

Algorithms with Conditional Rules

Computing KS2 Years 4 and 5



Algorithms with Conditional Rules

Computing

**Key Stage 2
Years 4 and 5**

Learning Aims:

- understanding the process of creating an algorithm
- understand what algorithms and bugs are in computing
- explore debugging in an unplugged activity

Curriculum Links:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs

Keywords

Algorithm. Debugging. Conditional rules. These can also be found at the end of this PDF.

Algorithm

Debugging

**Conditional
Rules**



PowerPoint Presentation

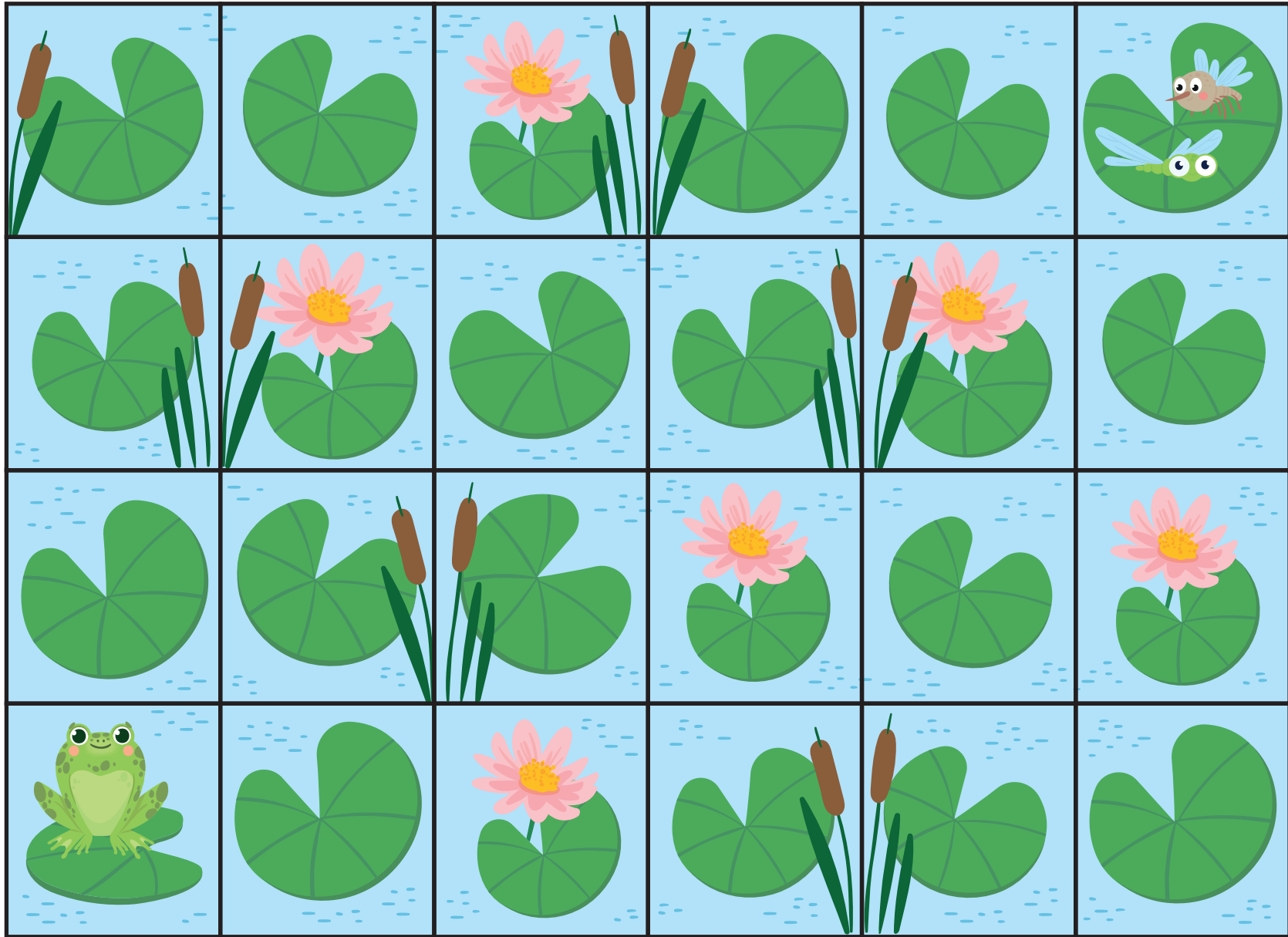
The accompanying PowerPoint presentation has 12 slides with the following learning points:

