FLATTEN YOUR

# Clementine

Leader Guide

Style Engineers

Fashion through science

WITH THIS ACTIVITY

- Handout

MODULE

We are Engineers! | Movement Improvement | Marvelous Materials | Smart Clothing | Patternmaking Tools n' Tech

## Big Picture

This activity introduces spatial awareness and the relationships between 3D shapes that are important to the patterning process in fashion design.

## What's the goal?

Visualize what a 3D shape looks like as a flattened 2D shape.

## Grouping

Each designer will complete this activity individually

## Preparation

Draw one or more of the suggested patterns onto the clementines (pictures at right).

## Materials

**What they need: (Per Person)**

- Clementine
- Small scissors
- Paper towels
- Wipes for clean-up

**Prep Time: 15 Minutes**
**Activity Time: 30 Minutes**
**Difficulty: Level 2**


Top View

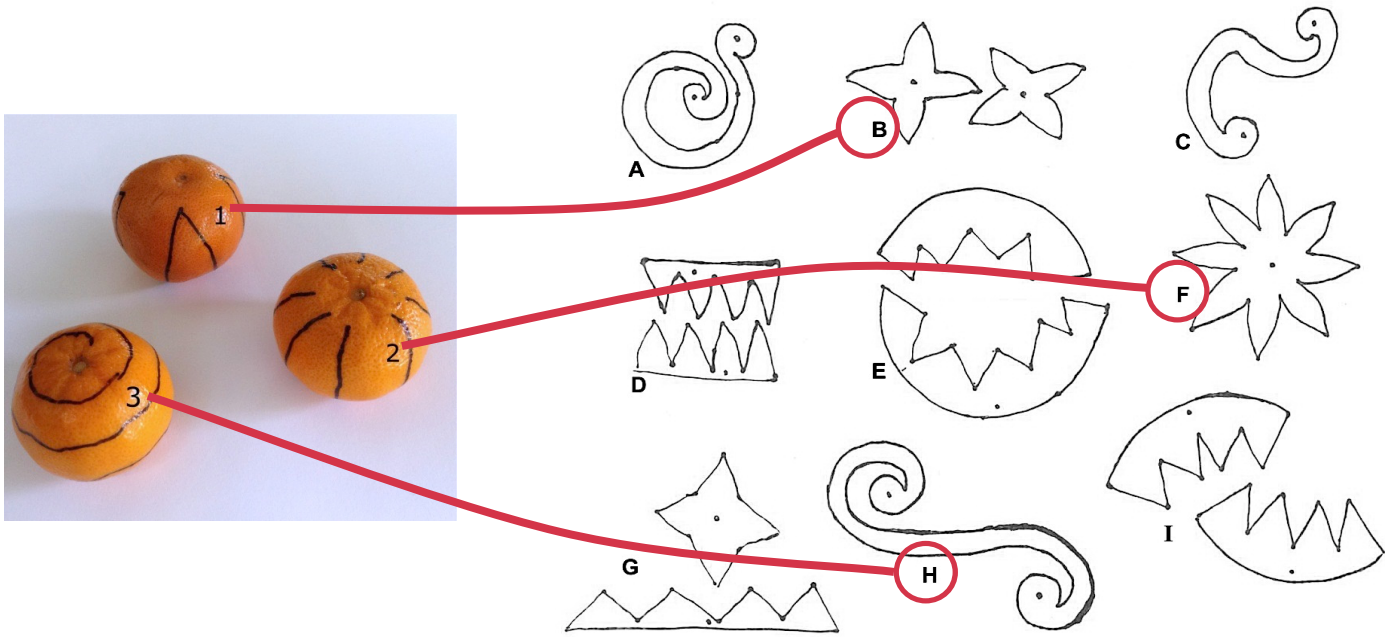

Bottom View

**TIP: Make sure that you extend the lines far enough into the top and bottom of the clementine**

# Let's get started!

1. Introduce the activity and pass out the materials.
2. If there are clementines with different patterns, have designers write down which number pattern they have.
3. Have them visualize what their clementine peel would look like if it was cut along the line and flattened. Have them draw this image on page one of the handout.
4. Then give them page two of the handout with the image of the different flattened peel shapes, and ask which shape they think their clementine peel will look like when it is cut apart and flattened. (Correct answers are **B** for number 1, **F** for number 2, and **H** for number 3, but don't reveal this yet!)
5. Have them cut their clementine along the line, gently remove the peel, and then flatten and trace the shapes onto the back of the handout.

# Answer Key



# Wrap it Up

1. Have Designers compare this shape to their first drawing, and to the choice they made from the different shapes. What shape did they actually find? Was it the same as they expected?
2. Talk about how this activity relates to fashion design and specifically patterning.
    a. Sewing patterns are 2-D shapes. Garments are 3-D. Clothing designers must be able to visualize how each form will translate to the other. Some designers start with 3-D shapes draped onto dress forms and translate them to flat patterns; others work with flat patterns to create desired shapes, and then test them by constructing 3-D garments.

# Take it One Step Further

If there is time, have the students create their own patterns on unmarked clementines, and experiment with which solutions will flatten and which will not!

- TIP: If the lines are not extended far enough around the clementine, it will not flatten without further tears or cuts.