TeacherGeek

This is a real engineering project (not a toy). What does that mean? You get to design and build your own unique Super Wiggle-Bot, rather than just following directions.

STEM TRUE STEAM

VERSION:

☑ **OUT OF THE CLASSROOM**
(SIMPLY DESIGN AND BUILD)

☐ **IN THE CLASSROOM**
(LEARN WITH LABS, AS YOU BUILD)

Download classroom documents at **teachergeek.com/learn**

For use with TeacherGeek Super Wiggle-Bot Activity Pack, or Maker Cart available at **teachergeek.com**
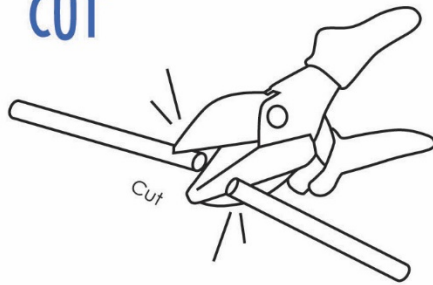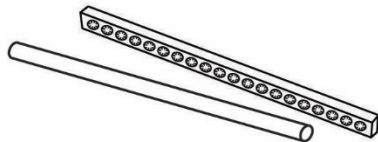
Designing and building your own unique Wiggle-Bot will take some out of the box thinking.
Use the TeacherGeek Quick Start guide below to help you make the most out of your components.

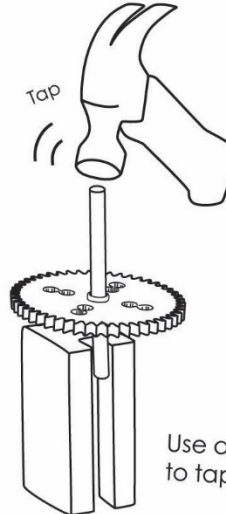Don't worry, we will help you start your Wiggle-Bot on the next pages.

CUT

Multi-Cutters cut wood & plastic (like **dowels** and **connector strips**). They do not cut metal.

PUSH, WIGGLE, TAP

Push, wiggle or tap **dowels** into holes.

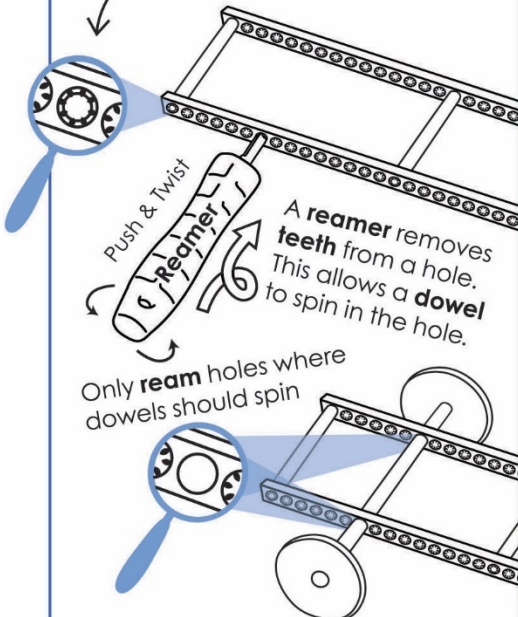Use a **hammer** and **slider block** to tap **dowels** farther through holes.

QUICK TIP!

CRAYON
SOAP

Use a crayon or soap on the end of a Dowel to make building easier.

REAM

Most parts have holes with **teeth**. The **teeth** hold **dowels** (keep dowels from falling out).

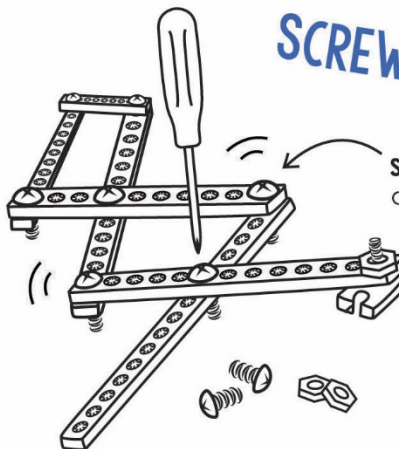A **reamer** removes **teeth** from a hole. This allows a **dowel** to spin in the hole.

