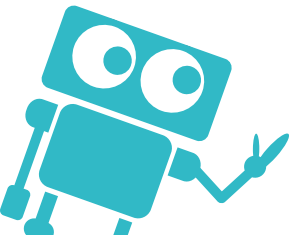


T

Tinker

2

Points



## 3Doodler

### Molding Minds

Find a common object, cover it with masking tape, and mold something of your choice using the 3Doodler Pen.

MackinMaker

# T

Tinker

# 2

Points

## Materials:

- 3Doodler pen
  - Plastic
  - Paper and writing utensil (optional)
  - Masking tape
  - Common object of student's choice
  - Tinfoil (optional)
- 

## Quick Start:

1. Gather materials and brainstorm ideas for your mold. Will it be an animal? A container of some kind? Something from nature?
  2. Find the object you will use for your mold and cover it with masking tape if needed. This will make the printed plastic easier to peel off.
  3. Build your design.
- 

## Hints and Tips:

- What type of plastic are you using? Make sure you have your 3Doodler Pen set to the right temperature.
- Do you want to switch colors you are using? Double tap the start button to eject the plastic in the pen. Make sure to cut off the

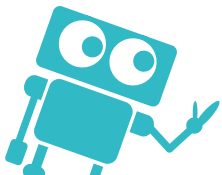
stringy part so it doesn't get stuck the next time you try to use it.

- It can help to sketch out a plan or template before trying to create it.
  - Building the object in multiple pieces can be helpful. Mold them together later with more 3D-printed plastic.
  - Having trouble finding the right common object to make your mold out of? Can you build a mold with tinfoil instead? Experiment to find the right method for creating your mold.
- 

## Extended Challenges

**Math:** Use a mold (or another method) to create a pyramid, cone, and/or a sphere. Then, calculate the surface area and volume of the shapes you created.

**Social Studies:** Use a mold to inspire you to make an important object from history. Will you make the Liberty Bell? A pyramid from Egypt? A crown from Yoruba? Do some research to come up with something you didn't know about before.

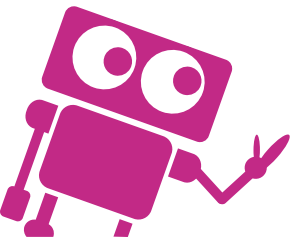


# S

Skill-Up

# 9

Points



## 3Doodler

### Printing a Postcard

Use the 3Doodler Pen to create a postcard message to a person of your choice. Who will you give your postcard to and what will it say?

Mackin**Maker**

**S**

Skill-Up

**9**

Points

## Materials:

- 3Doodler Pen
- Plastic
- Paper (optional)
- Masking tape
- Templates (optional)
- Tinfoil or other objects to use as a mold (optional)

## Quick Start:

1. Brainstorm ideas and gather materials for your postcard creation. Who will you send it to? What will it say? Keep your message simple and use the design of your postcard to help convey the message.
2. Sketch out your ideas to help make your postcard a reality. Build different components separately and mold them together later.
3. Build your design.
4. Give it to the person you made it for!

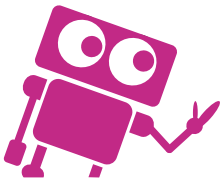
## Hints and Tips:

- What type of plastic are you using? Make sure you have your 3Doodler Pen set to the right temperature.
- Do you want to switch colors you are using? Double tap the start button to eject the plastic in the pen. Make sure to cut off the stringy part so it doesn't get stuck the next time you try to use it.
- It can help to sketch out a plan or template before trying to create it.

## Extended Challenges

**Art:** Do some research on an artist and create a postcard design that is influenced by their style. Could you make a Keith Haring-inspired postcard? A postcard influenced by the brightly colored textiles that Yinka Shonibare uses? A floral design influenced by Georgia O'Keeffe's works?

**Social Studies:** Research a holiday you don't typically celebrate. Make a postcard that you might give to someone who celebrates it that includes important elements of that specific holiday.

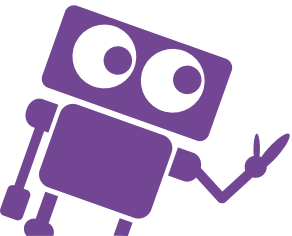


D

Design

12

Points



## 3Doodler Sculpting a Song

Create a sculpture using the 3Doodler Pen that was in some way inspired by a song.

