'Bossy Words' and understand their role as instructions or commands. • Students will develop their listening skills and ability to follow instructions through the game 'Simon Says'. • Students will apply their understanding of the 'first/then' concept in a practical worksheet activity. • Students will enhance their creativity by creating their own 'first/then' sequences. • Students will develop an understanding of the foundational concepts of coding through the concept of sequencing.	• Students will be able to define and give examples of 'Bossy Words'. • Students will be able to discuss the importance of instructions and provide examples from their daily life. • Students will be able to participate in the game 'Simon Says', demonstrating their understanding of following instructions in sequence. • Students will be able to complete the 'First/Then Cut and Stick Activity' sheet, demonstrating their ability to sequence events. • Students will be able to create their own 'first/then' sequences, demonstrating their understanding of the concept. • Students will be able to discuss their 'first/then' sequences, explaining their reasoning behind the sequence order.

Week 2

Lesson: If This, Then That: Conditional Fun!

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, the students will learn to sequence actions using "if/then" statements, helping them understand cause and effect relationships and laying the groundwork for logical thinking in coding.

This exercise fosters their ability to recognize and predict outcomes based on given conditions, which is essential for programming.

Required equipment for this lesson:

- Printer
- Pen & Paper
- Interactive Display

Learning Goals	Learning Outcomes
• Students will understand the concept of 'if' and 'then' and differentiate it from 'first and then'. • Students will be able to use 'if' and 'then' in sentences to express conditions and consequences. • Students will develop their listening skills by following 'if' commands in a game. • Students will enhance their critical thinking skills by predicting outcomes in 'if' scenarios. • Students will improve their drawing skills by illustrating 'then' scenarios on a worksheet. • Students will develop their discussion skills by sharing their thoughts and ideas about 'if' and 'then' scenarios.	• Students will be able to recall and explain the meaning of bossy words from previous lessons. • Students will understand the difference between 'first and then' and 'if and then' and be able to provide examples. • Students will be able to follow 'if' commands in a game setting, demonstrating their understanding of the concept. • Students will be able to interpret 'if and then' scenarios in an interactive activity and make appropriate choices based on the given situation. • Students will be able to apply their understanding of 'if and then' to complete a worksheet, demonstrating their ability to think critically about potential outcomes. • Students will be able to articulate their thought process and reasoning for their choices on the worksheet, demonstrating their comprehension of the 'if and then' concept.

Week 3

Lesson: Order Up! Sequencing Made Simple

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, the students will practice sequencing daily activities, such as washing their hands, by arranging steps in the correct order.

This exercise progresses from previous lessons and helps students understand the logical flow of events, reinforcing the concept of sequencing, which is essential for coding and following instructions accurately.

Required equipment for this lesson:

- Printer
- Pen & Paper
- Interactive Display

Learning Goals	Learning Outcomes
• Students will understand the concept of sequencing and its importance in daily life. • Students will be able to follow instructions in a sequence during the 'Follow the Leader' activity. • Students will be able to identify and correct sequences using visual aids in the 'Sequencing Activity'. • Students will demonstrate their understanding of sequencing by correctly ordering events on a worksheet. • Students will develop their reasoning skills by explaining their choices during sequencing activities. • Students will enhance their creativity by creating their own sequence of events for early finishers.	• Students will be able to demonstrate understanding of sequencing by participating in the 'Follow the Leader' activity, accurately following the leader's instructions in the correct order. • Students will be able to define sequencing and explain its importance in daily tasks during the group discussion. • Students will be able to correctly sequence the images of hand washing during the interactive activity, providing reasoning for their choices. • Students will be able to apply their understanding of sequencing to different daily tasks, correctly arranging 3-4 sets of mixed-up images in the correct order. • Students will be able to demonstrate their understanding of sequencing independently by correctly arranging the events on their sequencing worksheet. • For those who finish early, students will be able to create their own sequence of events, demonstrating creativity and a deeper understanding of the concept.

Week 4

Lesson: Number Line Adventure: Step by Step

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, students will learn about grid navigation through a series of interactive activities and games. The lesson will begin with a game of 'Robot Roger', where students will learn to follow and give simple instructions. Next, students will play direction games on a projector or large screen, using colours and numbers as targets. Finally, students will complete a Number Grid Movement Worksheet, where they will apply their understanding of grid navigation. The lesson aims to reinforce concepts such as left/right, counting, body parts, addition, and subtraction. Teachers should encourage students to be specific in their instructions and to visualize movements before executing them.

