

## Lab 02 Prototyping using corrugated cardboard

### Objective:

- To understand what is prototyping
- To understand the reason of using corrugated cardboard
- To learn the various techniques of cardboard attachment
- To design and prototype a hp holder with extra features

### What is prototyping?

A prototype is an early sample of a product that is used to test a new concept or idea. The main reason for prototyping is to validate the idea and this is the step in converting an idea to a real product.

What are the advantages of building a prototype prior to full-scale manufacturing?

### Why use cardboard? (fill in the blanks)

- 
- 
- 
- 

### Cardboard strength and direction of flutes

<https://vimeo.com/414614202/77985be78a>

Corrugated cardboard readily collapses along the corrugations when force is applied in a way where one or both ends of the corrugations are not supported. That means that it bends easily in one direction but is extremely resistant to bending in the other.

### How to make a cardboard prototype?

[https://youtu.be/k\\_9Q-KDSb9o](https://youtu.be/k_9Q-KDSb9o)


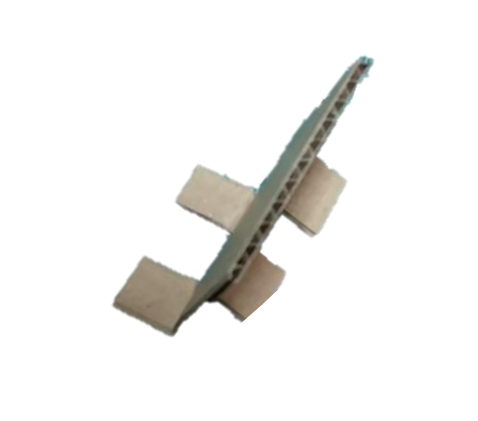

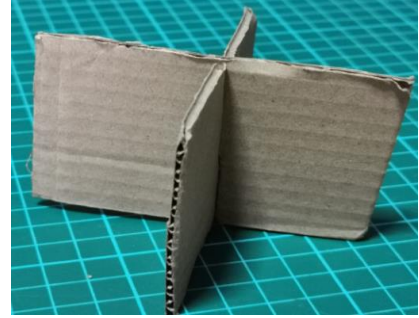
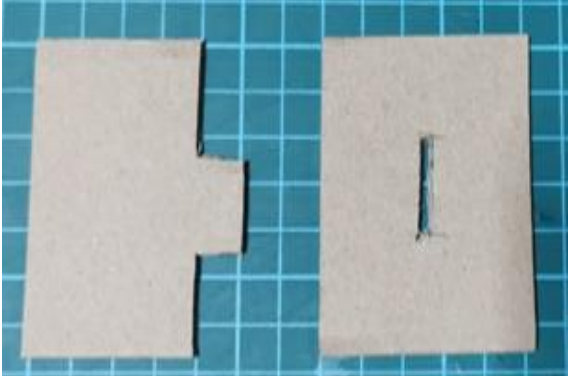
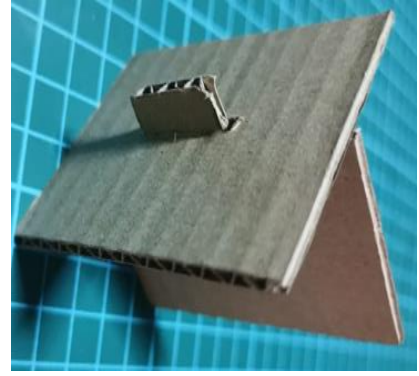

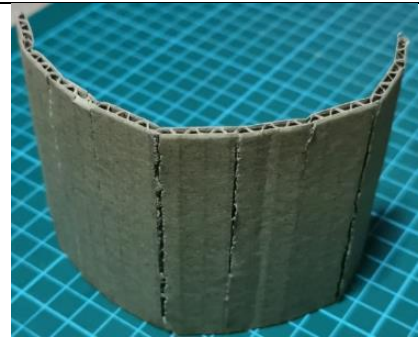
### Cardboard construction

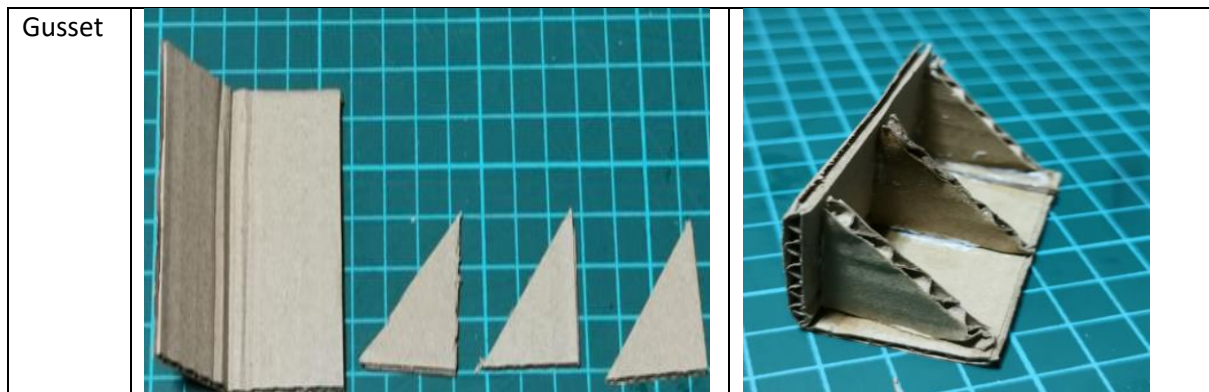
<https://youtu.be/MpjyOjPj98I>

### Ways to cut and connect cardboard

Try it out



Tabs		
Slots		
Tab + slot		
Score + bend		



**Activity**

Create a 3-dimensional hp holder with cardboard. Use different cardboard attachment techniques along with tape, hot glue or glue to create a sturdy structure.



Design a cardboard hp stand with extra features.

Image taken from making tricks <https://www.youtube.com/watch?v=eFnLHOCWO3o>

**Assignment**

Watch the video <https://www.youtube.com/watch?v=daXImz6DO9Q>. This video will explain the mechanics and physics behind the stability of a tensegrity table. This will prepare you for the lab session next week. The exercise next week will contribute 5% to your overall score for your assessment.