

# Making Simple Robots

Use These Robot-Building Rules To Teach Kids Troubleshooting!

[kathyceceri.com](http://kathyceceri.com)



**Troubleshooting:**

**The #1 Maker  
Skill!**

When you build with  
everyday stuff,  
projects don't work  
every time.

Luckily, they're also  
easy to fix!

# To troubleshoot your project:

**Troubleshooting:**

**The #1 Maker Skill!**

- Go over the build, step by step.
- Check your model against the concepts you learned:
  - Do parts move the right way?
  - Is it off-balance?
  - Are components connected to the circuit?
  - Is the circuit interrupted?

# Troubleshooting short circuits fear of failure:

**Troubleshooting:**

**The #1 Maker  
Skill!**

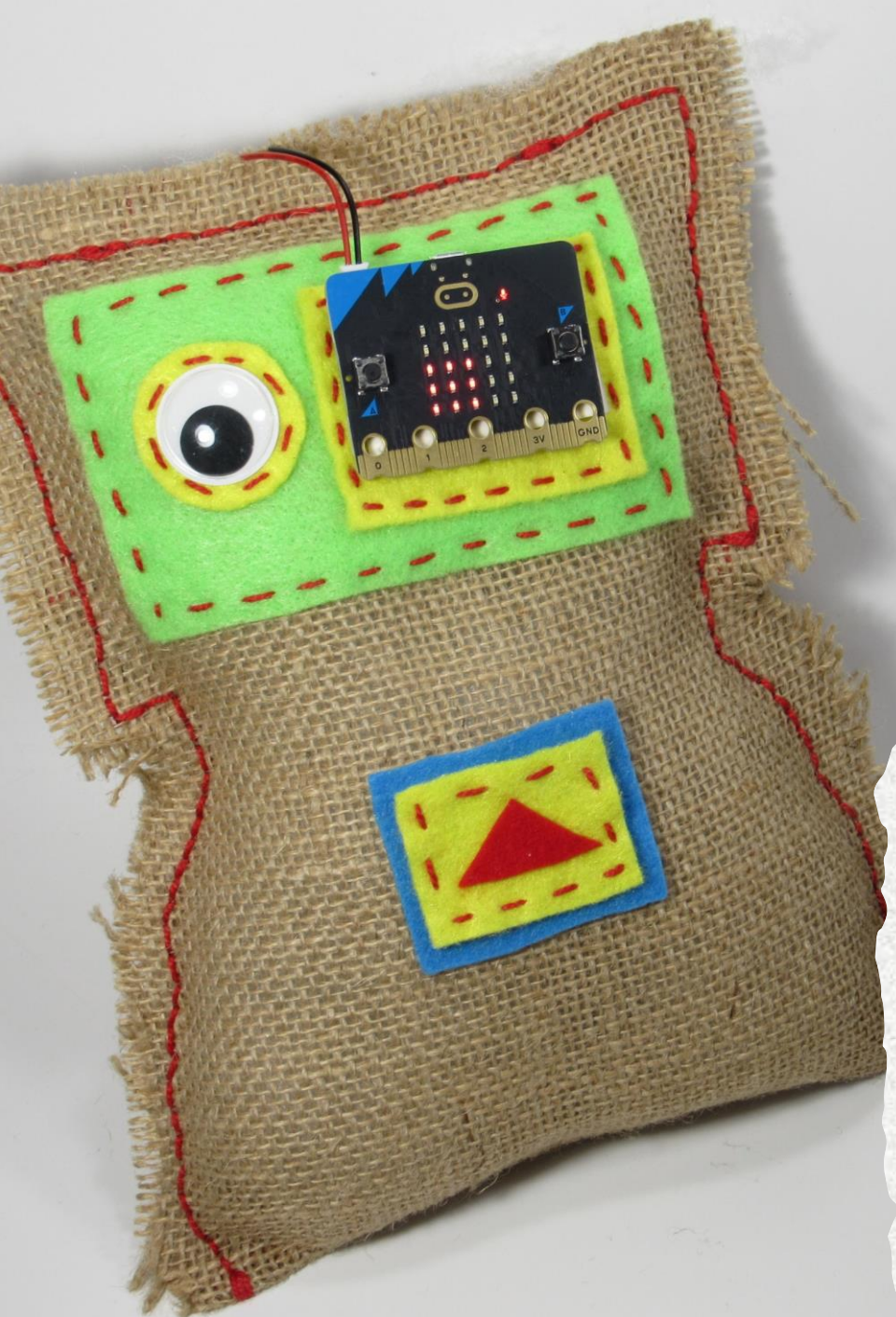
- Students learn to manage frustration
- Lets you go beyond kits and fool-proof instructions
- Opens the way to creative solutions and new designs



# Kathy's 5 Rules of Robot-Building

Rule 1: You can never use too much tape.

