Form and Function of Structures

**Function** means the purpose or job of the structure. What are some different jobs that structures help us with?

**Common functions of structures:**

1. Support loads Ex.
2. Span a gap Ex.
3. Enclose people, animals and/or objects Ex.

**Form** is another way of describing the characteristics of an object. **Shape, size, and material qualities** would be used to describe the form of a structure.

Brainstorm descriptive words for **SHAPE:**

Brainstorm descriptive words for **SIZE:**

Brainstorm descriptive words for **MATERIAL QUALITIES:**

**Discuss & Reflect:**

1. What are some ways that an object’s function determines its form?
2. How might changing an object’s form affect its function?
3. What could you change about a selected object to improve its function?
4. What are some factors that engineers consider when they decide how to construct an object or structure?

Complete the following chart with a selection of 4 different items from home or school:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Object Name** | **Function** | **Form:** Size | **Form:** Shape | **Form:** Material | **Explain** connection between **form and function** |
| *Coffee cup*  *(Example)* | *To hold and drink coffee* | *Small, about 27 cubic inches, (diameter, height, etc)* | *Cylinder, with curved handle* | *Glass (ceramic)*  *White*  *Glossy /smooth*  *Hard* | *The glass material insulates heat, so your coffee stays warm and hands don’t burn. Handle helps to hold on easily. The smoothness makes it easy to clean, and hardness helps it keep it’s shape. Flat bottom helps it balance and not tip over.* |
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