Only **ream** holes where dowels should spin

Never **ream** pulleys, gears, wheels, or any hole a **dowel** stays stuck into.
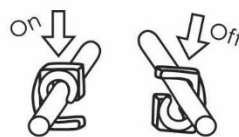
SCREWS & NUTS

Do not **ream** holes you will put **screws** into.

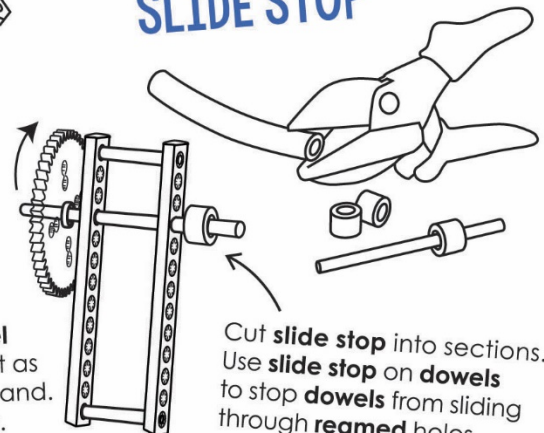**Screws (without nuts)** can connect parts, and allow them to rotate.

Screws (with a nut) can connect parts, and keep them from rotating.

STOP CLIP

On / Off

Press a **stop clip** onto a **dowel** to keep it from sliding or use it as a hook for a string / rubber band. It takes little force to get it on.

SLIDE STOP

Cut **slide stop** into sections. Use **slide stop** on **dowels** to stop **dowels** from sliding through **reamed** holes.

TEACHERGEEK COMPONENTS

Below is the list of "ingredients" you'll need to build a Super Wiggle-Bot. It includes some extra components to allow you to make it into your own unique design.
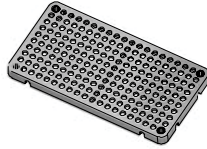
2 - Connector Strips

8 - Dowels
4 - 30cm (12"), 2 - 15cm (6")
1 - 7.5cm (3"),1 - 5cm (2")

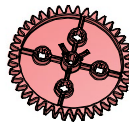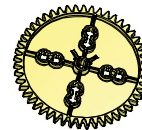**1 - Hole Plate**

2 - 25mm Screws
#10 25mm (1")

2 - Nuts
#10

1 - 10 Tooth Gear

1 - 20 Tooth Gear

1 - 40 Tooth Gear

1 - 50 Tooth Gear

Please Note:
Colors of components will vary

3 - Blocks

4 - Steel Wire
30cm (12")

1 - AA Single Battery Holder

1 - Motor with Holder & Leads

TEACHERGEEK TOOLS

This isn't a kit. You're going to really build (cut, hammer, bend) your Super Wiggle-Bot.
Here are tools you'll need to get started:

Multi-Cutter
(optional)
SKU 1823-81

Pliers
(optional)
SKU 1823-86

Hammer
(optional)
SKU 1824-41

Tapping Block
(optional)
SKU 1823-91

Or get the complete
TeacherGeek / Maker Tool Set
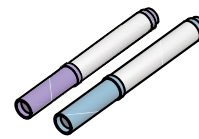Single *SKU 1823-24*
Class Set *SKU 1823-85*

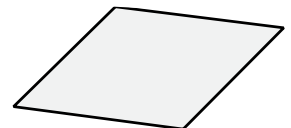## MATERIALS YOU SUPPLY

Tape

Recycling Materials
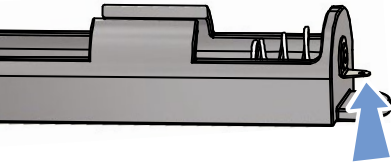*What else could you use for a Wiggle-Bot body?*

AA Battery

Markers
(for scribble-bots)

Large Paper or **Poster Board**
(for scribble-bots to draw on top of)

BUILD GUIDE FOR
SUPER WIGGLE-BOTS

TeacherGeek

LET'S GET STARTED

1 Bend up the tabs on the **battery bolder**, if it is not already bent.

2 Put the battery into the **holder** with the flat side against the spring.

+ BATTERY –

Want to learn more about electricity using your Wiggle-Bot?

