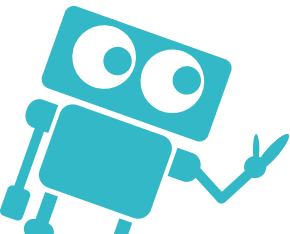# Cubelets
Rotating Robot

Can you make a robot that rotates?

MackinMaker

Materials:
- Cubelets Curiosity Kit
- iOS, iOS Fire, or Android device
- LEGO®s (optional)

Quick Start:
1. Find the Rotate Cubelet, the Battery Cubelet, and a thinking Cubelet of your choice.
2. Use the brick adapter pieces to build a moving contraption out of LEGO®s or other materials that you have available.
3. Turn on your robot. Does it work?
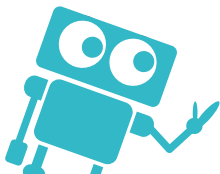4. Can you make it rotate in different ways?

Hints and Tips:
- Make sure you have a sensing Cubelet (black), a thinking Cubelet (multi-colored), and an acting Cubelet (clear). The blue/gray thinking Cubelet is the battery and every robot needs that piece.
- Never worked with Cubelets before? Work your way through the Curiosity Guide to explore!

Extended Challenges
English/Language Arts: Chose a story that you love or have recently read. Build a structure that relates to the story somehow. Be prepared to share this with others.
Social Studies: Build a monument to someone or an event from history that turns in a circle.
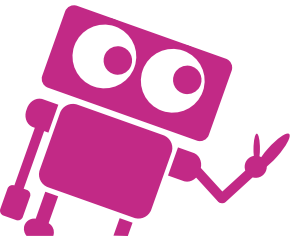
Cubelets
Driving Dragon

Make a dragon that drives.

MackinMaker

Materials:
- Cubelets Curiosity Kit
- iOS, iOS Fire, or Android device
- LEGO®s (optional)

Quick Start:
1. Find the Drive Cubelet, the Battery Cubelet, and a thinking Cubelet of your choice.
2. Use the brick adapter pieces to build a dragon using LEGO®s or any other materials you have available. Will your dragon have a purple tail? What color eyes will your dragon have?
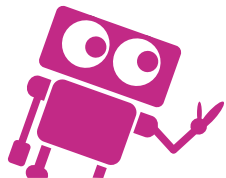3. Turn on your robot. Does it work?

Hints and Tips:
- Make sure you have a sensing Cubelet (black), a thinking Cubelet (multi-colored), and an acting Cubelet (clear). The blue/gray thinking Cubelet is the battery and every robot needs that piece.
- When you are working with your Cubelet, make sure you set it on its side until you are ready for it to start rolling.
- Never worked with Cubelets before? Work your way through the Curiosity Guide to explore!

Extended Challenges
Computer Science: Use the app to explore the personality swap control for the drive cube. How do the different controls change how the Cubelets dragon drives?

Computer Science: Can you control your Cubelets dragon to drive to a specific place? Set up targets around the room to experiment!
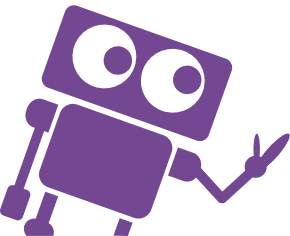
Cubelets
Tag! You're Cubelet!

Design something that chases an object.

Materials:
- Cubelets Curiosity Kit
- iOS, iOS Fire, or Android device
- LEGO®s (optional)

Quick Start:
1. Find the Drive Cubelets, the Battery Cubelet, and the Distance Cubelet.
2. Use the brick adapter pieces to build a chasing machine out of LEGO®s.
3. Turn on your robot. Does it work? Use the Cubelets App to change how the drive Cubelet works.
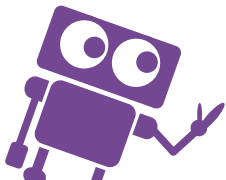
Hints and Tips:
- Make sure you have a sensing Cubelet (black), a thinking Cubelet (multi-colored), and an acting Cubelet (clear). The blue/gray thinking Cubelet is the battery and every robot needs that piece.

- Never worked with Cubelets before? Work your way through the Curiosity Guide to explore!
- Are your cubes facing in the right direction? Is there a way to move them so they all move differently?

Extended Challenges
Computer Science: Make a robot that moves away from you instead of following you!
Computer Science: Can you make your robot move in multiple directions? Turn in a circle?
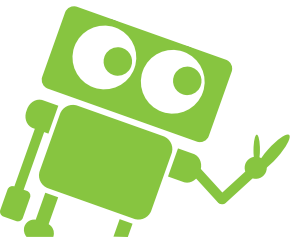
Cubelets

Animalets

Can you make a robot that acts like an animal?

MackinMaker

Materials:
- Cubelets Curiosity Kit
- iOS, iOS Fire, or Android device
- LEGO®s (optional)

Quick Start:
1. Brainstorm animals from nature that you can build as a robot. Will your robot imitate an animal that only moves during the night? Will your robot imitate an animal that likes to stay away from other animals/people? Be creative!
2. Once you have chosen something to imitate, find at least one sensing Cubelet, the Battery Cubelet, and at least one thinking Cubelet of your choice.
3. Use the brick adapter pieces to make your robot look more like the animal you are imitating out of LEGOs (if you choose to work with them).
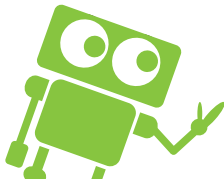4. Turn on your robot. Does it work?

Hints and Tips:
- Make sure you have a sensing Cubelet (black), a thinking Cubelet (multi-colored), and an acting Cubelet (clear). The blue/gray thinking Cubelet is the battery and every robot needs that piece.
- Never worked with Cubelets before? Work your way through the Curiosity Guide to explore!

Extended Challenges
Science: Can you build a robot that acts like an object in your house?
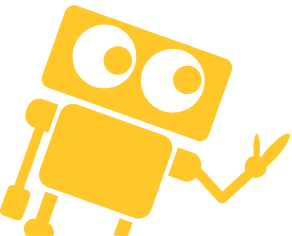**Computer Science:** Can you add more Cubelets to your design to improve it? How many can you add?

Cubelets
Flashy Flashlight

Make a flashlight with your Cubelets.

MackinMaker

22
Points

Materials:
- Cubelets Curiosity Kit
- iOS, iOS Fire, or Android device
- LEGO®s (optional)

Quick Start:
1. Find the Flashlight Cubelet, the Battery Cubelet, and a thinking Cubelet of your choice.
2. Use the brick adapter pieces to build a flashlight out of LEGO®s or other materials you have available.
3. Turn on your robot. Does it work?

Hints and Tips:
- Make sure you have a sensing Cubelet (black), a thinking Cubelet (multi-colored), and an acting Cubelet (clear). The blue/gray thinking Cubelet is the battery and every robot needs that piece.
- Never worked with Cubelets before? Work your way through the Curiosity Guide to explore!

Extended Challenges
Computer Science: Use the personality swap control to change how your flashlight behaves. Can you use the flashlight to communicate a message?
Science: What else uses a light to communicate or help? Build something new by adding the rotation cube.