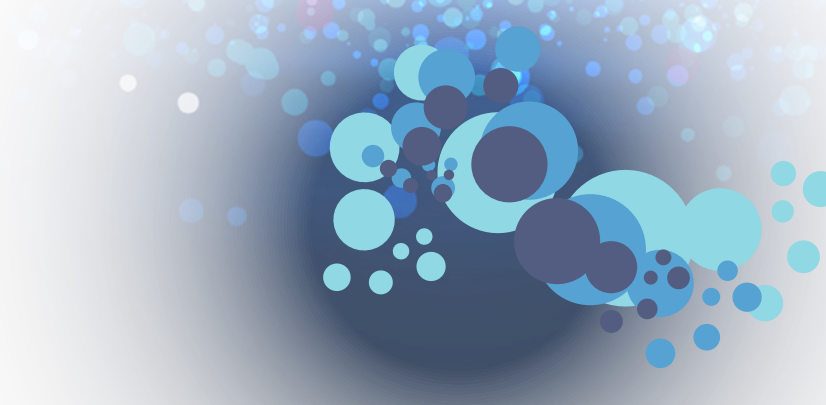


Sequence in an algorithm

Teacher's Notes

Lesson Plan

Length	60 mins	Specification Link	2.1.7/g	Control flow in imperative languages
Learning objective		Students should be able to (a) understand and use sequence in an algorithm		
Time (min)	Activity			Further Notes
10	<p>To assess prior knowledge ask the students:</p> <ul style="list-style-type: none"> What is an 'algorithm'? <p>Stress that for the algorithm to be effective all of the steps must be in the correct sequence.</p> <p>Using the projector, display the Starter Activity and drag the statements into an order suggested by the students.</p> <p>Stress that if the instructions were in the wrong order e.g. the water was poured into the cup before the kettle was switched on, then the tea would not be made correctly.</p> <p>Show students the link to the specification. Explain the purpose and objectives of the lesson.</p>			A step-by-step procedure for solving a problem in a finite number of steps.
15	Watch the set of videos.			
5	<p>Ask some questions about the video to assess learning. e.g.</p> <ul style="list-style-type: none"> In a computer program what do you have to declare to hold any numbers you input? These were given an initial or starting value. What is this called? In the programming language used in the video, all input is treated as a 'string'. What is a string? In the video the input was converted to a number using 'INT'. What type of number would be returned? 			<p>Variables</p> <p>Initialisation</p> <p>A string is a sequence of characters.</p> <p>A whole number.</p>
10	<p>Worksheet 1</p> <p>Students to complete Worksheet 1 either on paper or on computer using knowledge gained from the videos (repeat this section as necessary) and internet research.</p> <p>Ask individual students for their answers and discuss with the class so that all students have the correct answers entered on their worksheets.</p>			Answers provided.
15	Students carry out the provided activity.			



