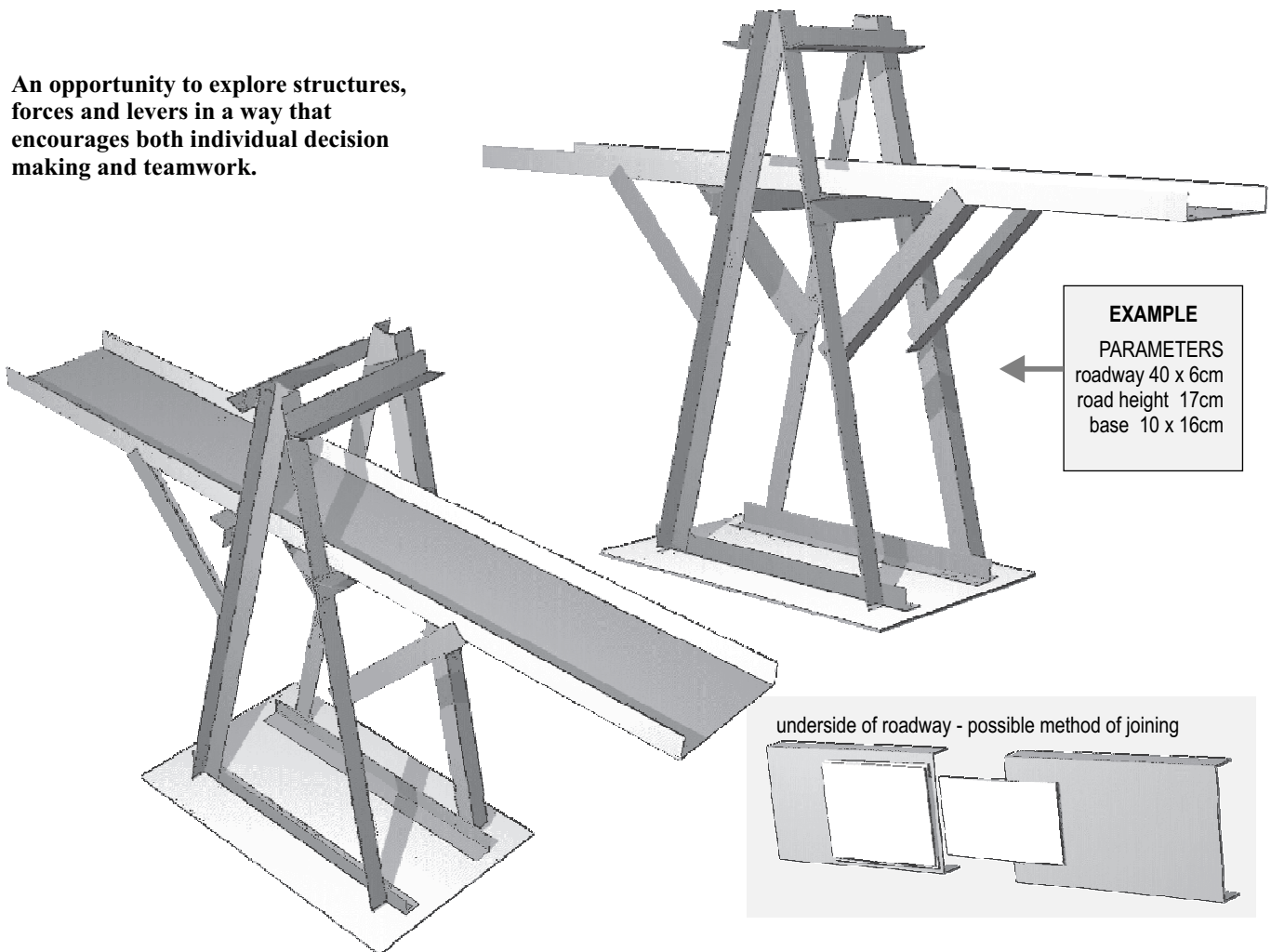


An opportunity to explore structures, forces and levers in a way that encourages both individual decision making and teamwork.



No precise building instructions for this project. Each child, (or possible pair of children), is given the task of designing and building an individual double cantilever bridge unit. Parameters are set, particularly the road dimensions, so that each unit will link up with others to form a long bridge, along which toy cars may be 'driven'. THE UNITS DO NOT HAVE TO BE IDENTICAL.

- The example given is constructed using right-angled section girders. Each girder is a 2cm wide strip of either thick paper or thin card. Copy card is ideal. See the pages on the Tabscorer and girders for help in making up the girders. The project would work just as well at any reasonable size - the main problem is likely to be storage space if you think bigger!
- Using light card can be more difficult as it is more likely to be damaged by clumsy handling. Card so damaged will weaken the structure. The folded girders could be replaced with artstraws if the scoring and folding is thought to be too difficult.
- The roadway will need to be stiffened. In the illustrated example the roadway is a wide strip of card, with each edge folded up at right angles to the road surface. If this is considered beyond the children's capabilities, separate stiffeners could be used under the road. Perhaps long girders or artstraws. Avoid using material that is too strong (eg. wood) or the purpose of the exercise will be obscured.
- However accurately the units are constructed the road ends won't meet up exactly. When the bridge is assembled each unit will need to be fastened (temporarily) to its neighbour. One simple way would be to use paper clips, but perhaps the children could devise a system. Each unit could then have a male and female end to the roadway so that they fit into each other.

