

The challenge brief

The Glasgow housing team has asked you to research, design, build and present your ideas for an energy efficient home for a young family.

Your team should:

- Demonstrate a knowledge of your clients needs/wants
- Give advice on the use of sustainable materials
- Include features in your design that could show an understanding of insulation and how to best make use of passive solar energy from the sun
- How the design features and fittings you have chosen could help reduce costs
- Work as a team, showing effective use of team roles, checking progress and communication

Challenge stages

The challenge is divided into a number of stages. Before your final presentation your team will have:

- carried out research into different ways to maximise energy efficiency in buildings
- gathered data which will inform the most effective use of solar energy
- developed their knowledge and understanding of renewable sources of energy and materials
- carried out a number of investigations and analysed the results
- created a design for a home
- built a model of your proposed design
- worked within constraints: to a time limit and to a budget.
- Created a portfolio of your findings and recommendations

You will then create and deliver a presentation to the housing project team who have commissioned you outlining your design and explaining the reasons which have led you to this design.

Challenge presentation

In addition to fulfilling the brief and testing your insulation your team needs to submit evidence to the housing team so that they can understand the design behind your concept.

This evidence will include

- team name
- team members and their roles
- information on planning
- sketches of Initial ideas
- photos/videos of team work
- team reflection based on skills, learning and working together
- short presentation (any format is suitable) explaining your design and the reasoning behind your decisions

Testing and competition

The class will come together to review each team's houses and critically analyse your project.

Points to consider are:

- Your house will be tested to see how well it is insulated

Your recommendations will be looked at to see:

- How well you have considered the sustainability of the materials you have chosen
- Does your design/model show an awareness of your clients needs and some of their wants
- Have you shown in your design/model how best to take advantage of passive solar energy
- Can you explain how you have designed and built your home to reduce 'loss' of energy to the environment

A local architect will consider each of these when judging your design, model and portfolio, they will give feedback and will judge which team is felt to have best met the challenge.