

Story-Cube Challenge

Introduction

Cubes are amazing things. Did you know that all [cubes](#) have 6 sides and each side is a perfect square? Every angle on a cube is a [right angle](#) meaning that it is 90 degrees. There are also 12 edges and 8 [vertices](#)! “Vertices” is the plural of vertex which is a point at which edges meet. Also there 11 different ways to flatten a hollow cube by cutting seven of it’s edges. Can you think of all 11?

Also did you know that the [Rubik’s cube](#) was invented in 1974 by Erno Rubik, who was trying to solve the structural problem of building parts that can move parts independently without the entire mechanism falling apart. Of course, 6-sided dice are also cubes, as are salt crystals!

With all these different aspects about cubes, there is one thing that has been missing... until now- telling stories with cubes!

Challenge Briefing

Introduce the Challenge

Each student will create a six-sided cube that tells a story.

Rules

Each student will start by choosing 3 things to write a story about then create 6 pictures that tell the story. The student will draw the pictures onto a template which they will then cut out and fold into a cube.

Building Materials

- drawing utensils (colored pencils, markers, crayons)
- (1) sheet of paper
- transparent tape
- ruler
- safety scissors

Additional Constraints

- Choose not to provide the students the included template. Students then must figure out on their own how to create a template that folds into a cube.

Inventing, Making, Storytelling

Inventing Stage

The student must start by choosing 3 things to write a story about. Here are some suggestions:

- a favorite pet (student’s pet or the pet of a friend or family member)
- a favorite fictional character (from a book, TV show, movie, video games, or comic book)
- a favorite object (a favorite toy, award, or gift)

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Making Stage

Student will need to make his or her cube. They can either print the template included with this document or the teacher may require that they create a template that once cut out and folded will create a 2 in. x 2 in. cube. (Teachers may choose what is best for their students skill level and current work load.)

The student will then draw and color pictures in to the squares on the template. Once the images are drawn, the template will need to be cut out, folded, and assembled to make their story cube.

Storytelling Stage

Have each student write the story represented by their cube.

Lesson Learned

Design

This challenge is an exercise in packaging. Think about many of the packages you see on store shelves. What are they? Many are boxes with pictures on every side that tell you the story of that product. In the case of products, the story is often what problem you are having and how the product solves it, but it's a story none-the-less.

Engineering

If teachers are requiring the student to create their own template, figure out the geometry, measure and draw all the sides and tabs, this is an excellent and fun engineering exercise that has real world applications.

Creative Writing

Through this challenge, students are writing their own story about things that interest them. It's an exercise in organizing thoughts and communicating through the written word.

Visual Communication

The process of creating illustrations with the purposes of communicating an idea is the most fundamental skill of the graphic designer.

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Implementation

Share this challenge guide with students via email or messaging program. The guide and template can be printed for students that do not have internet access.

Students are encouraged to use whatever 3 things that interest them to write their stories. The actual items chosen don't really matter so long as it's nothing offensive or controversial.

To simplify the challenge, include the template provided in this document for students to use. To increase the challenge, teachers may choose to show the document as a reference but require students to draw their own template to work from.

How students can submit their work

Option A:

Students will need to take photos of each side of their cubes and save the images as jpeg files. They will then send their images to a cloud based drive with their name, a class identifier, the words "story cube" and the side number of their cube in the name. Example "john smith first period story cube 1.jpg". The students can then write their story in an email to the teacher or as text or word document to be upload to the cloud drive. They could also use google docs and provide a link to the document.

Option B:

If students have access to a smart phone, digital video camera or a webcam, they can take a short video of themselves telling their story and showing each side of the cube as reference as they tell the story. The video can be saved using the same naming method as described in option A, and uploaded to a cloud drive. The student would then send a link to the file to the teacher.

Cube assembly instructions:

- Cut the solid lines.
- Fold the dashed lines in order to make a cube.
- Tape the flaps in place.

***Note:** Size is only accurate if document is printed 100% full size.

(When printing, do not scale document to fit page.)