Required equipment for this lesson:

- Printer
- Pen & Paper
- Interactive Display

Learning Goals	Learning Outcomes
• Students will understand the concept of grid navigation and be able to navigate a character on a grid using forward and backward movements. • Students will develop the ability to give clear and precise instructions for movement on a grid. • Students will learn to follow instructions for movement on a grid accurately. • Students will be able to apply the concept of grid navigation to different contexts, such as colors and numbers. • Students will develop problem-solving skills by figuring out the correct sequence of movements to reach a target on a grid. • Students will enhance their cooperative learning skills by working in pairs to give and follow instructions for grid navigation.	• By the end of the lesson, students will be able to follow and give simple instructions for movement on a grid. • Students will be able to demonstrate understanding of forward and backward movement on a grid. • Students will be able to use directional language to guide a character to a specific location on a grid. • Students will be able to apply their knowledge of grid navigation to a worksheet activity, demonstrating their ability to move a character forward and backward on a number grid. • Students will be able to work collaboratively in pairs, giving and following instructions for grid navigation. • Students will be able to explain their reasoning for their final position on the grid, reinforcing their understanding of the concept.

Week 5

Lesson: Grid Explorer: Navigating the 3x3

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, you'll guide your students through a series of activities designed to enhance their understanding of grid navigation. Starting with a game of 'Simon Says', you'll then introduce a 3x3 grid game, followed by interactive grid games themed around numbers, fruits, and colours. The students will then complete a worksheet activity, and finally, check their answers using an interactive grid.

Required equipment for this lesson:

- Printer
- Pen & Paper
- Interactive Display

Learning Goals	Learning Outcomes
• Students will understand the concept of a 3x3 grid and how to navigate it using up, down, left, and right directions. • Students will develop the ability to follow a sequence of commands to move a character on a grid. • Students will apply their understanding of grid navigation to complete a worksheet activity, predicting the end location of a character based on a sequence of commands. • Students will enhance their problem-solving skills by determining the correct sequence of commands to reach a specific location on the grid. • Students will demonstrate their understanding of grid navigation by participating in interactive grid games. • Students will develop a positive attitude towards learning through engaging and interactive activities.	• Students will be able to understand and follow instructions given in the 'Simon Says' game. • Students will be able to identify and explain the function of the up and down arrows in the context of a 3x3 grid. • Students will be able to successfully navigate a character to different items on the grid using a sequence of commands. • Students will be able to complete a worksheet independently, following directions to navigate a frog to various fruits on a 3x3 grid. • Students will be able to interact with an online grid game, demonstrating their understanding of grid navigation and direction commands. • Students will be able to demonstrate their understanding of the lesson by correctly following the directions from their worksheets on an interactive version of the grid.

Week 6

Lesson: Big Grid Challenge: Conquering the 4x4

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, students will expand their understanding of navigating a character on a grid from a 3x3 to a 4x4 grid. Begin with a quick review of the previous lesson, using questions to jog their memory. Introduce the new4x4 grid and the task of moving a frog to different colors on the grid. Encourage students to explain their thought process as they navigate the frog. Use interactive games to practice grid navigation with different themes like colors, letters, and animals. The lesson concludes with a worksheet activity where students write the commands to move the frog to different colors, followed by a check-up session where students test their commands on the interactive whiteboard.

Required equipment for this lesson:

- Printer
- Interactive Display

Learning Goals	Learning Outcomes
1. Develop critical thinking and problem-solving skills through grid navigation activities. 2. Enhance understanding of directions and spatial awareness by moving a character on a grid. 3. Improve command recognition and response through the 'Robot Statues' game. 4. Apply knowledge of 3x3 grids to navigate a more complex 4x4 grid. 5. Collaboratively solve problems and confirm understanding through interactive whiteboard activities.	1. Navigate a character on a 4x4 grid using directional commands. 2. Identify and respond to simple and complex commands in the 'Robot Statues' game. 3. Recall and apply knowledge of 3x3 grid navigation to a larger 4x4 grid. 4. Complete a worksheet activity, demonstrating understanding of grid navigation and directional commands. 5. Participate in a group review session, demonstrating ability to correct and improve grid navigation commands.

Module: My First Steps in Digital Storytelling

This module introduces students to the basics of digital storytelling using Scratch Jr. The lessons are designed to be interactive and hands-on, encouraging students to explore and experiment with the app. Teachers should monitor student progress and provide assistance as needed. The module covers topics such as character movement, changing backgrounds, adding characters, and programming actions. Each lesson concludes with a challenge and free play exploration time, allowing students to apply what they've learned.

