

Movers and Groovers

Desirable Features: Exploring Programming

Task Description

In this task pupils should use a Bee-Bot, Pro-Bot or Roamer and a mat, then plan and carry out commands to reach various points on the mat.

This task is set out in two parts. Each part can be undertaken as a separate task.

To achieve Level 1, pupils are required to use simple commands to move the device from one point to another (Part 1 in Pupil Notes).

To achieve Level 2, pupils are required to generate step by step commands to move the device in different directions (Part 2 in Pupil Notes).

Teachers can decide if it is appropriate to give the Pupil Notes to their pupils or whether to explain verbally what they need to do.

This task also provides teachers with the opportunity to develop pupils' skills in numeracy (Using Mathematics).

Requirements for UICT

This task focuses on the following aspects of UICT across the curriculum which have been highlighted in **bold**.

Explore

- access, select, interpret and research information from safe and reliable sources;
- **investigate, make predictions and solve problems through interaction with digital tools.**

Express

- create, develop, present and publish ideas and information responsibly using a range of digital media and manipulate a range of assets to produce multimedia products.

Exchange

- communicate safely and responsibly using a range of contemporary digital methods and tools, exchanging, sharing, collaborating and developing ideas digitally.

Evaluate

- **talk about, review and make improvements to work, reflecting on the process and outcome and consider the sources and resources used, including safety, reliability and acceptability.**

Exhibit

- manage and present their stored work and showcase their learning across the curriculum, using ICT safely and responsibly.

Areas of Learning

Depending on the context chosen by the teacher, this task has the potential to support one or more of the following Areas of Learning:

The Arts	
Language and Literacy	✓
Mathematics and Numeracy	✓
Personal Development and Mutual Understanding	
Physical Education	
The World Around Us	

Please Note: For assessment purposes, only the 'E's that are covered at the level(s) stated on the task have been bolded.

Depending on how the task is approached, it may touch on elements of the unbolded 'E's, although not necessarily at the level(s) stated.

Movers and Groovers

Thinking Skills and Personal Capabilities

This assessment task also provides pupils with the opportunity to demonstrate one or more of the following aspects of Thinking Skills and Personal Capabilities:

Managing Information
Thinking, Problem-Solving and Decision-Making
Being Creative
Working with Others
Self-Management.

Prior Knowledge/Experience

Depending on the level at which they are working, pupils should have some experience of using a programmable device.

Resources

Bee-Bot, Pro-Bot or Roamer.
Appropriate mat.

Managing the Task

Pupils should be given opportunities to:

Plan

Pupils should plan the commands needed to make the device move.

Do

Pupils should work together or individually to test out the commands.

Review

Pupils should be given the opportunity to discuss the movement of the device with their peers. They should reflect on the process and make any changes to their commands if required.

Assessing Pupils' Responses to the Task

The first column of the Assessment Criteria Grid sets, in bold, the Requirements for UICT that are covered in this task. Alongside this are the Levels of Progression (those related to the task are in bold) and the UICT Desirable Features for Exploring Programming at Levels 1 and 2. These Desirable Features have been produced as guidance for teachers to consider when observing a pupil and assigning a level to a piece of work. When coming to a holistic judgement of the

pupils' level of UICT competence, teachers should ensure that these Desirable Features are used in conjunction with the UICT Levels of Progression.

This task may also provide opportunities for pupils to work collaboratively online (Exchange) and showcase work online (Exhibit). Teachers should include these, where possible, as set out in the Desirable Features.

