Schoolchildren brought along their old toothbrushes to help build Britain’s first house made almost entirely from thrown-away waste.

Pupils from St Andrew’s CE Primary School in Hove (17 July) were joined by Brighton MP Caroline Lucas as they slotted brushes into wall cavities to help with insulation in the house which is under construction at the University of Brighton’s Faculty of Arts campus in Grand Parade, Brighton.

The project is being backed by TV designer and presenter Kevin McCloud who, with University of Brighton lecturer and architect Duncan Baker-Brown, worked on a similar build in London for a TV programme in 2008.

With support from Brighton and Hove City Council, City College, the Mears Group, a host of companies and the internet-based reuse organisation Freegle, Mr Baker-Brown is using thrown-away bricks, ply sheets, wood and “rubbish” including old plastic razors, denim jeans, DVD’s and video cassettes to show how low-carbon homes can be built cheaply and quickly.

Students, apprentices, local builders and school children have been involved with the making of the structure, with the ambition to train students and apprentices around emerging green industries.

Mr Baker-Brown said: “The research will inform developments in the construction industry and will help in the design of houses of the future. The building will have its own street entrance – putting the house at the heart of the community.

“Reusing waste saves money for big business as well as small, and it relieves pressure on our planet. There really is no such thing as waste or surplus material – it is just stuff in the wrong place.”

David Pendegrass, Project Manager with Mears, said: “We’ll be testing the toothbrushes and other thrown away items for their insulation qualities. We’re also testing chalk – a lorry-load was heading for a landfill site but we diverted it here, mixed it with water, compacted it and, so far, it has proved a great insulating material.”

Caroline Lucas said: “So many people are involved and helping with the project – it is wonderful to see. And it shows there are lessons for us all about recycling. So much gets thrown away that can be re-used.”

Cat Fletcher who runs Freegle which promotes keeping usable items out of landfill, has been sourcing recycling material, including toothbrushes.

She said: “Every toothbrush made still exists in landfill sites, apart from those burnt in incinerators. But we are collecting them locally to use in the House project. Most plastics are unrecyclable because the UK does not have local infrastructure or systems in place to collect and separate all the different types of plastic that stuff is made from.

“We want people to bring old toothbrushes to the site and also old bicycle tyre inner tubes.”

Toothbrushes and bicycle inner tubes can be dropped off to The Waste House building site on the corner of Grand Parade Mews and William Street Brighton BN2 2RU (Monday to Friday 9am -3pm) or they can be put through the gate anytime.

There are two other collection sites: Emmaus Brighton, Drove Rd, Portslade, BN41 2PA (Tuesday to Saturday 10am-5pm) http://www.emmausbrighton.co.uk/; and The Green Centre, 39 Manor Hill, Whitehawk, Brighton, BN2 5EL, in boxes outside at anytime. http://www.thegreencentre.co.uk/