Unit 5E

Controlling Devices

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This unit deals with learning to control simple devices; buzzers, lights, motors, using basic control boxes.
This unit may be used within a DT / Art lesson.

Vocabulary

Switch On
Wait
Switch Off
Repeat
Procedures

Resources

Co – C0 plus box
Clown / Traffic Lights / house

Assessment

All children will be able to design and create a simple display (with help) a simple procedure.
Most children will be able to design and create a display; by writing simple procedures. Be able to link output devices together; and amend procedures.
Some children will be able to design and build an imaginative display.
Write, correct and improve procedures to link output devices together; realising the limitations of the system.

<div align="center">Unit 5E</div>

Lesson 1

Teacher Task

Discuss everyday tasks that rely on simple control features to make them operate.
Single instruction devices = A barrier in a car park (Ticket or money entry).
Sequenced instruction devices = Pelican Crossing (Button activates lights in sequence AND activates Green / Red man light and sound).
Discuss what would happen if they replaced the 'Lollipop Lady' with a pelican crossing.
Look at safety, economy and efficiency.

Learning Outcome

Children recognise that control technology is all around them, and that things do not happen without cause and effect.
Children recognise that these devices rely on a set of instructions that can be repeated.

Lesson 2

Teacher Task
Skill 1

Introduce Co – C0 plus. Demonstrate how to plug a light bulb into output socket 1.
Type in switch on 1, then switch off 1.
Show that the '1' relates to the output socket No.
Show how to make light flash, by typing in a procedure. Remind them of 'procedure'; a series of commands that when typed in together make something happen.

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<u>Learning Outcome</u>

Children can recognise that devices can be controlled by a computer.

Lesson 3

<u>Teacher Task</u>

Remind them of procedure to make light flash.
<u>Problem</u>
Get them (in pairs) to write a procedure for making a light bulb flash
then stop for X time then flash again.
Due to the fact that we have only 1 Co – Co plus machine. The pupils will
work on the other machines on other set tasks I.e. Zoombini's whilst 2
work on Unit 5E, swapping until the class has all had a go.

<u>Learning Outcome</u>

Children will recognise the need for precision when writing simple
procedures.
Children will write a sequence to produce a recognisable outcome.

Lesson 4

<u>Teacher Task</u>
<u>Skill 2</u>

Demonstrate the traffic light model.
Demonstrate the procedure for turning on more than one light at a time.

<u>Pupil Task</u>

Relevant pairs working on a machine produce a traffic light sequence:-

Red
Red Amber
Green

Test procedure, and re – write where necessary.
Other pupils get on with Independent Task.

Learning Outcome

Children recognise the need for precision when writing a number of procedures in one sequence of instructions.

Lesson 5

Teacher Task
Skill 3

Demonstrate clown, and how to light the lights and operate the buzzer and bow tie.

Pupil Task

Create a procedure using clown.
Test.
Re – write as necessary.
Other pupils get on with Independent tasks.