*Message:  
Every mistake can be fixed. (Almost.)*

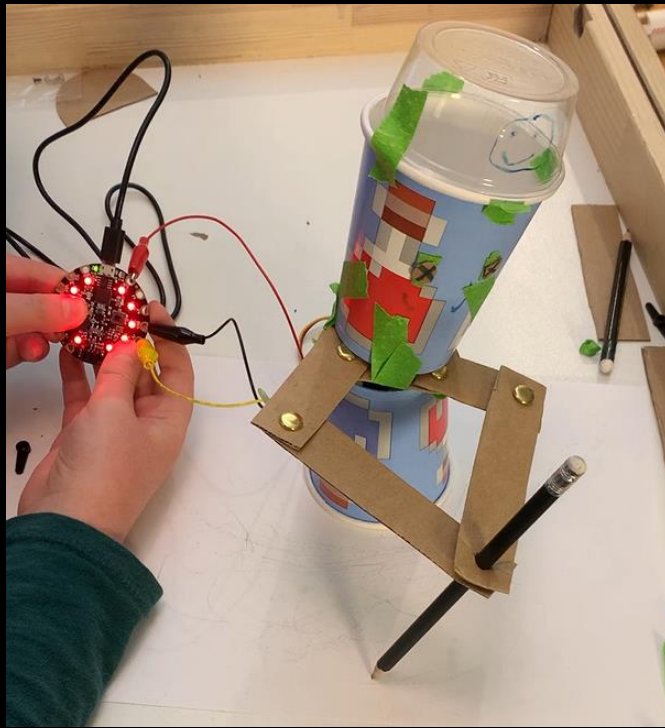


# Kathy's 5 Rules of Robot-Building

Rule 2: Googly eyes turn pretty much anything into a robot.

*Message:*

*Simple solutions can be the best.*



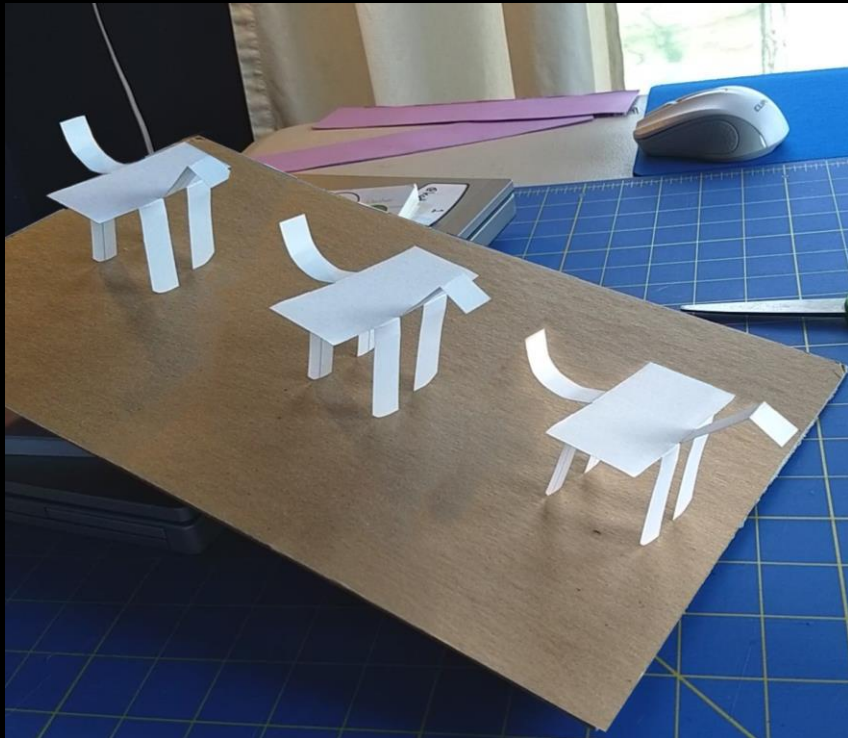
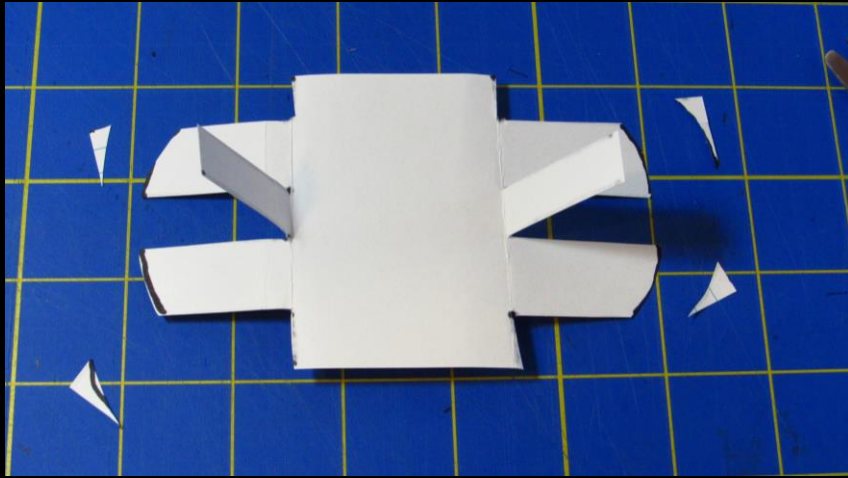
## Kathy's 5 Rules of Robot-Building

Rule 3:  
Unexpected result  
looks useful? Do it  
again, on purpose.