MackinMaker

**D**  
Skill-Up

**12**  
Points

## Materials:

- 3Doodler Pen
- Plastic
- Paper and writing utensil (optional)

## Quick Start:

1. Brainstorm some of your favorite songs. What sculpture might it inspire? Think about the lyrics and/or how the song makes you feel when brainstorming.
2. Sketch out your plan on paper. Create templates or find a mold to help you create your sculpture.
3. Build your design.
4. Make sure the sculpture stands on its own. Share the meaning with someone.

## Hints and Tips:

- What type of plastic are you using? Make sure you have your 3Doodler Pen

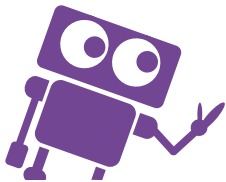
set to the right temperature.

- Do you want to switch colors you are using? Double tap the start button to eject the plastic in the pen. Make sure to cut off the stringy part so it doesn't get stuck the next time you try to use it.
- It can help to sketch out a plan or template before trying to create it.

## Extended Challenges

**English/Language Arts:** Instead of a song, create a sculpture that represents a poem, a book, or another piece of writing that you like.

**Geography:** Create a sculpture that represents a country or other place that is meaningful to you. It could be your hometown, or it might be somewhere you have been that you have enjoyed.





G

Global



16

Points

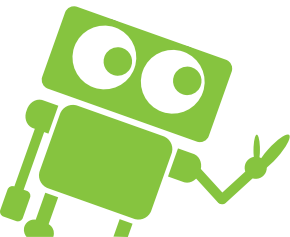
## **3Doodler**

### Fashioning Fashion

Make something that you  
or someone you know  
would wear.



MackinMaker



## Materials:

- 3Doodler Pen
  - Plastic
  - Paper (optional)
  - Masking tape
  - Templates (optional)
  - Tinfoil or other objects to use as a mold (optional)
- 

## Quick Start:

1. Brainstorm ideas and gather materials for your fashion creation. What will you make that you or someone you know might actually wear? Think about different accessories that you don't like to leave the house without.
2. Sketch out your ideas to help think through creating your piece. Make different components separately and mold them together later. Can you use templates that have already been created or molds that you can think of?
3. Build your design.
4. Test it out! Does it work?

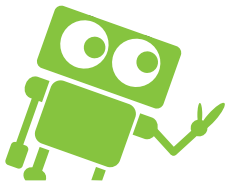
## Hints and Tips:

- What type of plastic are you using? Make sure you have your 3Doodler Pen set to the right temperature.
  - Do you want to switch colors you are using? Double tap the start button to eject the plastic in the pen. Make sure to cut off the stringy part so it doesn't get stuck the next time you try to use it.
  - It can help to sketch out a plan or template before trying to create it.
- 

## Extended Challenges

**Social Studies:** Research a culture from history. Can you create something that they might wear or use in some capacity?

**Physical Education:** Make something that you could wear or use while exercising and/or playing a sport. Will you make something that helps keep your phone safe? An object that holds something that might otherwise fall off? An accessory that helps keep you safe somehow?



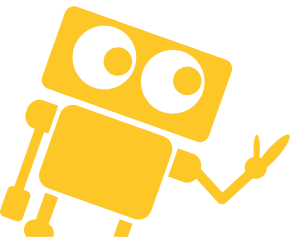


I

Innovator

24

Points



## 3Doodler

### Distancing Device

Identify a problem in your everyday life (ex: tangled cords, wobbly pencil holder, misplaced keys) and design a 3Doodler solution to fix or improve it.

MackinMaker

## Materials:

- 3Doodler Pen
- Plastic
- Paper and Templates(optional)
- Masking tape
- Tinfoil or other objects to use as a mold (optional)

## Quick Start:

1. Think about common issues you or someone you know often encounters and talks about.
2. Gather the necessary materials.
3. Sketch out your ideas to help think through creating your device. Make different components separately and mold them together later. Can you use templates that have already been created or molds that you can think of?
4. Build your design.
5. Test it out! Does it work? Can you improve it at all?

## Hints and Tips:

- What type of plastic are you using? Make sure you have your 3Doodler Pen set to the

right temperature.

- Do you want to switch colors you are using? Double tap the start button to eject the plastic in the pen. Make sure to cut off the stringy part so it doesn't get stuck the next time you try to use it.
- It can help to sketch out a plan or template before trying to create it.
- Building the object in multiple pieces can be helpful. Mold them together later with more 3D-printed plastic.

## Extended Challenges

**Social Studies:** Can you make a device to help solve a problem related to another world issue like climate change, lack of access to clean water, or something else?

**Art:** Make a device that you can use to paint or create art in some way. Will you make a new type of paint brush? Something that makes interesting patterns or textures? Experiment with different materials.