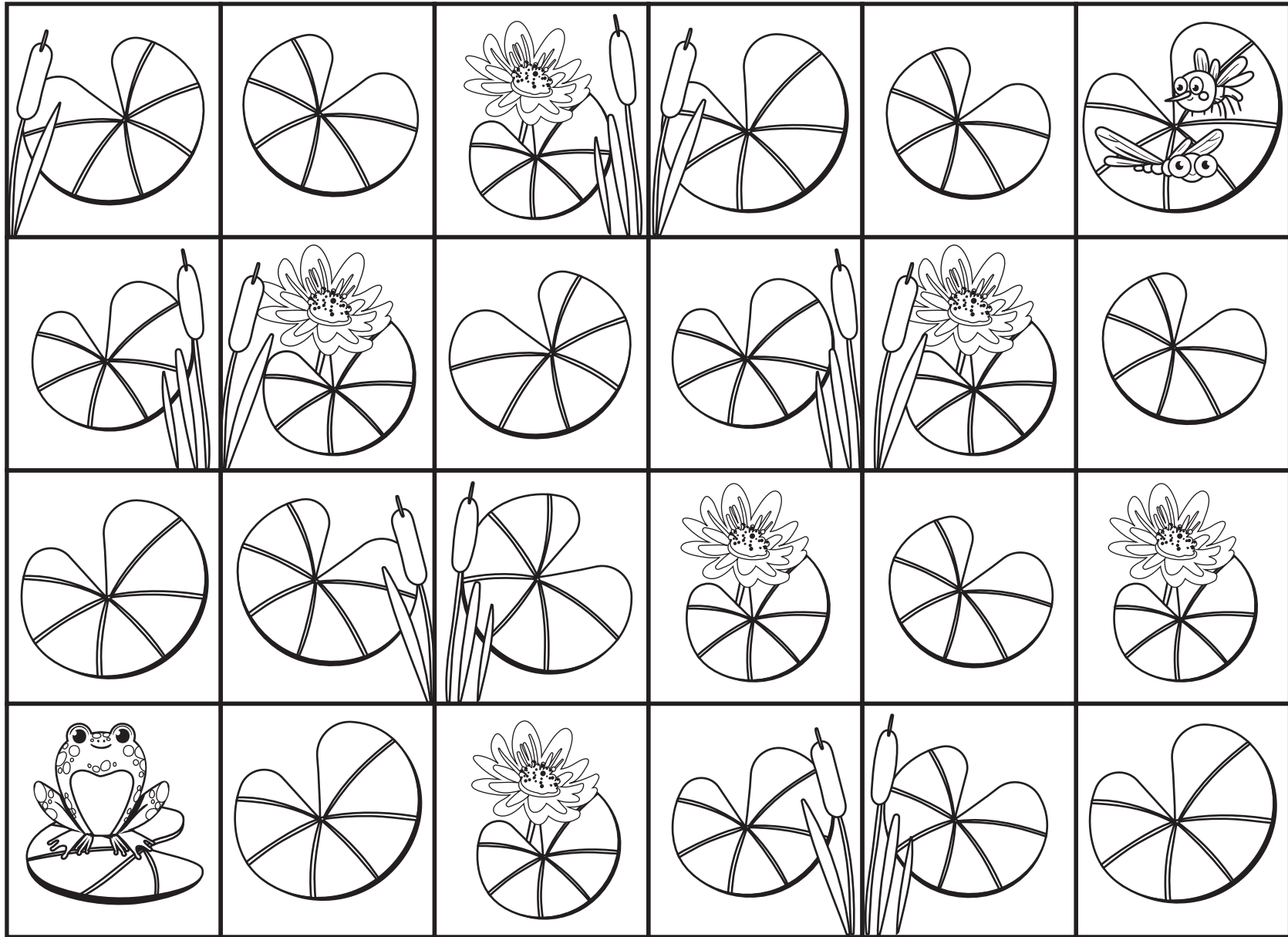
- Slides 1 and 2 introduce the lesson and learning aims.
- Slide 3 recaps that an algorithm is a set of instructions written for a computer, which must be written step-by-step in the correct order.
- Slide 4 introduces conditional programming: IF this happens, THEN this happens. It uses the game 'Snap!' as an example.
- Slides 5 and 6 ask the children to spot an incorrect example, and then supply the correct instruction.
- Slides 7 and 8 go through an example algorithm with the children: writing instructions to help a frog cross a pond over lily pads without squashing lily flowers.
- Slide 9 introduces another example: writing instructions to direct a car through a maze.

