

## Papel Picado

| Tools, materials, technologies used:                                        | Experience level required: |
|-----------------------------------------------------------------------------|----------------------------|
| Vinyl/Craft cutter or Laser cutter                                          | Beginner                   |
| 2D modeling tool: <a href="#">Gravit</a> , <a href="#">Vectr</a> or similar | Intermediate               |
| Colored paper or cardstock                                                  |                            |

**Grade/ Level** (of this example): gr 7-10

**Content standards:** Math - geometry, symmetry, other **Possible Content Explorations**



### Summary of Project:

Students in math class are learning abstract geometry concepts and looking for physical examples in nature. After choosing concepts, like the Golden Mean and Fractals, and researching their significance and application, they create Papel Picado representations that can be posted in the classroom.

Papel Picado (“cut paper”) is a form of Mexican folk art in which an elaborate design is cut out of colored paper. Multiple designs are cut out of different colored paper, strung together, and hung on walls or overhead. Papel Picado are traditional decorative banners hung for the Mexican Day of the Dead celebration. The format is recognizable and now has been adopted for other celebrations and to showcase other objects and ideas.

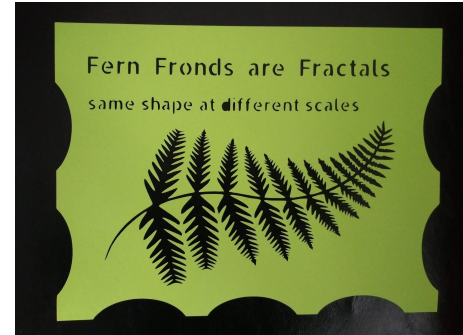
Students design the layouts by hand first, and take care that all of the shapes hold together in one piece (one way is to draw thick lines between the shapes to hold them together). These examples were designed in Gravit Designer 2D modeling software, the free version that is browser based. Some vinyl cutters, such as the Cricut, have design software in their interface that could be used for layout as well.

To get the solid shapes, students can model them, download silhouette images from the web, or draw them by hand, take a picture, and convert them to .SVG files using the online convert [www.picsvg.com](http://www.picsvg.com). Starter layouts can be provided by the teacher.

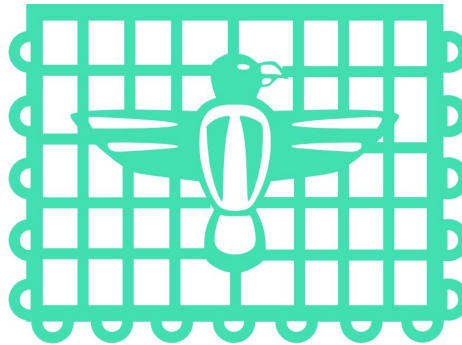
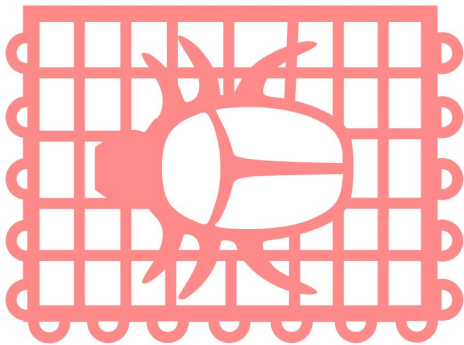
They then use the vinyl/craft cutter or the laser cutter to cut out their designs on paper of various colors. Multiple copies can add to a festive effect.

Work can be individual or group and can be shared with others through a presentation of each individual's design. Time to completion varies depending on complexity of content to explore, complexity of design, and the starter materials provided.

**Math examples: Fractals, Symmetry, Golden Mean**



**Samples using a grid background - Native American Symbols:**



### Possible Content Explorations

The designs printed or cut into the Papel Picado can illustrate any subject matter and create a celebratory feel.

#### **Social Studies**

- Replicas of art motifs particular to different cultures and time periods
- Design propaganda
- Significant historical and current events

#### **ELA**

- Character studies
- Period studies as they relate to a literary work