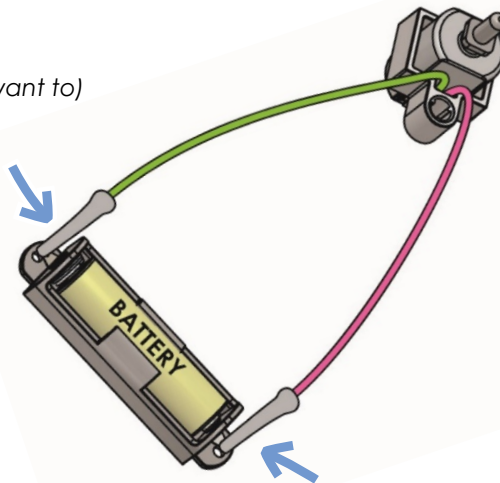Download the Electricity Lab at **teachergeek.com/learn**

3 Connect the **motor** leads to the **battery holder** tabs. This should turn the motor on.

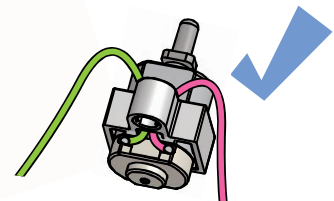Turn the **motor** off (when you want to) by disconnecting a **lead**.

Open **alligator clip leads,** by pinching, to attach and detach them.

BATTERY

Make sure the wires go through the motor mount. If they do not, then they will break off.
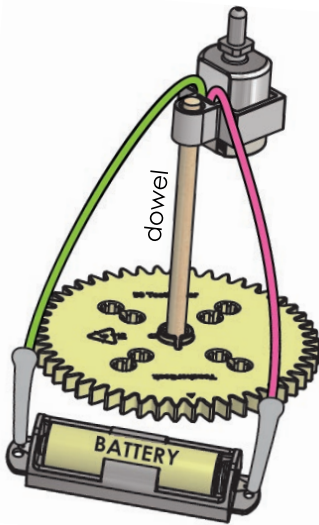
MAKE IT SPIN

