

Girl Scout Daisies

Mechanical Engineering: Model Car Design Challenge (Badge 3)

Step 1: Design and build model cars in the Makers Space

- Before an engineer builds something, she thinks about the best way to do it. Engineers will brainstorm ideas about how to build their invention with the materials they have. Your challenge is to build a car that you can test drive on different surfaces to see how friction impacts your car's speed. Using materials from Reuse and Recycle and Art Studio, what are some different ways you can make a car to take home and test?

Automotive Engineering: Automotive Design (Badge 1)

Step 1: Choose special features for your vehicle in the Design Lab

- Vehicles are made up of lots of parts. Some parts are in every vehicle, like the engine and wheels. Other parts are special, just for that kind of vehicle. These parts are called design features. In the Art Studio, choose a vehicle paper, on the back brainstorm a list of special features your vehicle will include. This could be something simple like cup holders and racing stripes, or more complex like wings or doors that open by themselves.

Step 2: Sketch your vehicle in the Design Lab

- A creative designer comes up with ideas for vehicles and draws them. Use your list of special features, and the drawing materials at the Design counter to help you draw an interior (inside) and exterior (outside) view of your vehicle.

Step 3: Sculpt and share your vehicle in Reuse and Recycle It

- Making a model is an important part of designing a vehicle. Just like a drawing, your model helps you show your idea to others and look for ways to make the design even better. Using the recycled materials in the Makers Space, create a model of your vehicle design.

Daisy Robotics: Designing Robots (Badge 3)

Step 1: Plan your robot in the Art Studio

- Think of a new robot you would like to play with and then design it. Or find a way to make your favorite robot better! Sketch out your idea using materials from the Art Studio. Make more than one drawing if you want to show the different ways your robot works.

Step 2: Create a prototype in Reuse and Recycle It

- Visit the Recycle It area in the Makers Space to create a cardboard robot prototype. What can you use to make your robot move?

continued...

Toy Business Designer

Step 1: Come up with an idea for a toy in the Art Studio

- Think of a new toy you would like to play with and then design it. Or find a way to make your favorite toy better! Sketch out your idea using materials from the Art Studio. Make more than one drawing if you want to show the different ways your toy works.

Step 2: Make your idea even better in the Art Studio

- Any idea can use improving or fixing! Entrepreneurs always want to improve their projects, so they ask other people for feedback. Share your idea with your friends or family. Invite them to tell you what they like about your idea and what they would change to make your toy better. Use the feedback to make changes to improve your toy design. Draw your new and improved design!