Animated A

Penny Bailey takes us on a brief tour of some of her primary and secondary partnership activity in South Warwickshire. Penny is now Senior Lecturer at the University of Central England and a TEP Associate.

For the past four years local primary schools and Shipston High School have worked hard to establish a strong partnership and create transition projects especially in design and technology and science. It has been a challenge to provide an exciting yet worthwhile experience for the primary pupils within the time slots allowed, generally about three hours. The success of these projects has created a demand!

Requests from primary staff were exclusively for control or mechanisms work for year 5 and 6 pupils. In the main the local feeder primaries work on a two year rotation of topics and areas of the national curriculum, so over the years we had to the built up a range of projects that the primary school staff could select from.

Having had success in the previous year with our version of TEP Jitterbugs, a request came for some work on cams and linkages for year 5. As our time is so short with the primary pupils, I decided we needed a quick method of manufacturing containers and decided to use the tried and tested laminated boxes. This method would also allow pupils to be creative in designing their nets. So the 'Animated Animal project' was devised.

Animated Animals are walking; snapping or flapping animals powered the TEP clunk-click gearbox and based on the Robot duck devised by Kieran McGeever. By creating a more compact base that would fit into a small casing that could be made using ICT and fit onto A4, the mechanism could be used the correct way up or upside down to produce different outcomes. The primary schools that selected this project mainly chose to come up to the high school in the summer term for a day, after they had done some preparatory work on cams in their schools.

In the first part of the session, pupils carried out some investigative work on cams / cranks and links powered by the clunk click gear box from TEP. A discussion was held in groups with pupils identifying how to produce different outcomes and how this might be useful in the design of their 'animated animal'. Pupils were then shown how to use the 2D software and create their net and use various decoration techniques and effects for their own design. They also learnt how to laminate their net and how to assemble the casing.

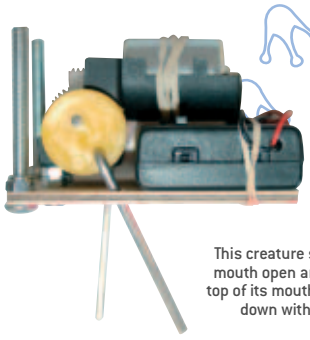
Back in the workshop, the pupils watched a demonstration of the bases being milled out on the CAMM 2. You could of course use the disc supplied with the walker kit cut down or using a drilling jig, pre-drill a batch of rigid foam PVC or even Corriflute bases. Before the manufacture of the mechanisms, pupils were taught the skills they would need for the session; how to create legs for the 'walkers'; jaws for the 'snappers and flappers' and how to build the mechanisms. They then moved around to the areas where staff and equipment were based to build their animal mechanism. The only task they were not allowed undertake was the soldering of the wires; although they enjoyed 'helping' the technician one to one while he did it! Again you could simply assemble the connections to the motor from the battery box and secure them with sleeving but even this can be fiddly for young hands.

After the session they discussed the success of their animals and filled in an evaluation sheet. As the time was very tight, the evaluation sometimes was completed back at the primary school.

This elegant butterfly flaps its wings

A walking, lesser spotted cow!

This little piggy has a simple walking mechanism as shown in the picture opposite



This creature snaps its mouth open and shut. The top of its mouth is weighed down with metal nuts.

nimals

In sessions like this, it has proved difficult to provide a full design and make project, without some sort of structure. The trade-off appears to be in order to provide investigative activities, focused practical tasks and a design and make in this amount of time, is that it is necessary to provide a framework in which children work. This allows the pupils to work in an arena, where they can be exposed to more advanced processes and skills and knowledge. So while we did not have the time to allow pupils to spend time developing completely different nets, the compromise was to provide them with a basic net which they then could adapt and so crocodiles became hamsters; pigs morphed into horses, dogs and even one goat!

The pupils who came up to the school all took home a working 'animated animal' and really enjoyed the experience. This and other projects meant we began to build really good links with the staff from our feeder schools; it certainly increased the uptake to year 7 and we had already established good relationships with our future pupils.

To build your own animated animals you will need:

● Clunk Click Motor/Gearbox	**TG1 010**
There is also a short shaft model available	
● Battery Box	**EC1 035**
● Polythene Cam set	**TG1 017**
● 3mm Aluminium Rod	
● PVC or Corriflute for bases (or Discs cut down)	

A selection of animal cartoons pre-photocopied to inspire pupil ideas and access to a budget laminator is also useful.

teaching resources

Get Animating...

Make your own Snappers, Flappers, Walkers and Crawlers