*Message:*  
*It's OK to change*  
*course to pursue*  
*accidental discoveries.*

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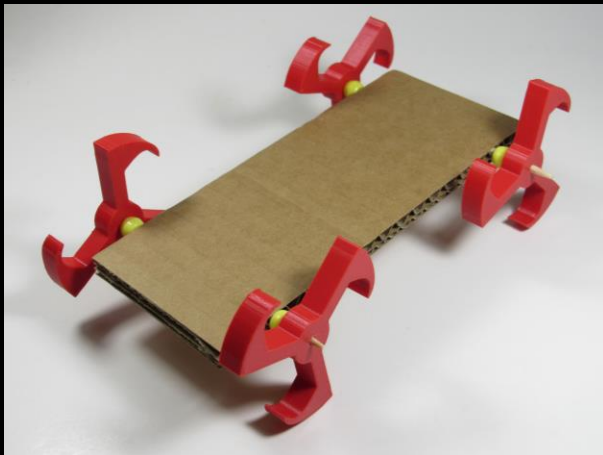
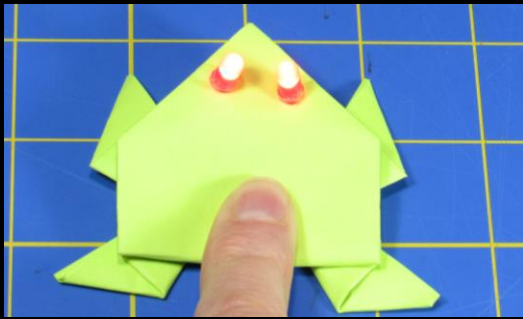
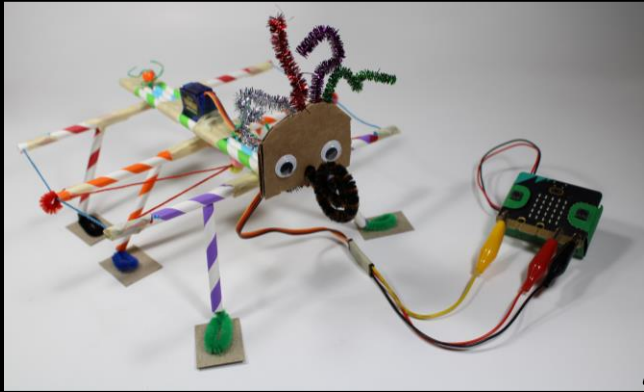
## Kathy's 5 Rules of Robot-Building

Rule 4: If it works a little bit, it works. Keep going!

*Message:*

*It's normal to need to adjust a new design.*





# Kathy's 5 Rules of Robot-Building

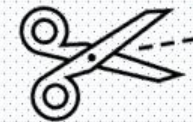
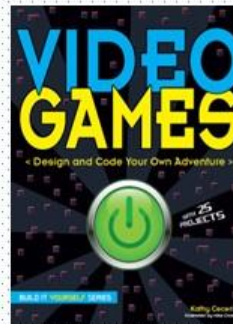
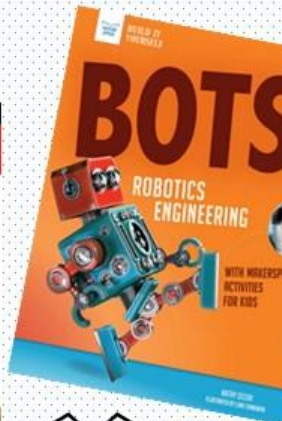
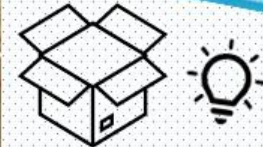
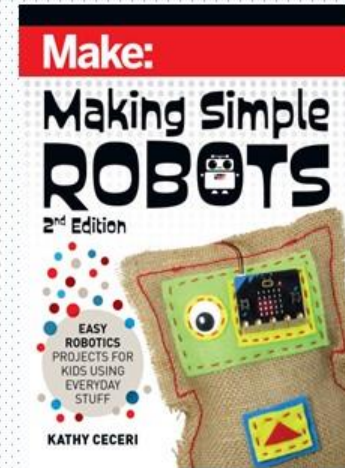
Rule 5: You never know where simple robots can lead you...

*Message:*

*Maker skills can help you solve all kinds of challenges!*

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**Thank you!**



**Maker Books  
by Kathy Ceceri**

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