

Lesson 3 (VE 3.2)

EARTHQUAKE ZONE!

Earthquakes occur in areas where the Earth's 'tectonic plates' meet. If buildings are to survive an earthquake and cause as little risk to human life as possible, then they need to be very carefully designed.

The problem:

You need to imagine that you are an architect in an earthquake-prone city. You have, however, been asked to design and build a skyscraper as a new headquarters for a major oil company. You must construct your building so that it is as tall as possible whilst ensuring that it is still able to withstand the challenge of a possible earthquake.

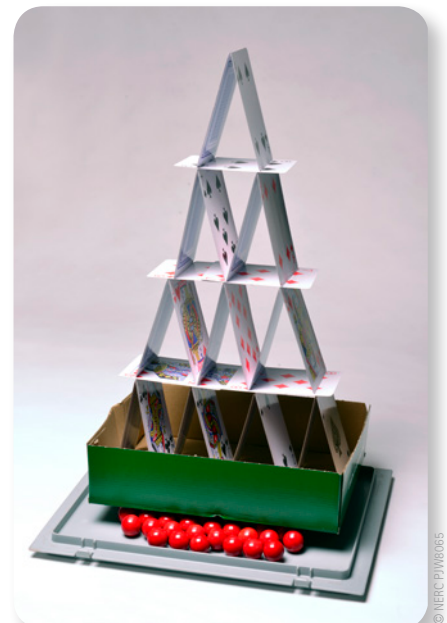
The task rules:

1. Construct a building as tall as you can using only the playing cards provided. You will be awarded more marks the higher the building is.
2. You may use one small piece of masking tape (approximately 4 cm) at each joint of the cards. Over-use of masking tape will cause marks to be deducted from your overall score.
3. At the top of your finished building you need to attach a structure that will hold a raw egg (this represents the people inside the building). The egg must be clearly visible at all times. The more visible the egg, the more marks you will be awarded. Masking tape must not come into contact with the egg as it needs to be easily removed from your construction.
4. You must fit your building on to the board provided. You may attach it with the tape.
5. Finally, your building will be tested in the 'earthquake zone'. If it and/or the egg survives, further marks will be awarded.

Remember, that you need to balance height against stability. Which will you decide is most important for this task?

Teacher note:

The 'Earthquake Zone' is simply a tray (for the house of cards to sit on), placed on top of marbles, all resting on a flat surface with edges. Push the tray around, bumping it into the sides of the flat surface. Award points for how well the building stands up to the 'earthquake'.



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EARTHQUAKE ZONE SCORE CARD

Team.....

Category	Score
Height	cms
Use of tape	/10
Egg visibility	/10
Ease of access to egg	/10
Stability	/10
Appearance	/10

Total score.....