




Grade 7 Science

Unit 4: Structures

Types of Structures

Please place your homework in the class bucket.
Let's review the types of structures:

Type of Structure	Example
Mass	
Frame	
Shell	

*Note: A mass structure can be hollow, as long as it still gets strength from the piling of materials

Design Features

Who designs major structures

What are the educational requirements to become an engineer?

Engineers are required to have a 4 year university degree plus 4 years experience before gaining designation as a “Professional Engineer.”

Why would an engineer need so much education?

This level of education is required to ensure a high level of safety in their designs.

When designing a structure, an engineer must consider four design features:

Function, Shape, Material and Joining Technology.

Within these considerations are thoughts on cost, size, strength and location.



Function

• “Function” describes what a structure is actually supposed to do.

• Example, what does a bridge do?

- Span a gap
- Support cars
- Support itself
- Stand up to wind
- Provide smooth transport
- Etc



• Function needs to consider the location in which the structure will be used.



Function

You will be divided into 5 groups. Each group will be assigned an object. Your task is to list as many functions as you can think of for your given object.

Group 1:



Group 2:



Group 3:



Group 4:



Group 5:

