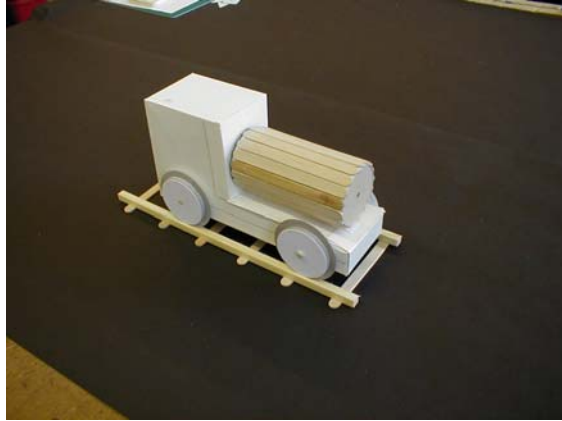


## **Engineering - a Primary Objective (supporting our Primary Schools and how we have used 'Primary Engineer')**

### **What is the Project?**

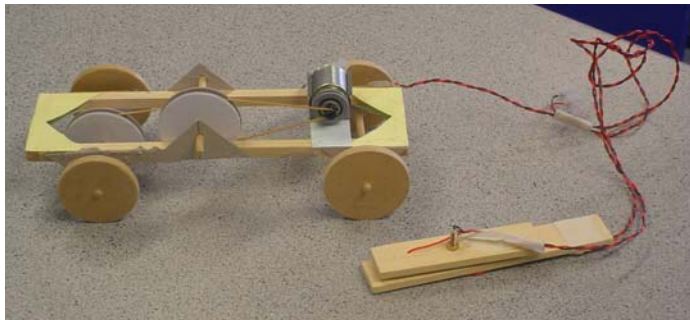
Developing engineering-based practical work in primary schools through work with a partner specialist engineering college. The work has developed an exciting and competitive approach to making activities.



### **Context and Key Objectives:**

Great Sankey High school was designated as a specialist engineering college four years ago. From the outset the intention was to develop engineering in its widest sense and to develop an engineering ethos in our learners from an early age. We were conscious of the limitations of the implementation and provision of practical work in our partner primary schools particularly where we wanted to develop and understanding of engineering principles. It was decided that there was a need to support primary staff to provide a common ground for learners at entry to the senior school. In addition we could support work in our partner primaries with outreach work which would show us leading by example. For the first two years we were 'on our own', successfully delivering work to match each school's needs along with NC requirements. INSET was in the form of CAD using Techsoft 2D design

In 2005 'Primary Engineer' approached us to see if we wanted to become part of this new national initiative. Following a two-day INSET we found that 'Primary Engineer' fitted our requirement perfectly. The principles of 'Primary Engineer' were taught in an interesting and



exciting way which led to a significant "wow" factor from those involved. These staff then deliver the content to representatives from KS1 and KS2 through INSET. Each primary can then develop the work in their own schools,

working toward the 'Primary Engineer Challenge'. This will be a regional and national competition where the vehicles constructed will be tested and assessed for accuracy and quality as well as creativity and innovation.

### **What the work involved:**

All six of our partner primary schools are allocated a five-week block when staff from Great Sankey will visit, this equates to approx. 1hr. 30 min. in the school per week.

During the first year of supporting schools using this approach, the needs of each school and the interests of class teachers determined the work covered. Great Sankey staff taught work with the primary class teacher(s) taking on a supporting role. This proved to be an inefficient use of resources with primary staff not developing the skills needed to deliver an engineering approach. A maximum of two members of staff were being supported at any one time and almost always at KS2.

There was a need for INSET which would enable a larger group of primary staff to gain the skills, knowledge, experience, and most significantly, confidence to deliver quality practical work which embodied sound engineering practices.

Our involvement with 'Primary Engineer' came along at this critical time and enabled us to deliver INSET whilst maintaining our outreach work.

Since the involvement with 'Primary Engineer', our work in primary schools has been focused directly on the strategies and content leading to the 'Primary Engineer Challenge'. We are still delivering this in the way

outlined above but primary staff are much more confident with the work. Generally, the work continues to be self-contained; Gt. Sankey provides all resources and equipment but 'Primary Engineer' uses simple, set equipment and other resources. This makes it easy to plan, manage, maintain and



transport resources to and from the primary schools. The added advantage of this approach for the primary schools is that there is no additional, financial burden through involvement in the project.

We have provided twilight INSET sessions for two representatives representing KS1 and KS2. We have taught the principles of the project with 'hands-on' activities making vehicles for a range of abilities. This INSET was backed with high quality teaching resources provided by 'Primary Engineer' including books and material for interactive whiteboards.

#### **Evidence of Success:**

- All partner primary schools have taken part in INSET sessions and all have received support material from 'Primary Engineer'.
- All schools are enrolled in KS1 and KS2 'Primary Engineer Challenge' with local heats taking place at Great Sankey
- All partner primary schools have been given the opportunity for direct support in the form of 5-week sessions for project work (one school was unable to take up the offer due to timetabling complications).

#### **What did and didn't work?**

- The support work in classes works very well for the classes involved but in large schools this could be just a part of that year e.g. one class from two in year 5, possibly.
- The timings, determined by the Great Sankey timetable, may not be convenient for all partner primary schools.
- Moving resources, albeit limited ones, can be a problem.
- Relying on resources in a primary school for D&T work is not possible as there is no guarantee of consistency.

- Safety can be a problem due to working with much larger groups in non-specialist rooms, using tools of variable quality, especially if using the primary resources.

**The future:**

- Continue delivering INSET, covering the wider resources now being developed by 'Primary Engineer'.
- Work with 'Primary Engineer' in the production and delivery of new units of work
- Deliver to a wider audience taking in other Warrington schools and possibly Cheshire and North Wales
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**Other Information:**

- DATA provide an excellent resource book for Primary D&T Health and Safety
- Check your car insurance if you travel by car between your place of work and partner primary schools
- Meet with the heads of partner primaries being visited beforehand to discuss items such as access, discipline policies, your exact role in the school etc. Different schools will have different policies for all such things

**Case Study Review:**

- The case study will need to be reviewed on an annual basis

**School Name:**

Great Sankey High School, an engineering college.

**LEA:**

Warrington BC (a unitary authority)

**Specialism:**

Engineering

**Designation Date and phase:**

We are just completing our fourth year as a specialist engineering college (September 2003)

**Context of school:**

Great Sankey is a large (approx. 1800) comprehensive on the western outskirts of Warrington. It has a large sixth form - Barrow Hall College (approx. 300). The intake is mainly from six partner primary schools and is predominantly white with very few learners of ethnic origins.

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