Duration	**Equipment**
4 weeks	Required Equipment: • iPad/Tablet
Module Goals	**Module Outcomes**
1. Master the basics of Scratch Jr. app for creating interactive stories and games. 2. Develop skills to animate characters and change backgrounds in Scratch Jr. 3. Understand and apply advanced coding techniques to add multiple characters and control their actions. 4. Learn to programme character speed, sequence commands, and create dynamic scenarios. 5. Gain proficiency in using repeat actions for continuous movement and creating complex character interactions.	1. Utilise Scratch Jr. app to create interactive stories and games. 2. Manipulate Scratch the Cat character and use basic motion blocks for movement. 3. Change backgrounds and create unique dance routines for characters in Scratch Junior. 4. Add multiple characters and program them to perform simultaneous actions. 5. Control character speed, sequence commands, and create a racing game with different sprites. 6. Program a spaceman character to perform continuous floating motions in a space-themed environment.

Week 1

Lesson: Introduction to Scratch Jr.

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

This lesson is designed to be hands-on and interactive. Encourage students to explore and experiment with the app. Be sure to monitor their progress and assist them if they encounter difficulties.

Learning Goals	Learning Outcomes

Lesson: On the Move: Getting Characters in Action

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this step-by-step lesson, students will be introduced to Scratch the Cat from Scratch Junior. They will learn how to create a project, explore the interface, and use basic motion blocks to move Scratch. The lesson concludes with a challenge and free play exploration time.

Required equipment for this lesson:

- 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.	1. Identify and describe the main features of the Scratch Junior interface. 2. Create a new project in Scratch Junior. 3. Understand and apply the function of basic motion blocks in Scratch Junior. 4. Program Scratch the Cat to move across the screen using a sequence of instructions. 5. Experiment with different blocks and sequences to control Scratch the Cat's movements.

Week 2

Lesson: Dance Party: Make Your Characters Groove

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this interactive lesson, you'll revisit the basics of Scratch the Cat, learn to change backgrounds in Scratch Junior, and create a unique dance routine for Scratch. If you finish early, you're encouraged to explore the app and experiment with new routines and backgrounds.

Required equipment for this lesson:

- iPad/Tablet

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

Week 3

Lesson: Double the Fun: Adding a Friend for a Walk

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

This step-by-step lesson guides Junior Infants through using Scratch Jr. They will recap on previous knowledge, learn to add a second character, complete a challenge of making characters walk together, learn a trick for advanced coding, and have free play time.

Required equipment for this lesson:

- 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.	1. Recall and apply the use of motion blocks and changing backgrounds in Scratch Jr. 2. Add a new character to a Scratch Jr project and code it separately. 3. Create a sequence of movement blocks for two characters, ensuring they move in sync. 4. Experiment with different numbers and movements to make characters walk smoothly together. 5. Explore the Scratch Jr app independently, adding more characters or changing the background.

Week 4

Lesson: City Cruise: Driving Through the Streets

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

Prepare action cards for a game of charades, explaining the rules to students. Introduce the car driving activity in Scratch Jr, explaining how they'll program a car to navigate city streets. Show how to remove Scratch the Cat from the project, then demonstrate adding a car character and changing the background to a city scene. Teach students how to create a sequence of movement blocks for the car. For advanced students, introduce resizing the car. Encourage exploration and creativity during free play, prompting with questions about other vehicles and their placement.

Required equipment for this lesson:

- iPad/Tablet

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

Week 5

Lesson: Ready, Set, Race! Programming Speedy Sprites

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, students will explore programming through Scratch Jr., creating their own animal race. They'll learn to control character speed and sequence commands. Start by guiding them to add two animal sprites and select a race background. Then, instruct them on programming movements, adjusting character speed, and initiating the race. Finally, encourage creativity in a free play session where they can experiment with different sprites and predict race outcomes.

Required equipment for this lesson:

- iPad/Tablet

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

Week 6

Lesson: Floating in Space: Looping with the Spaceman

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

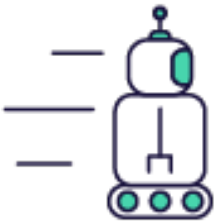
This lesson guides students through a space adventure using Scratch Jr. They'll learn to programme a spaceman to float in space, introducing the concept of repeating actions with the repeat block. The lesson starts with a discussion on space movement, followed by practical steps in Scratch Jr. to create the floating spaceman. Students will then add a repeat block for continuous movement, customise their astronaut, and finally, create a 'space dance' using different sequences and loops.

