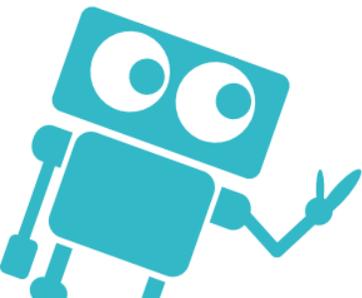# 3Doodler
Molding Minds

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

MackinMaker

T
Tinker

2
Points

Materials:
- 3Doodler Create+ 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:
- Scan the QR code to watch a 3Doodler Create+ Getting Started video.
- What type of plastic are you using? Make sure you have your 3Doodler Create+ pen set to the right temperature.
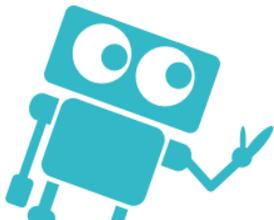- Do you want to switch colors you are using?

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.
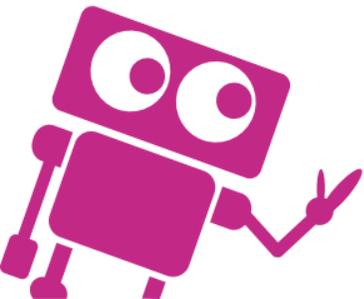
3Doodler
Printing a Postcard

Use the 3Doodler Create+ 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

Materials:
- 3Doodler Create+ 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.
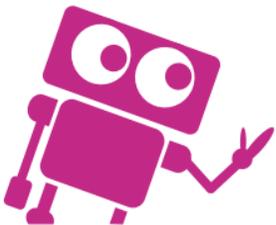4. Give it to the person you made it for!

Hints and Tips:
- Scan the QR code to watch a 3Doodler Create+ Getting Started video.
- What type of plastic are you using? Make sure you have your 3Doodler Create+ 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.
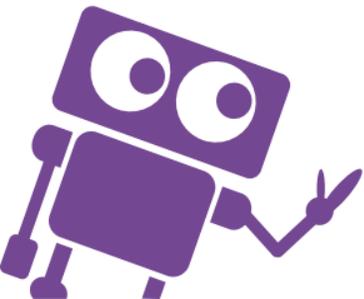
D
Design

12
Points

3Doodler
Sculpting a Song

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

MackinMaker

Materials:
- 3Doodler Create+ 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.
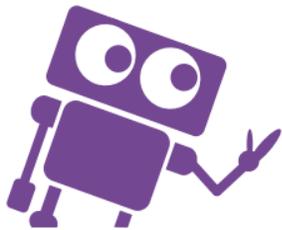
Hints and Tips:
- Scan the QR code to watch a 3Doodler Create+ Getting Started video.
- What type of plastic are you using? Make sure you have your 3Doodler Create+ Pen set to the right temperature.
- Do you want to switch colors you are using? Double tap the start button to eject the plastic in the 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.
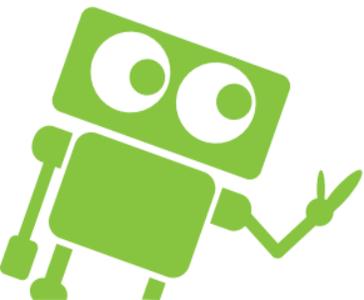
3Doodler
Fashioning Fashion

Make something that you or someone you know would wear.

MackinMaker

Materials:
- 3Doodler Create+ 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?
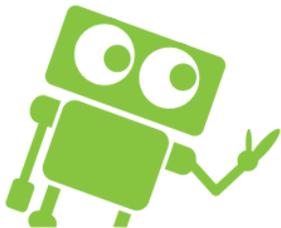3. Build your design.
4. Test it out! Does it work?

Hints and Tips:
- Scan the QR code to watch a 3Doodler Create+ Getting Started video.
- What type of plastic are you using? Make sure you have your 3Doodler Create+ 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?
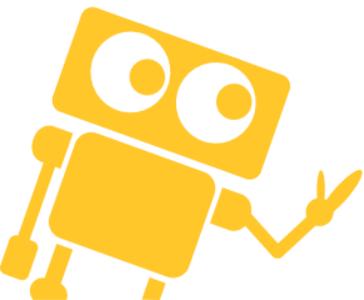
3Doodler
Distancing Device

Make a device that helps to keep people from getting too close to each other or something that helps decrease germ spread.

MackinMaker

I
Innovator

24
Points

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

Quick Start:
1. Brainstorm ideas about how to keep people apart and/or decrease germs. How can you deliver or share something with someone without getting near them? What would be a helpful reminder message you could engineer for people? What kind of shields and other protective equipment might you be able to create?
2. Gather materials for your distancing device.
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:
- Scan the QR code to watch a 3Doodler Create+ Getting Started video.
- What type of plastic are you using? Make sure you have your 3Doodler Create+ 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.