ICT ACTIVITY 7
Programming PIP to 'sail' around Lego islands.

Year Group: Year 2

C D & T F ICT

Resources
PIP, Lego, 4 x A1 thick card or strong plastic tablecloth of similar size. Recording sheet.

Context (Pupils' prior experience)
The pupils have had some experience of using PIP in Year 1, making up their own routes and experimenting with various commands. They had previously used the moderator plugs. They were working on a termly topic based on a theme of 'Pirates'.

Task Description
The pupils were first given a 'design and make' assignment to create interesting and strong structures from Lego to be the islands. The islands were then tested and evaluated by the class as a whole. The five most suitable were chosen. The islands were drawn around on the cloth along with two starting points (A and B) and two finishing points (1 and 2). The pupils worked in groups of three to first try to work out the individual commands to get PIP from the chosen start to a finishing point. In the next session for each group they had to record each command on a prepared sheet. At the end of the task each written procedure was tested to see if it would run successfully without disturbing any of the islands.

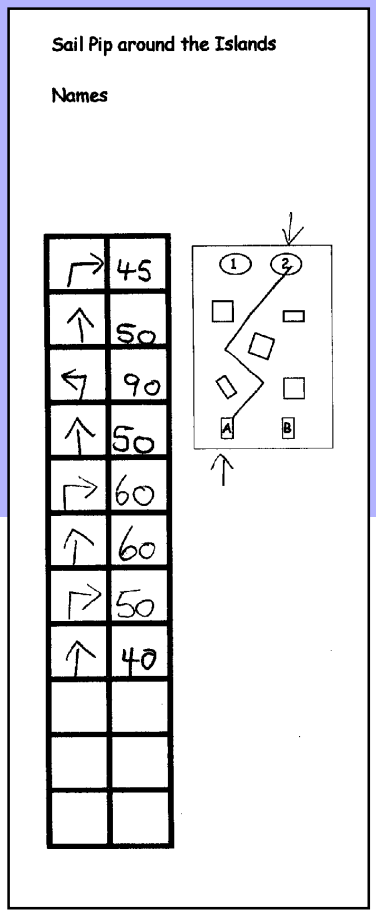
Learning Intentions

D & T: Knowledge and Understanding	ICT: Skills, Knowledge and Understanding	ICT Level KS1	KS2	KS3
Assemble and join Lego to make a simple structure. Talk about how they have made it and suggest improvements.	Understand that PIP responds to commands and use simple commands to program PIP to travel along an agreed course in stages with help.	w/1	2/3	4/5
Design and make structure with Lego, evaluating work as it progresses and modifying design to fulfil design brief.	Make decisions about the commands needed to program PIP to move and turn. Record commands and test them.	1/2	3/4	5/6
Make structure after discussion of criteria. Evidence of construction techniques used to fulfil one design brief and meet criteria of strength and interest. Able to evaluate work.	Use a sequence of instructions to control PIP, achieving the desired outcome. Record the sequence accurately and review how they could improve their procedure.	2/3	4/5	6/7
D & T POS related to task: 1a, 1b, 1c, 1d, 2a, 2d, 3a, 3b.	**ICT POS related to task:** 2c, 4a, 4b, 4c.			

Teaching Approach
Whole class sessions were used for the design and make activity, introducing each stage and evaluating the project. The small group work took place during activity sessions, and some Numeracy/Literacy sessions. Where available a teaching assistant or parent helped the pupils with the greatest need of support.

Links with other curriculum areas
Literacy: Pupils developed speaking and listening skills when working in the small groups.
Numeracy: There were lots of opportunities to practise the mental and oral skills developed in numeracy - working out distances, angles, estimating and predicting.

Subject Learning Gains (Design and Technology)
This activity provided a meaningful context for designing and making Lego structures. Pupils could see the relevance of what they were doing and were very willing to change their structures when necessary to meet the design brief.

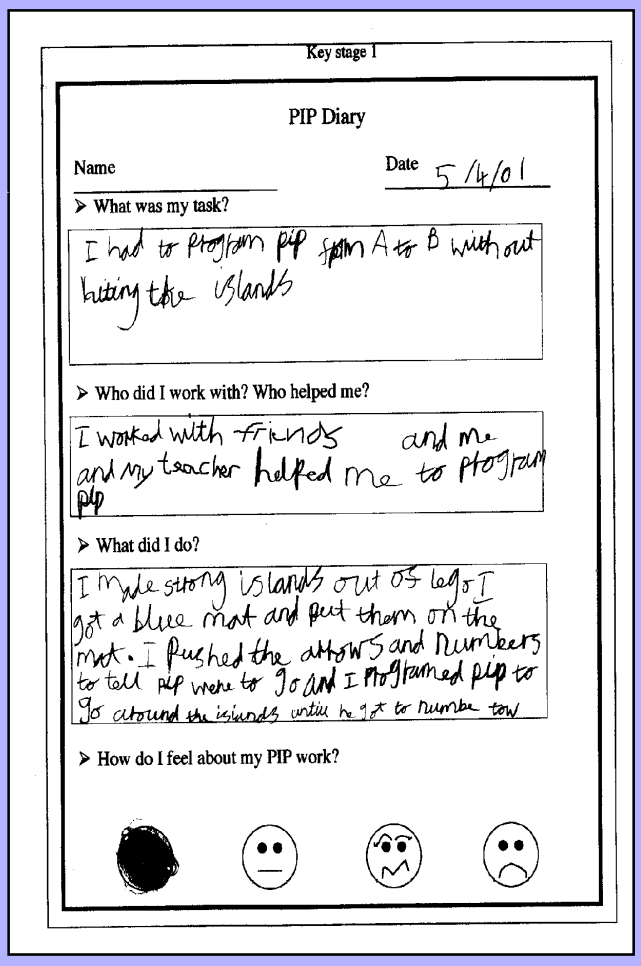


Pupils' Work

This pupil has a good understanding of the task, but needed some help to decide on the steps needed to program Pip.

