Meaningful Learning Experiences

Strategic Commitment	✓	**Part of a careers initiative across Greater Manchester**
Curriculum Provision	✓	**Year 7 Computer Science**
Employer Partnerships	✓	**Involving a local one-man IT consultancy**
Reflective Young People	✓	**Students could learn from expert feedback**
Informed Career Choices	✓	**Describing flexible working patterns of self-employment**

Key Stage 3 have their work about computer hardware checked by an IT consultant

The Head of Computer Sciences at St Monica's RC High School in Prestwich proposed a project for Key Stage 3 students involving *'… topics that some pupil often find "difficult" and "boring" but are important aspects to understanding how a computer works'* aiming for *'More interesting activities and understanding why these are important in real life would be useful.'* The ideal outcome was described as, *'More engagement and enthusiasm from pupils for these topics. Higher numbers opting for Comp Science at KS4.'*

The project was originally focused on the software topics 'Binary and Hexadecimal Number systems' and 'Data Representation' but then changed to learning about hardware – about Clock Speed, RAM and CPUs.

Students heard about a specialist IT business called Cubic Mushroom that was run by an experienced consultant who described how he *'… graduated from Manchester University with a BEng in Electronic Engineering, ending up working for IBM as a helpdesk analyst, where I discovered an interest in computers'* and now *'Whilst I have an office at MediaCity, where I'm surrounded by inspiring, innovative people, I tend to work from home, the odd coffee shop, or wherever my travels take me each week, as almost everything I do can be done remotely, online.'*

After being marked by the teacher, students' work was submitted to Cubic Mushroom who provided expert feedback in a detailed email response.

Benefits for the Students

As well as having their work marked by their teacher, pupils received detailed and constructive feedback from Cubic Mushroom. For example, one response starts:
'Hi Lucy, I like the design of your leaflet and enjoyed reading it. The information is clear to read, but some is a little bit muddled. It's the CPU, or brain, that fetches its instructions, decodes them, and then executes then, rather than the RAM. To help you understand things a little better, the CPU actually receives input from, and controls all the other bits of the computer, like the getting input from the keyboard …'

Benefits for the School

- The schools CEIAG *'… is delivered to all students in Years 7 to 11 through Citizenship lessons, … a series of structured lessons, activities in schools, assemblies, external trips and events …'*
- This programme enabled the school to develop exemplar projects showing how CEIAG can also be embedded within curriculum learning.
- The project was completed in spite of additional pressures while the school underwent structural changes in response to a challenging Ofsted report.

Benefits for the Employer

Cubic Mushroom was set up and run as a one-man IT consultancy. Understandably, he was unable to commit to come into the school, either to talk about his business or to provide feedback. Added to this, his wife gave birth to their first child in the middle of the project. Nonetheless, he was able to provide input and guidance by email and phone calls, helping to motivate the group of students.
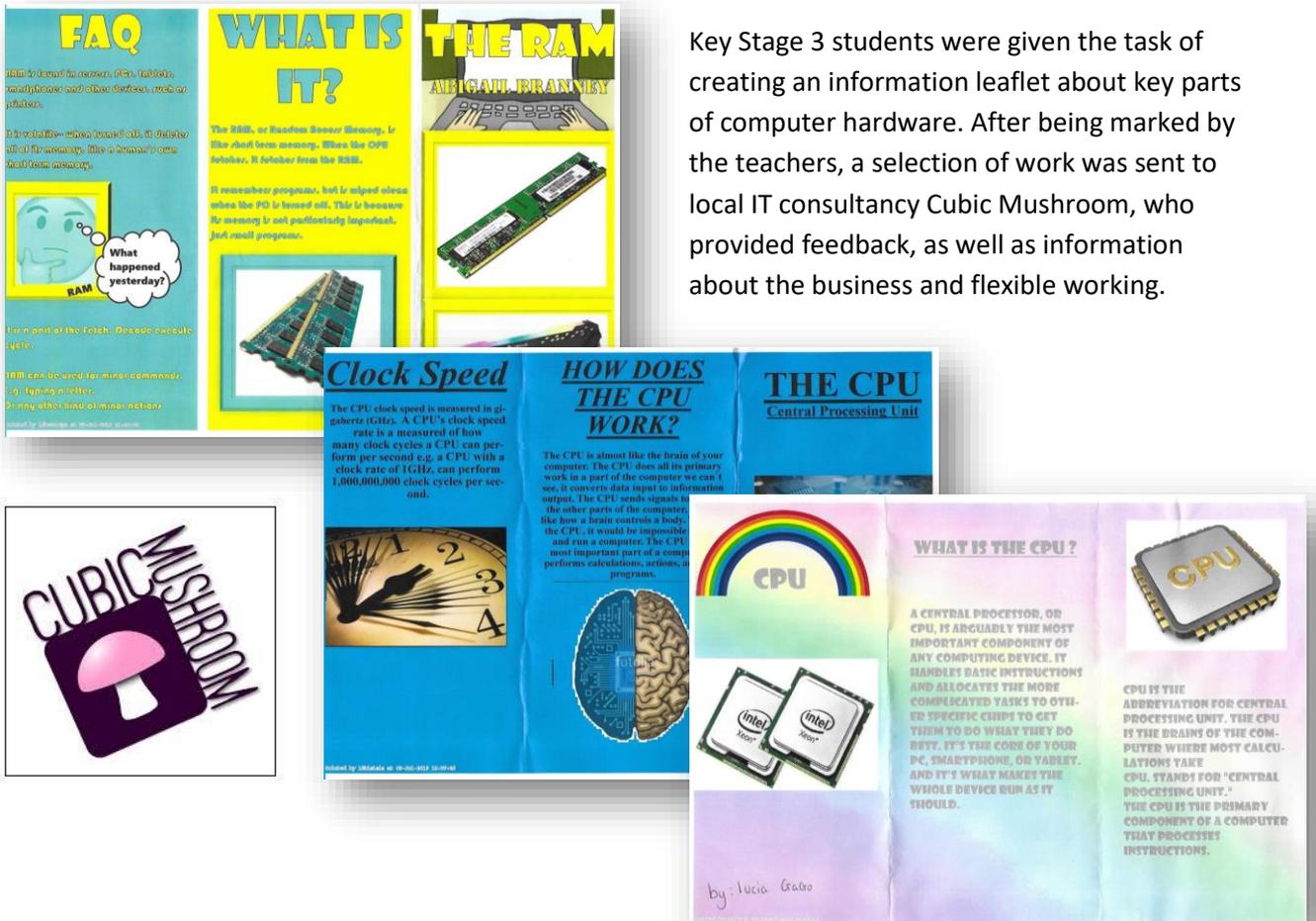
Key Stage 3 students were given the task of creating an information leaflet about key parts of computer hardware. After being marked by the teachers, a selection of work was sent to local IT consultancy Cubic Mushroom, who provided feedback, as well as information about the business and flexible working.