Lower Key Stage 2 - Session 7
Applying their programming knowledge to create a game challenge

Objectives

- Apply their understanding of repetition and selection to create their own scenario using the **repeat until** and **if… do…** statement blocks
- Be able to set a challenge for a friend e.g. work out the shortest route to the destination, but make sure you do not go through a red light

Resources

- Resource sheets LKS2-S7-1 (for reference) and LKS2-S7-2

Vocabulary

- Repetition, selection
- Create, design
- Evaluate, check, debug

Preparation

Pair the children by ability so that they are best able to tackle each other's challenges.

Let's get started

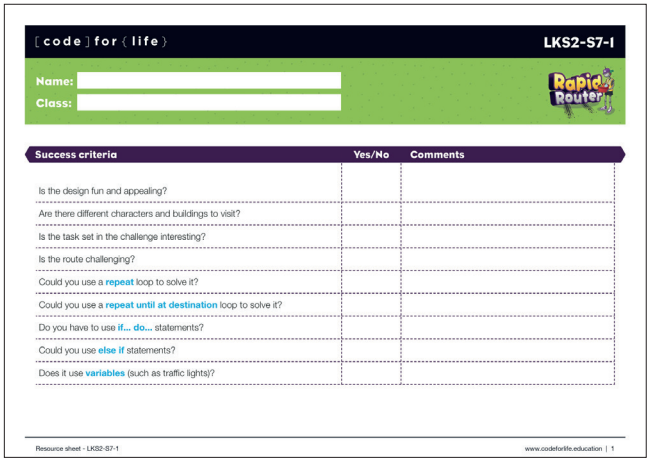
Explain that the children are going to:

- Make their own story for a partner involving characters, objects and creating a background
- Choose their starting point
- Choose a character (robot, van, boy, girl, wolf or monster)
- Design a layout with route tiles (road, path), background tiles (trees, grass, pond, snow), variable objects – traffic lights

Discuss what would make a good challenge; draw up a simple evaluation sheet to evaluate each other's challenge. For ideas, there is an example of an evaluation sheet, LKS2-S7-1 *[fig S7.1]*.

What will make the challenge interesting for your partner?

How would you create a route which would need your partner to use a repeat loop?


[code] for { life } LKS2-S7-1

Name:

Class:

Success criteria	Yes/No	Comments
Is the design fun and appealing?		
Are there different characters and buildings to visit?		
Is the task set in the challenge interesting?		
Is the route challenging?		
Could you use a repeat loop to solve it?		
Could you use a repeat until at destination loop to solve it?		
Do you have to use if... do... statements?		
Could you use else if statements?		
Does it use variables (such as traffic lights)?		

Resource sheet - LKS2-S7-1 www.codeforlife.education | 1

fig S7.1

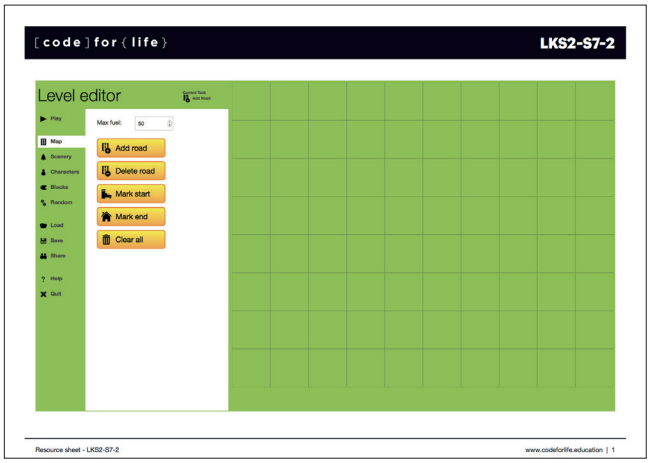
Practical individual activity

Ask the children to sketch out their map on resource sheet LKS2-S7-2 *[fig S7.2]*.

They will choose a character to move around the route and places to deliver to along the route.

Create the route and the background, save this to their Rapid Router account, using a filename they will remember.

Explain to the children that they need to work out the algorithm needed to complete the challenge, and then test out the code to do this.


[code] for { life } LKS2-S7-2

Level editor

Max fuel:

Add road

Delete road

Mark start

Mark end

Clear all

Resource sheet - LKS2-S7-2 www.codeforlife.education | 1

fig S7.2