**Applications of Geometry**

Geometry is the foundation behind the design of many real world things. How geometry is considered in designing something can affect what the object looks like and how it works. Geometry can be seen in a variety of different contexts. We are going to look at some of these

contexts in this activity.

Look at the main object in the two following pictures. Identify as many geometric shapes as you can in these objects. List them below.



Now think of the *advantages* of the geometric shapes that you identified. Identify at least one way that the geometric shape in the object affects how the object looks and how the object works.

|  |  |  |
| --- | --- | --- |
|  | **Geometric shape and how it effects how it looks** | **Geometric shape and how it effects how it works** |
| **Car** |  |  |
| **Farm** |  |  |

A few specific areas in which we see geometry are in architecture, fashion, product design. In all of these categories, geometry can affect both how the object looks and works.

**Geometry in architecture:**

Example: The Eiffel Tower in Paris

-What is the repeated shape?

-How might the use of these repeated shapes affect the structure?

 -How do these shapes affect the appearance?

**Geometry in fashion:**

Example: A baseball cap

 -What is the primary geometric shape?

 -How is this shape useful?

 -How does the shape affect the appearance?

1. Identify two geometric shapes in this object and describe how each of these shapes effect how the object works and/or looks.

2. The two shapes shown are being considered for the packaging of a new cereal. They both have the same volume, meaning they will hold the same amount of cereal. Discuss why one of the two shapes may be a better choice for packaging and why.