She has reached ICT Level 2.

Teachers' Assessment



Key stage 1

PIP Diary

Name

Date 5/4/01

➢ What was my task?

I had to Program pip from A to B without hitting the islands

➢ Who did I work with? Who helped me?

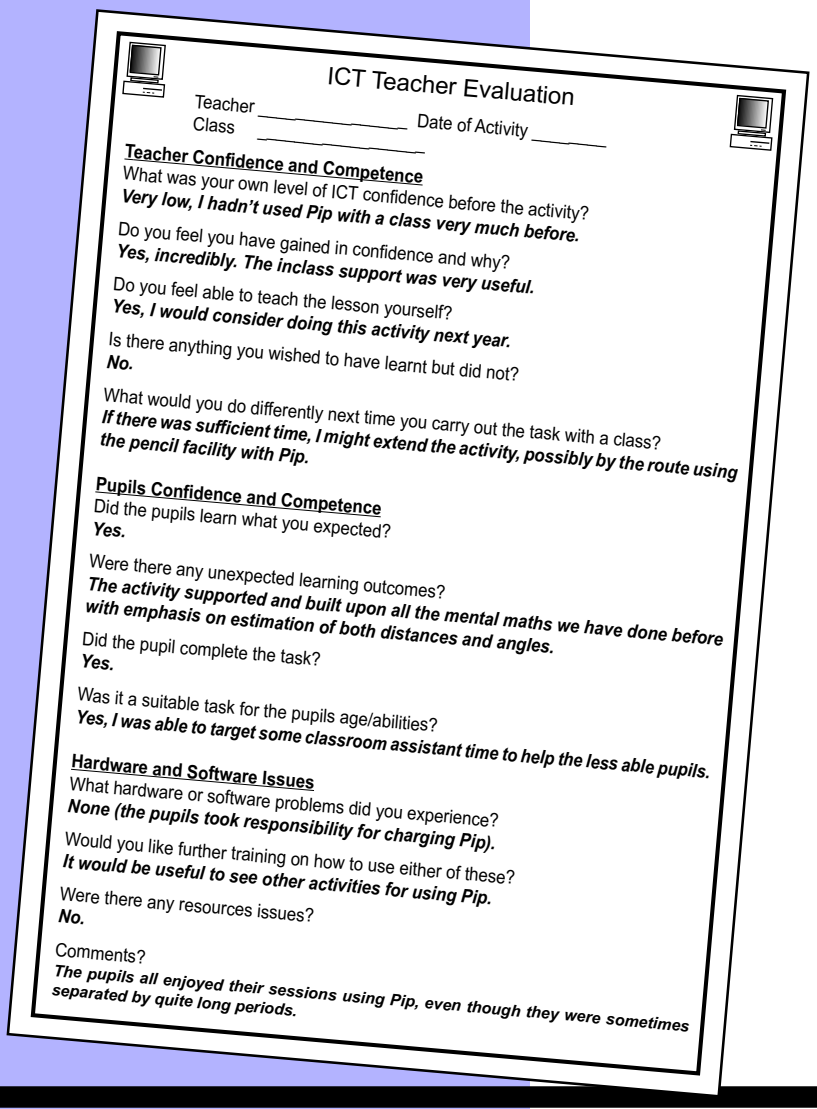
I worked with friends and me and my teacher helped me to program pip

➢ What did I do?

I made strong islands out of legs I got a blue mat and put them on the mat. I pushed the arrows and numbers to tell pip where to go and I programed pip to go around the islands until he got to number ten

➢ How do I feel about my PIP work?

Pupils' Evaluation



ICT Teacher Evaluation

Teacher

Class

Date of Activity

Teacher Confidence and Competence

What was your own level of ICT confidence before the activity?
Very low, I hadn't used Pip with a class very much before.

Do you feel you have gained in confidence and why?
Yes, incredibly. The inclass support was very useful.

Do you feel able to teach the lesson yourself?
Yes, I would consider doing this activity next year.

Is there anything you wished to have learnt but did not?
No.

What would you do differently next time you carry out the task with a class?
If there was sufficient time, I might extend the activity, possibly by the route using the pencil facility with Pip.

Pupils Confidence and Competence

Did the pupils learn what you expected?
Yes.

Were there any unexpected learning outcomes?
The activity supported and built upon all the mental maths we have done before with emphasis on estimation of both distances and angles.

Did the pupil complete the task?
Yes.

Was it a suitable task for the pupils age/abilities?
Yes, I was able to target some classroom assistant time to help the less able pupils.

Hardware and Software Issues

What hardware or software problems did you experience?
None (the pupils took responsibility for charging Pip).

Would you like further training on how to use either of these?
It would be useful to see other activities for using Pip.

Were there any resources issues?
No.

Comments?
The pupils all enjoyed their sessions using Pip, even though they were sometimes separated by quite long periods.

Teachers' Evaluation