

3D from 2D: Net Models and Interlocking Shapes

Shared by: Edgerton Center K-12 Maker Team

Specialized tools and materials used:	Experience level required:
Cardboard or craft paper, graph paper	Beginner
Scissors or craft knife, cutting mat	Beginner/Intermediate
Tape or hot glue	Beginner/Intermediate

Grade Level and Subject (of this example): 3rd - 8th Grades

Topic/Content Standards (for this example): Geometry, architecture, culture



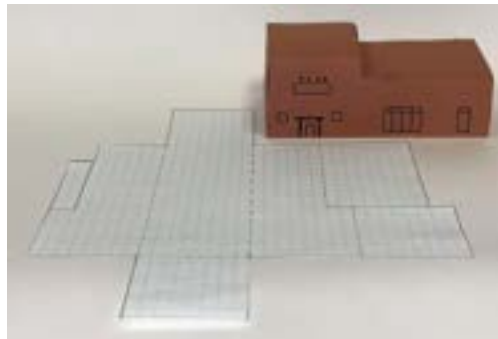
Summary of Project:

The goal of this project is to create 3D models from flat material. A net model is a 3D object created from 2D materials with a series of cuts and folds. In some cases, a single structure may require multiple nets put together to create the final product. This example depicts architecture and plant life native to the Southwestern US.

To craft their own net models, students should create a template of the unfolded model on graph paper, or using a ruler. They can then transfer the design to craft paper or cardboard by tracing, or marking edges and corners with pushpins. Students will then cut out their design and fold and assemble as necessary, using tape or hot glue to secure the pieces. Students can present designs, create dioramas as a group, or display final products with a



caption. This project can be completed individually or as a group, and no prior experience is necessary.



Suggested resources

- Edgerton Center [Tutorial](#): Creating 3D Models in Cardboard

Possible Content explorations

- **ELA:** Create net models of significant scenes, settings, or characters studied in class. How does the physical space inhabited by the characters impact the story?
- **History & Social Studies:** Create and present examples of architectural styles from varied time periods, including pre-colonial America. How and why have styles evolved over time?
- **Math:** Geometry, building polyhedrons, building dice to explore probability