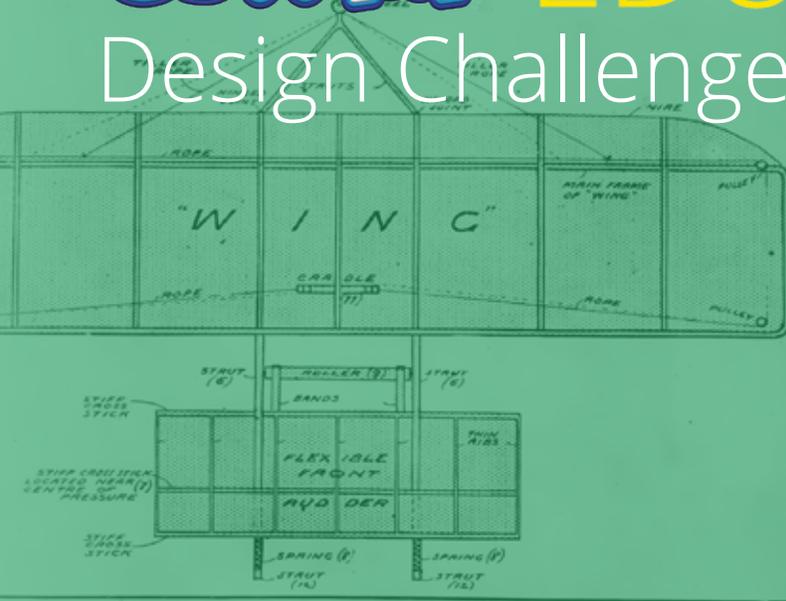


Wright brothers aeroplane - patented plans, 1908. Bain collection.

# 3Doodler<sup>®</sup> EDU

## Design Challenge



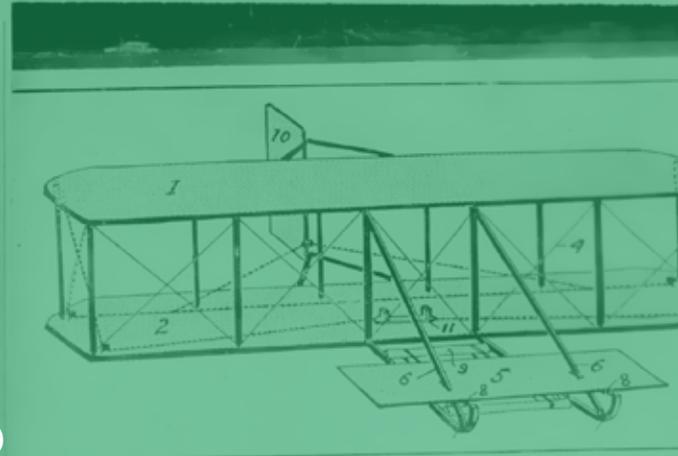
THE TOP PLAN OF THE WRIGHT AEROPLANE.

Drawings by W. B. Robinson from Wright Brothers' specifications in the Patent Office.

CROSS-SECTION OF WRIGHT FLYING MACHINE



## How Well Do You Follow Directions? Participant's Guide



A PERSPECTIVE VIEW OF THE WRIGHT AEROPLANE.

s descriptives du brevet français Wright et Wright  
284 124 demandé le 19 novembre 1907

### 🚩 The Challenge

Using the 3Doodler and the materials provided, construct a sculpture and write out step-by-step instructions with no images to give to another group to follow. Compare and contrast the original result with the reproduction.





## 🖥️ Class 2: Build, Present & Evaluate

🕒 Total Time: 50 min.

📝 Notes

### 🔧 Build (🕒 30 min.)

#### 🔑 Remember to Snip Those Ends

We recommend pliers or scissors for snipping plastic ends. Make sure to keep your plastic ends clean to prevent clogs and jams. Snip plastic after removing it from the 3Doodler pen to make sure it's clean for the next time.

Step 1: Select another group's set of instructions for making a sculpture.

Step 2: Read and review the instructions carefully.

Step 3: Gather the 3Doodler pen, plastic and nozzles needed before you begin.

Step 4: Ready. Set. Doodle!

### 🗨️ Present & Reflect (🕒 10 min.)

Step 1: Place the original sculpture and the replicated sculpture side by side, along with a copy of the directions.

Step 2: Evaluate how close the replicated sculpture looks to the original. Evaluate the directions and sculptures using the criteria below:

#### • Similarity of the replicated sculpture to the original:

- How many of the components are the same size? \_\_\_\_\_
- How many of the components are the same shape? \_\_\_\_\_
- How many of the components are the same color? \_\_\_\_\_
- How many of the components are in the correct location? \_\_\_\_\_
- How many total variations are there between the original and replication? \_\_\_\_\_

#### • Quality of directions:

- Were the instructions broken down into steps? \_\_\_\_\_
- Did the instruction include correct use of grammar and spelling? \_\_\_\_\_
- If not, how many grammatical and spelling mistakes were there? \_\_\_\_\_
- Did the instructions provide measurements for each component? \_\_\_\_\_
- Did the instruction provide locations of each component? \_\_\_\_\_
- Did the instructions provide color and type of plastic used (ABS or PLA)? \_\_\_\_\_

Step 3: Wrap-up by having all of the participants discuss the process, how they would improve their directions and how they would approach the challenge differently the next time.

Notes section with horizontal dashed lines for writing.

## 🔗 More Information:

For more information on technical writing instructions, please visit:

- <http://techwhirl.com/what-is-technical-writing/>
- <http://eduscapes.com/tap/topic50.html>

## 🖼️ Images:

Cover Page: <https://goo.gl/aOkNYX>

Fig. 1: [https://upload.wikimedia.org/wikipedia/commons/a/ab/Patent\\_Electric\\_Bicycle.png](https://upload.wikimedia.org/wikipedia/commons/a/ab/Patent_Electric_Bicycle.png)

Fig. 2: [https://pixabay.com/static/uploads/photo/2012/04/15/18/16/car-34762\\_960\\_720.png](https://pixabay.com/static/uploads/photo/2012/04/15/18/16/car-34762_960_720.png)