Required equipment for this lesson:

- iPad/Tablet

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

Module: Journey into Robotic Movements



Introduce your students to the exciting world of robotics with Bee-Bots. Start with simple forward and backward movements, then progress to lateral turns. Engage students with interactive games and hands-on activities, reinforcing their understanding of directional commands and sequencing. As The module progresses, students will learn to programme Bee-Bots to trace digital numbers, enhancing their number recognition, sequencing skills, and programming abilities. Remember to celebrate their achievements and encourage further exploration.

Duration	**Equipment**
3 weeks	Required Equipment: • Bee-Bots • IWB/Projector/Large Screen
Module Goals	**Module Outcomes**
1. Master the basic operations and functions of Bee-Bots, including forward and backward movements. 2. Understand and execute lateral movements with Bee-Bots, including left and right turns. 3. Apply directional commands and sequencing in a practical context, such as planting flowers with Bee-Bots. 4. Develop programming skills through interactive activities, such as guiding Bee-Bots to find flowers. 5. Enhance spatial awareness, sequencing, and coding skills by programming Bee-Bots to draw shapes and trace numbers.	1. Control Bee-Bot's forward and backward movements through programmable commands. 2. Execute Bee-Bot's left and right turns, demonstrating understanding of lateral movements. 3. Apply directional commands and sequencing to guide Bee-Bots in planting flowers on a grid mat. 4. Programme Bee-Bot to locate a specific object, demonstrating enhanced coding skills. 5. Programme Bee-Bot to trace digital numbers, demonstrating improved number recognition, sequencing skills, and programming abilities.

Week 1

Lesson: Bee-Bot Basics: Forward and Backward Fun!

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, students will be introduced to Bee-Bots, programmable robots. They will learn how to control the Bee-Bot's movements using forward and backward buttons. Activities include a numbers strip game and a colours strip game, where students will give directions to a ladybird. Students will then observe a demonstration of Bee-Bot movements on a number line, followed by hands-on experience in small groups. The lesson concludes with a celebration of the students' achievements and encouragement for future exploration.

Required equipment for this lesson:

- IWB/Projector/Large Screen
- Bee-Bots

Learning Goals	Learning Outcomes
1. Understand the basic functions of a Bee-Bot, including its forward and backward movements. 2. Develop skills to give instructions to a Bee-Bot, using number and colour strip activities. 3. Apply knowledge of Bee-Bot functions to guide it along a number line. 4. Work collaboratively in small groups to practice Bee-Bot instructions and movements. 5. Reflect on the process of giving instructions to a Bee-Bot, promoting critical thinking and understanding.	1. Identify and describe the basic functions of a Bee-Bot. 2. Successfully instruct a Bee-Bot to move forward and backward using a number line. 3. Engage in interactive games to demonstrate understanding of Bee-Bot instructions. 4. Apply critical thinking to give correct instructions to a Bee-Bot during a class activity. 5. Reflect on the process of instructing a Bee-Bot and articulate their understanding.

Week 2

Lesson: Twist and Turn: Bee-Bot’s Lateral Moves

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, teachers will guide students through the process of making Bee-Bots turn left and right. The lesson begins with a recap of previous knowledge, followed by interactive practice of lateral movements. Teachers will then demonstrate the turning process with a real Bee-Bot, after which students will get a chance to practice themselves. The lesson concludes with a review and discussion of the learned skills.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
1. Understand and apply the concept of lateral movement in Bee-Bot programming. 2. Differentiate between turning and moving actions in Bee-Bot navigation. 3. Execute sequences of turn and move commands to guide Bee-Bot to specific locations. 4. Develop spatial awareness and precise programming skills through hands-on Bee-Bot practice. 5. Reflect on learning experiences, sharing challenges and successes in Bee-Bot navigation.	1. Understand and demonstrate how to make the Bee-Bot turn left and right. 2. Recognise the difference between turning and moving the Bee-Bot. 3. Apply turning and moving commands in sequence to navigate the Bee-Bot. 4. Practise guiding the Bee-Bot to reach specific points on a grid. 5. Reflect on the challenges and successes of programming the Bee-Bot's lateral movements.