Assessment Criteria Grid		
UICT Requirements	Level 1	Level 2
<p>Explore</p> <ul style="list-style-type: none"> access, select, interpret and research information from safe and reliable sources; investigate, make predictions and solve problems through interaction with digital tools. 	<p>Pupils can:</p> <ul style="list-style-type: none"> find and select information from a given digital source (explore); explore and interact with a digital device or environment (explore); 	<p>Pupils can:</p> <ul style="list-style-type: none"> find, select and use information from a given digital source (explore); carry out a series of instructions using a digital device or environment (explore);
<p>Express</p> <ul style="list-style-type: none"> create, develop, present and publish ideas and information responsibly using a range of digital media and manipulate a range of assets to produce multimedia products. 	<ul style="list-style-type: none"> express ideas by creating pictures and composing text or adding own voiceover (express); and 	<ul style="list-style-type: none"> create and edit text onscreen, combining images and/or sound (express);
<p>Exchange</p> <ul style="list-style-type: none"> communicate safely and responsibly using a range of contemporary digital methods and tools, exchanging, sharing, collaborating and developing ideas digitally. 		
<p>Evaluate</p> <ul style="list-style-type: none"> talk about, review and make improvements to work, reflecting on the process and outcome and consider the sources and resources used, including safety, reliability and acceptability. 		<ul style="list-style-type: none"> talk about how to improve their work (evaluate); and
<p>Exhibit</p> <ul style="list-style-type: none"> manage and present their stored work and showcase their learning across the curriculum, using ICT safely and responsibly. 	<ul style="list-style-type: none"> print their work (exhibit). 	<ul style="list-style-type: none"> save their work (exhibit).

Assessment Criteria Grid

UICT Requirements	Desirable Features - Level 1 (Exploring Programming)	Desirable Features - Level 2 (Exploring Programming)
<p>Explore</p> <ul style="list-style-type: none"> access, select, interpret and research information from safe and reliable sources; investigate, make predictions and solve problems through interaction with digital tools. 	<p>Typically the pupil can:</p> <ul style="list-style-type: none"> use simple commands to investigate how, for example, a Bee-Bot or onscreen sprite moves (explore); and talk about what they did (evaluate). 	<p>Typically the pupil can:</p> <ul style="list-style-type: none"> enter commands to move or change, for example, a Bee-Bot or onscreen sprite (explore); understand the outcome of a command and select and use commands to generate a change in movement or value (explore); talk about how they caused movement and how they might do it again with different commands (evaluate); and save work (exhibit).
<p>Express</p> <ul style="list-style-type: none"> create, develop, present and publish ideas and information responsibly using a range of digital media and manipulate a range of assets to produce multimedia products. 		
<p>Exchange</p> <ul style="list-style-type: none"> communicate safely and responsibly using a range of contemporary digital methods and tools, exchanging, sharing, collaborating and developing ideas digitally. 		
<p>Evaluate</p> <ul style="list-style-type: none"> talk about, review and make improvements to work, reflecting on the process and outcome and consider the sources and resources used, including safety, reliability and acceptability. 		
<p>Exhibit</p> <ul style="list-style-type: none"> manage and present their stored work and showcase their learning across the curriculum, using ICT safely and responsibly. 		

Pupils should demonstrate, when and where appropriate, knowledge and understanding of e-safety including acceptable online behaviour.

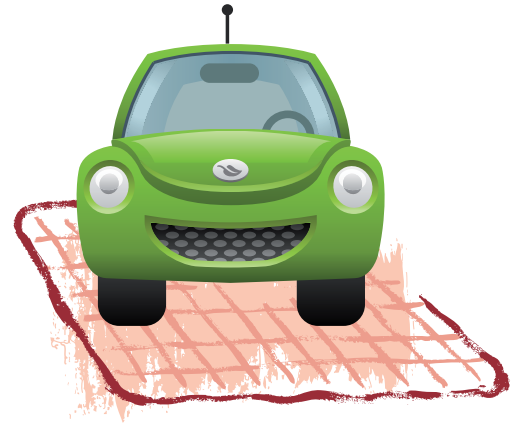
Movers and Groovers

Part 1

Put your device on its mat.

Think about how you would move it from one point to another.

Now make it move from one point to another on the mat.



Part 2

Plan a journey around your mat, so that the device moves in different directions on the way.

Record your instructions step by step.

Talk to your friends about it and see if you can make improvements.

Program the device with your instructions and test out the commands.