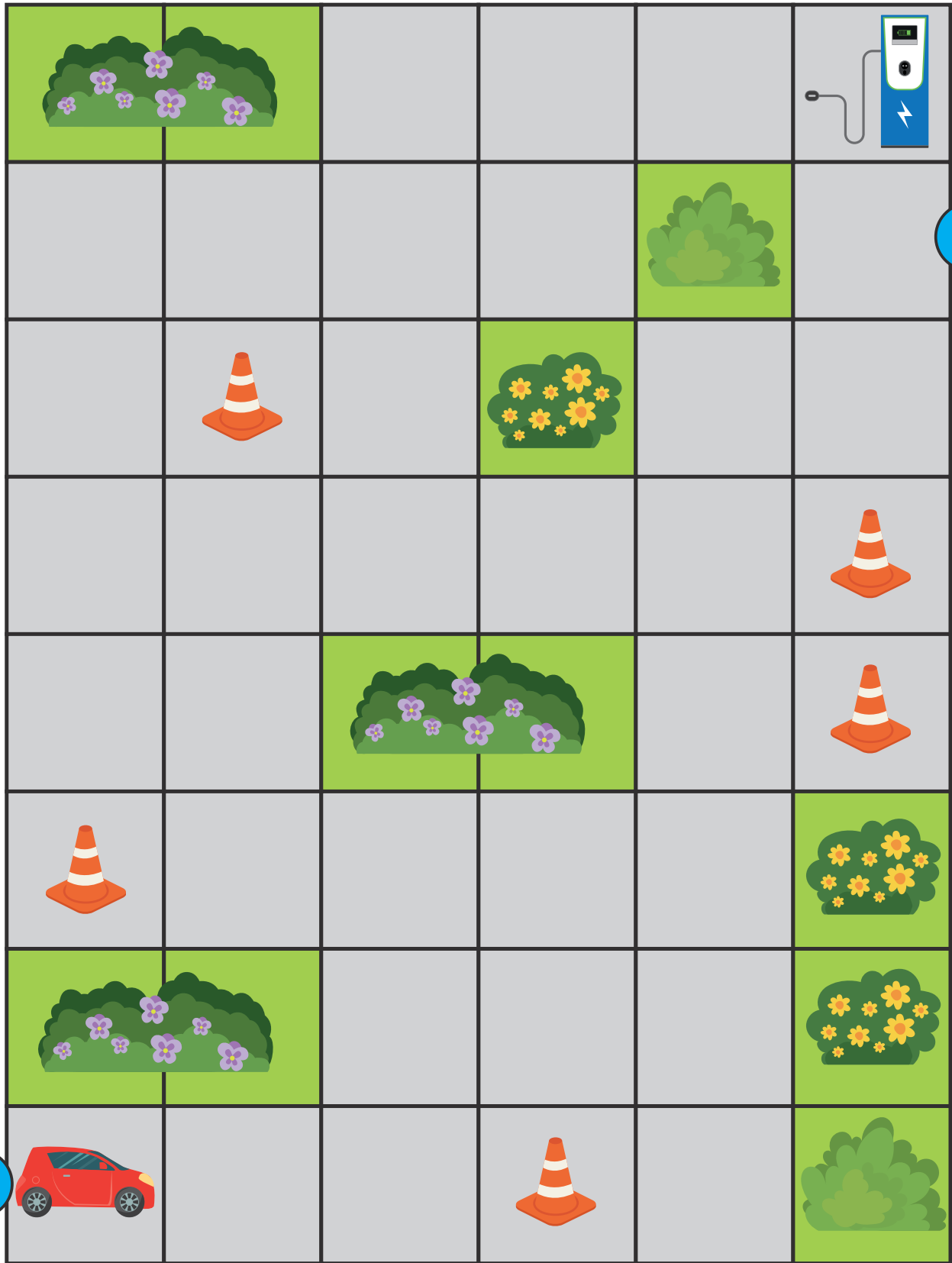
Activity

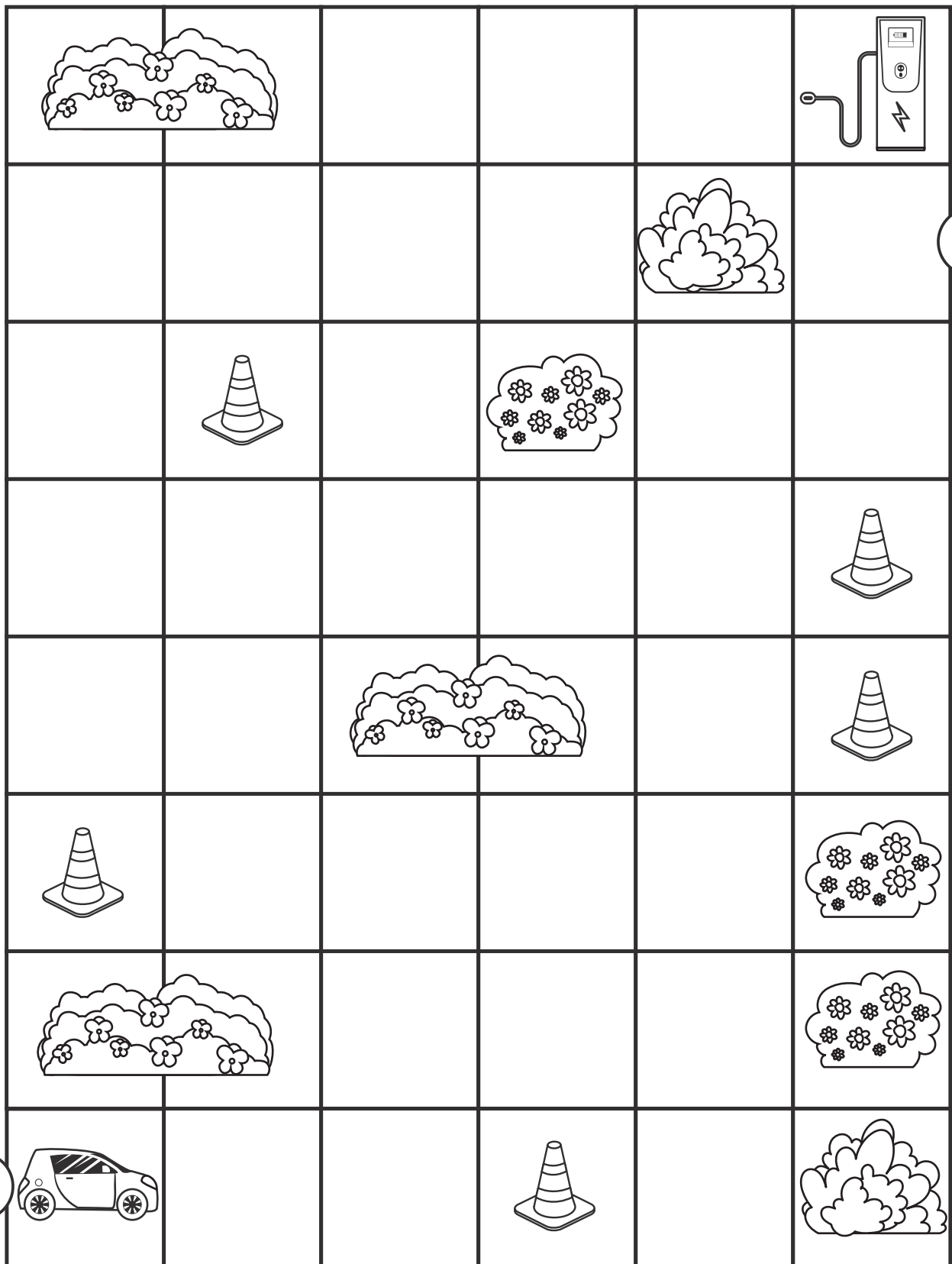
- Slide 10 introduces the learning activity. The children write their own algorithm: to instruct the frog to cross the pond, to direct the car through a maze or they can write their own algorithm. You can use the worksheets on the following pages for any of these options.
- Slide 11 the children swap sheets, play each other's game and review the effectiveness of each other's algorithms.
- Slide 12 is the closing slide.











2

1





Algorithms with Conditional Rules: Keywords

Keywords Flashcards



Algorithm

Debugging

**Conditional
rules**



Algorithm



Debugging



Conditional rules

