**MAKEngineering Kit**

**Instructions:**

**Hinges**

**PURPOSE:**

Use the provided deck of cards, hinges, and wooden dowels to construct at least one of the following:

* Favorite animal
* Well-known building or structure (e.g., Eiffel Tower)
* Cartoon character
* Object at your favorite place
* Object with a wheel (e.g., wheelbarrow)

If you prefer, you can follow instructions at

https://www.instructables.com/id/Hinges-Kit

**Document** and **share** your process and final object by taking **photographs** and/or **videos** with your phone. Be sure not to include any faces. Email or text Indiana University Researchers at makengineeringkits@gmail.com. We may post these on our Facebook page – STEM Education Research Group at IUB (@IUBSTEMeducation).

**STEP ONE:**

Use the Index Card “Sketchbook” and markers to sketch out your idea.

**KIT-CHAT:**

1. Predict the number of cards and hinges you will need. How do you know?
2. Describe what you are going to create.

**STEP TWO:**

Make your Construction!

**KIT-CHAT:**

1. How close were your predictions to what you actually built? Why or why not? What did you not realize before you began to build?
2. How close does your construction look to your sketch?
3. What changes did you make during your construction?
4. What was your strategy? Describe your process.
5. What tips would you give others when making their construction?
6. This is a prototype or a scale model of a larger object. How much smaller do you think your construction than the actual object? Tell me why you think this.

**DID YOU KNOW?**

Architectural engineers use math and science principles to design buildings. They must consider functionality and structural demands. They need to be able to sketch diagrams and blueprints manually and through computer-aided drafting.

Similarly, civil engineers plan and supervise construction of infrastructures such as buildings, bridges, dams, and highways. They too will need a strong background in math and science, as well as computer knowledge, particularly knowledge of drafting software.

**CHECK OUT THESE RELATED VIDEOS!**

* Architecture and Design

https://youtu.be/r5fsLkEB8rY

* Roundabout Construction

https://youtu.be/VtmGGmZqg1A

**DON’T FORGET…**

Email or text us your photographs and/or videos - makengineeringkits@gmail.com.

