

MDST242/07 Experiments and energy

Transmission date: 1983

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Kevin McConway:

You've been learning about experimentation in the last block of the course and in this programme we're going to concentrate on some of the things you've covered about experimental design. But now it's going to be in the context of energy conservation experiments. Well by now you're pretty familiar with one such experiment. This one here at Pennyland in Milton Keynes.

Well now as you know, these aren't quite ordinary houses. They've got several energy saving features. And the main object of the experiment is to measure just how much energy each of these features saves. So let's just recap what the features are. Well firstly some of the houses have more insulation than others. Secondly, they're oriented so as to catch the sun. All the houses face south, give or take 45 degrees. And thirdly, different houses have different glazing patterns, just take a look at this house over here. You see it's got very big windows on the side that's facing us, that's the south side of the house. But round the back on the north side, the windows are very much smaller.

Well there are other, perhaps secondary, objectives, the experimenters want to know if all these energy saving features make the houses more difficult to build and they want to know whether the houses are acceptable to the people who are living in them. But in this programme and the next we are going to be concentrating mainly on the energy saving objectives.

Well it should be fairly clear to you by now that Pennyland's really quite a complicated experiment. As well as looking at insulation there are all these passive solar features, that is the features designed to take advantage of the sun's heat like the orientation, the glazing patterns, that I mentioned earlier. And all this is going on in real lived-in houses with all the complications that that can cause, so Pennyland is complex. So before we go and look at the design of the Pennyland experiment in a bit more detail, we're going to start off by investigating one of its predecessors, an experiment where things were rather simpler.