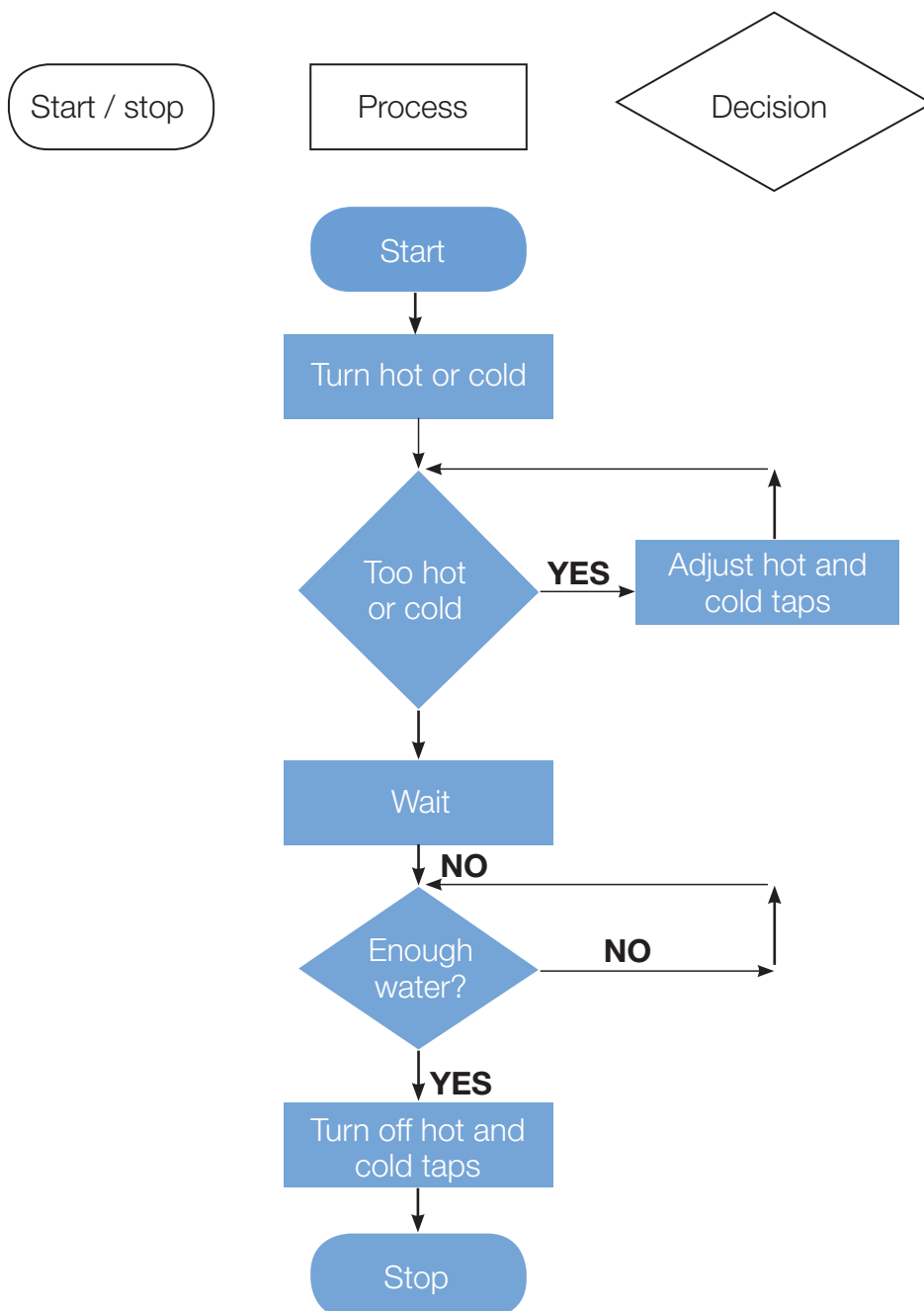
Time (min)	Activity	Further Notes
	Extension Challenge/Homework <ul style="list-style-type: none"> The students should complete and submit Worksheet 2. 	
5	Plenary Repeat the questions already asked (see above) to assess students' understanding of learning outcomes for the lesson.	

WORKSHEET 1 ANSWERS

1 What is meant by an algorithm?

A step-by-step procedure for solving a problem in a finite number of steps.

2 Using the following symbols, create a flowchart to illustrate an algorithm to fill a bath with water ready for a bath.





WORKSHEET 1 ANSWERS

3 Using pseudocode, document the algorithm shown in the video.

- First, think of a whole number.
- Multiply it by 2.
- Add 10 to it.
- Divide by 2.
- Subtract the first number that they thought of.
- The answer should be 5.

WORKSHEET 2 ANSWERS

1 A student is writing a guessing game program to do the following:

The computer generates a random number and a user has to input a number.

The user continues inputting numbers until the two numbers are the same.

When they are the same, the text 'SNAP' is output and the game ends.

Use a flow chart to illustrate the algorithm to solve this problem.

Answer