Week 3

Lesson: Flower Power: Planting with Bee-Bots

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, you'll guide students through a series of activities involving Bee-Bots. They'll start by acting as Bee-Bots, then practice programming on an interactive whiteboard. The lesson culminates in a hands-on game where students use real Bee-Bots to plant flowers on a grid mat, reinforcing their understanding of directional commands and sequencing.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
• Understand the basic movements of Bee-Bots, including forward, backward, left turn, and right turn. • Apply the concept of programming by giving step-by-step instructions to a 'student Bee-Bot'. • Develop the ability to clear the code before giving a new set of instructions to the Bee-Bot. • Use Bee-Bots to follow specific directions in a game-like setting, reinforcing the concept of programming. • Work collaboratively in small groups to program a Bee-Bot, enhancing teamwork skills. • Reflect on the learning experience and articulate what they have learned about Bee-Bots and programming.	• Students will be able to demonstrate an understanding of the basic movements of a Bee-Bot (forward, backward, left turn, right turn). • Students will be able to follow simple instructions to simulate the programming of a Bee-Bot. • Students will be able to give instructions to a peer acting as a Bee-Bot, demonstrating an understanding of the concept of programming. • Students will be able to use a real Bee-Bot to follow a set of instructions, demonstrating their ability to apply the concept of programming in a practical context. • Students will be able to work collaboratively in small groups to complete a Bee-Bot treasure hunt activity. • Students will be able to reflect on their learning experience and articulate their understanding of how a Bee-Bot works.

Week 4

Lesson: Bee-Bot’s Bloom Hunt: Finding Flowers

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this step-by-step lesson, students will continue their Bee-Bot adventure, practicing programming skills through fun activities. They will act as Bee-Bots, participate in a whiteboard demonstration, work in small groups to guide their Bee-Bot to a flower, and engage in free play. The lesson concludes with a wrap-up and reflection.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
1. Develop understanding and proficiency in programming commands and sequences. 2. Enhance problem-solving skills through planning and executing Bee-Bot's path to the flower. 3. Improve teamwork and collaboration by working in small groups to achieve a common goal. 4. Gain confidence in using technology and understanding the logic behind programming. 5. Reflect on the importance of precise instructions and correct sequencing in coding.	1. Act as Bee-Bots, following commands to understand the basics of programming. 2. Guide a LadyBird-Bot to a flower on a grid using directional commands during a whiteboard demonstration. 3. Work in small groups to plan and input a sequence of commands to guide a Bee-Bot to a flower on a mat. 4. Adjust command sequences for the Bee-Bot if initial attempts do not lead to the flower, demonstrating problem-solving skills. 5. Reflect on the importance of precise commands and correct sequencing in programming during the wrap-up.

Week 5

Lesson: Square Dance: Drawing Shapes with Bee-Bot

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, you'll learn to programme your Bee-Bot to move in square shapes, enhancing your understanding of sequencing and spatial awareness. You'll start with a fun game, then move onto digital practice, and finally, you'll programme your Bee-Bot on a grid. This will deepen your coding skills and prepare you for more complex challenges.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
1. Develop understanding of sequencing and spatial awareness through programming Bee-Bots. 2. Enhance precision and planning skills in programming by creating different square shapes. 3. Improve problem-solving abilities by adjusting commands to create squares of varying sizes. 4. Strengthen collaborative skills through group work in programming Bee-Bots. 5. Build a strong foundation in logical thinking and programming for advanced coding concepts.	1. Program Bee-Bots to move in square shapes, demonstrating understanding of sequencing and spatial awareness. 2. Guide a 'student Bee-Bot' to a specific location in the room using precise directional commands. 3. Identify key features of a square and apply this knowledge to program Bee-Bots to make four precise 90-degree turns. 4. Work collaboratively in groups to write down a sequence of commands for Bee-Bots to move in both small and large squares. 5. Develop problem-solving skills by adjusting command sequences to correct Bee-Bots' movements and achieve the desired square shapes.

Week 6

Lesson: Number Tracer: Bee-Bot’s Digital Path

Beginner	30 mins	System.Threading.Tasks.Task`1[System.String]

In this lesson, you'll learn to programme Bee-Bots to trace digital numbers. You'll start by understanding the shapes of digital numbers, then practise tracing them using an interactive game. Afterwards, you'll plan and execute commands for your Bee-Bot to trace numbers on a mat, enhancing your number recognition, sequencing skills, and programming abilities.

Required equipment for this lesson:

- Bee-Bots

Learning Goals	Learning Outcomes
1. Understand and identify the unique shapes of digital numbers. 2. Develop critical thinking and planning skills through sequencing Bee-Bot commands. 3. Apply understanding of digital numbers to program Bee-Bot's path accurately. 4. Enhance collaborative skills through interactive whiteboard activities and group work. 5. Reflect on the importance of careful preparation and execution in coding.	1. Identify and differentiate between digital and handwritten numbers. 2. Plan and sequence commands for Bee-Bot to trace digital numbers. 3. Execute the planned commands using Bee-Bot, demonstrating number tracing. 4. Engage in critical thinking and problem-solving during the digital tracing practice. 5. Apply understanding of digital numbers and Bee-Bot programming in a peer challenge activity.