Attach different components to your **motor,** in different places. Can you make it vibrate slow or fast? Vibration (wobbling) can make your Wiggle-Bot move.
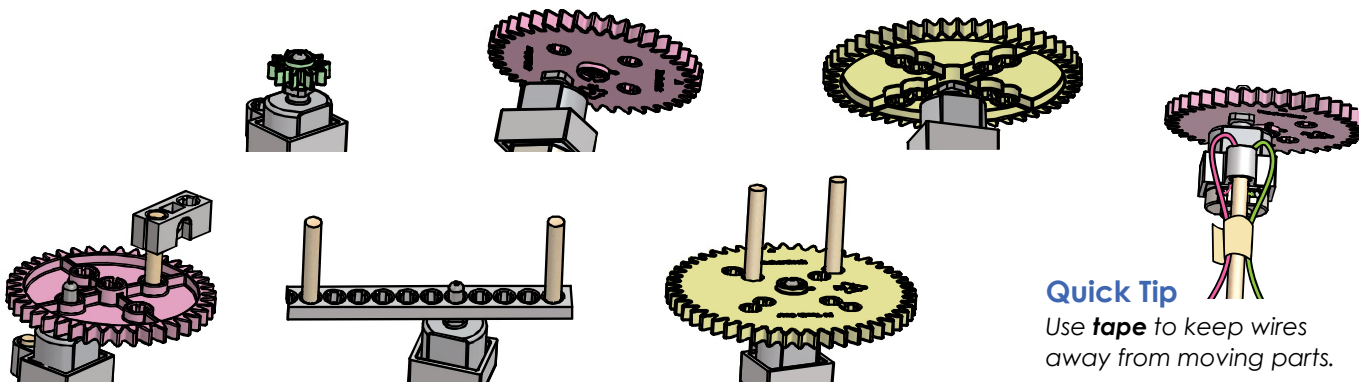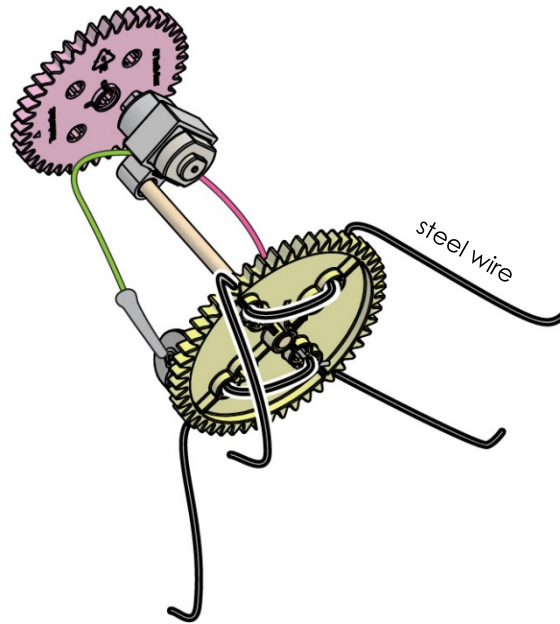
Quick Tip
Use **tape** to keep wires away from moving parts.

EXAMPLE WIGGLE-BOT DESIGNS
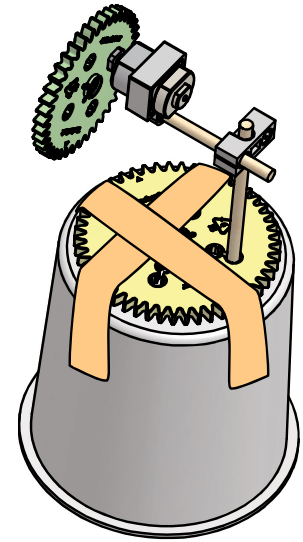
dowel

BATTERY

steel wire

Idea #1
Attach the **motor** to a **dowel**. Then attach the **dowel** to other components, like **hole plates** and **gears**.

Idea #2
Use **steel wire** to create legs. Bend them to change how it wiggles.

Idea #3
Use other materials to add to and change your Wiggle-Bot.
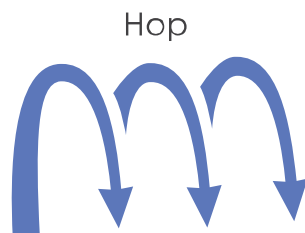
KEEP EXPERIMENTING!
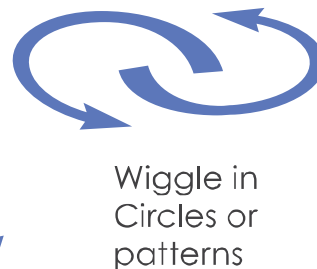Keep improving and changing your design (there is no perfect design, every design can be improved).

Can you make it...

