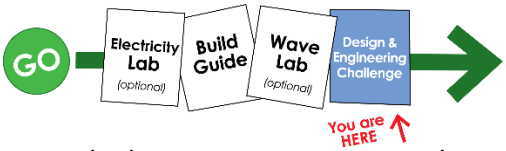
WIGGLE-BOT ENGINEERING CHALLENGE

THE CHALLENGE

Engineer a **Wiggle-Bot** to go as fast as possible, and win races.



For use with TeacherGeek Wiggle-Bot Activity.

Super Wiggle-Bot	**(Regular) Wiggle-Bot**
single: *SKU 1823-16*	single: *SKU 1823-17*
10 pack: *SKU 1824-56*	10 pack: *SKU 1824-57*

All include extra parts for your own innovative creations!

Download Documents and get your supplies at **teachergeek.com**

Constraints: (things your design can not, or must, do or be)

- Race Track
  - 15cm (6in) wide, with meter sticks on either side (**Quick Tip:** place loops of tape under the sticks to hold them in place)
  - Use two or more lanes for **Wiggle-Bots** to race
  - A start and finish line marked by tape
- Racing Rules
  - **Wiggle-Bots** must stay in their lane during the race.
  - **Wiggle-Bots** must be held, and then let go, at the start of the race. No pushing.
  - **Wiggle-Bots** can only move using the power from their motor.
  - Maximum **Wiggle-Bot** dimensions: 15cm (6in) Wide, 30cm (12in) Tall, 30cm (12in) Long
- Allowable Components
  - TeacherGeek **Wiggle-Bot** components
  - Teacher approved recycling bin materials
  - One AA battery
- You will have _____ to complete the challenge.
  Fill in how much time you have

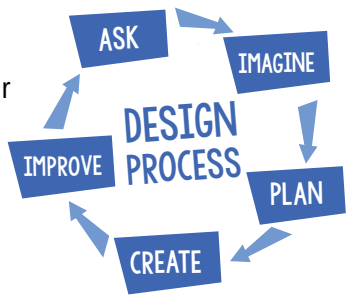
Challenge Supplies:

Required: sticks for race track sides, a flat table top or floor (to race on), recycling bin materials (cardboard, packaging, paper), tape, scissors, *Engineering Notebook* pages, stopwatch.

Recommended: TeacherGeek Multi-Cutters, philips screw driver, hammer & tapping block, markers.

The Engineering Design Process:

You will be using the Engineering Design Process. What does that mean? Your design is never finished (it can always be improved). There is no such thing as a perfect design. Fill out a new *Engineering Notebook* page each time you design/redesign your **Wiggle-Bot** racer.



CLASS DATA

Class: _____ Set: _____

Record the time it took for the **Wiggle-Bot** design to go down the track.

Group Name	Design #1	Design #2	Design #3	Design #4	Design #5	Design #6	Design #7	Design #8	Design #9	Design #10

Race the fastest **Wiggle-Bots** against each other (on side by side tracks).

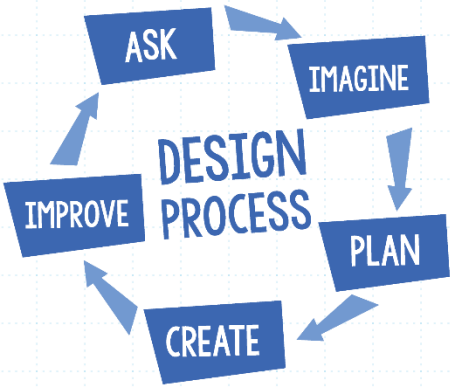
ENGINEERING NOTEBOOK

Design #

TeacherGeek

Name(s):

Project:



ASK

What is the problem (what needs to be solved/made better)?

Research: How have others solved, or attempted to solve this problem? What are the constraints (things your design can not, or must, do or be)?

IMAGINE

Brainstorm, sketch and describe possible solutions (different ideas that might solve the problem). Use extra paper, if needed.

Choose the best solution. Circle it. Why do you think it is best?

CONTINUE TO "PLAN"
on page 2

PLAN

Draw the solution you choose. Include the details you will need to create it. Use extra paper, if needed.

CREATE

a) Build the solution you planned.
b) Test it. Make observations. Record results below, or on another paper.

IMPROVE

Did you solve the problem?
Yes? Great! Identify a new problem (a way to make your design even better).
No? That's OK. What did you learn that can help solve it in a new/different way?

There is no perfect design (yep... your design can still be improved). Make it, faster, go father, stronger, more accurate, easier to use, more efficient, better looking, etc.

MAKE IT EVEN BETTER!!!
Grab a new Engineering Notebook Sheet.

ENGINEERING NOTEBOOK EXTRA PAPER

Design #

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