

STARTS WITH A PROBLEM

Supplies and Materials


When we think about STEM, the E stands for Engineering but have you ever thought that the E could not exist with the other disciplines? Science, Technology, and Math? NASCAR and race do, every day. We will explore the field of Engineering by looking at two critical elements for racing – the race car and the track. Gather your supplies and materials, and let's get our engineering started.

Car Engineering

- Crayons/Markers or Colored Pencils
- Body/frame
 - o Cardboard (cut to 5"x7") Upcycled cardboard box (cereal weight) (2)
 - o Cardboard tube (kitchen towel)
 - o Plastic board (like roadside signs (cut to 5"x7" or lego building platform)
 - o Bottle (upcycled)
- Wheels (4)
 - o Option 1: use a heavy cardboard box (shipping) to create wheels; use a drinking glass as a template for your circle and pierce a hole in the center of the wheel
 - o Option 2: round items in your house such as spool of thread, bottle tops (with a hole pierced in the middle), medicine bottle tops (with hole)
 - o Option 3: purchase wheels (such as lego or k'nex wheels or wooden wheels (1 ½" – 2"))
- Axel (2)
 - o Option 1: wooden bamboo skewers (kitchen);
 - o Option 2: wooden dowels (1/8" or ¼" diameter cut to 6")
 - o Option 3: Thin pencils (diameter)
- Engine
 - o Option 1: Balloon (12" diameter)
 - o Option 2: Cardstock or copy paper (if allergy to latex)
 - o Additional Supplies: paper clips (3-5 of various sizes); rubber bands (4-5 of various sizes)
- Bushing and Exhaust
 - o Option 1: Thai or Bubble Straws – large diameter
 - o Option 2: Copy paper or card stock (roll into a tube)
 - o Option 3: Tubing from craft or home improvement store (2 or 2 ½" diameter)
- Tools
 - o Masking tape or duct tape (please not invisible tape or glue)
 - o Scissors

Track Building

- Cardboard box (shipping) open/flat (cut 11x17" min) (2)
- Lightweight cardboard (cereal box or cookie box) (3) open/flat
- Air-dry clay (like model magic) (12 oz)

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- Books (3-5); various lengths of pages (hard-cover best)
 - Plastic wrap (size of cookie sheet)
 - Aluminum foil (size of cookie sheet)
 - Wax or parchment paper (size of cookie sheet)
 - Toy Car or truck or vehicle (size of matchbox or Hotwheels)
 - Ball (rubber/bouncy)
 - Tape (masking or duct)
 - Protractor (if available) physical or digital

Questions or need ideas? Eliza Russell, Education Manager, eliza.russell@nascarhall.com