Wiggle Forwards

Hop

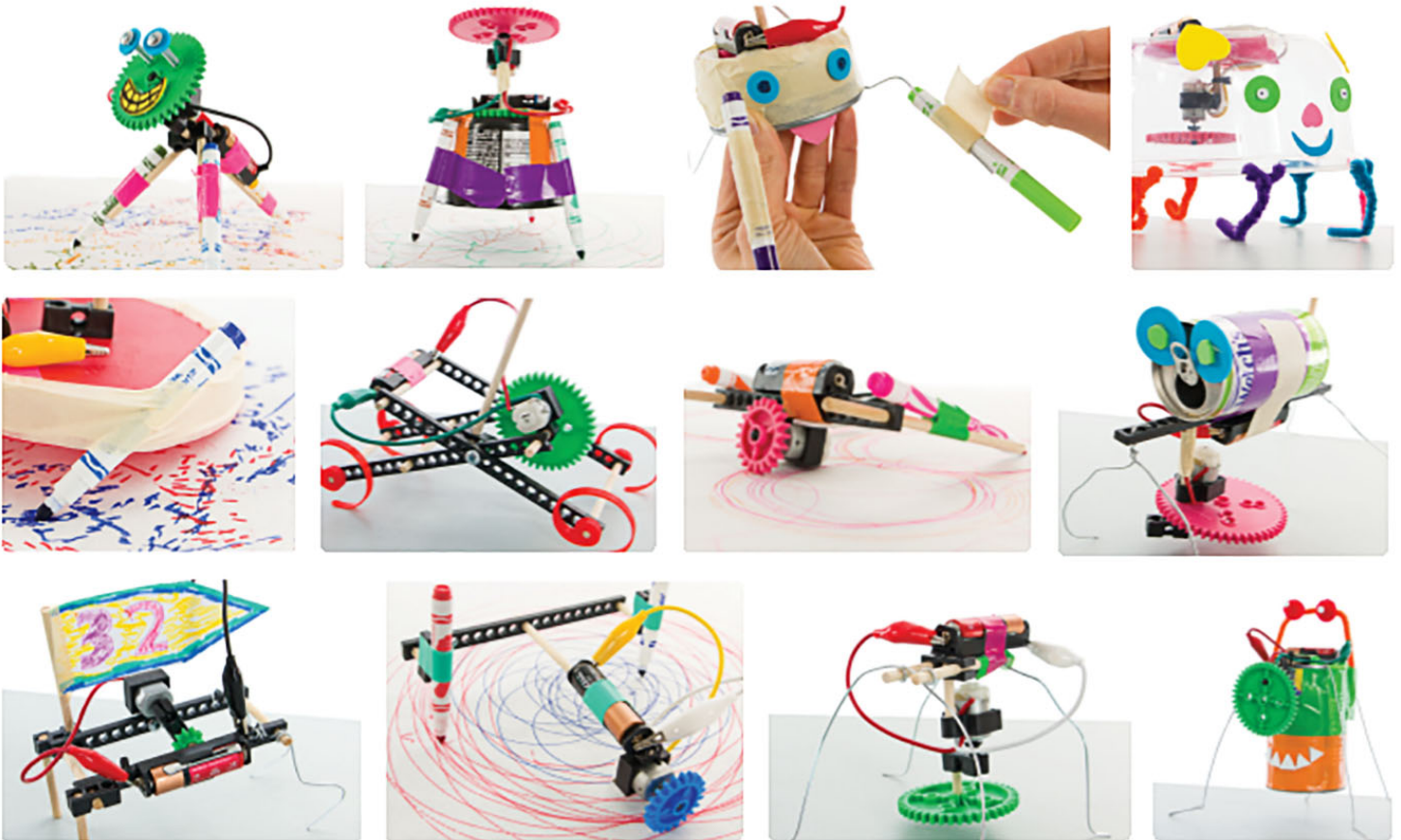Wiggle in Circles or patterns

Roll or Spin

INSPIRATION

Wiggle-Bots can be made in so many different ways. Here are some ideas…

SCRIBBLE

Attach markers to your Wiggle-Bot. Draw crazy and fun patterns on a sheet of paper.

RACE

Create a Wiggle-Bot to race down a track. Compete against other Wiggle-Bots or go for your own personal record.

INVENT

Use Wiggle-Bot components to make your own inventions: a fan, wiggling pen, boat, or something else.