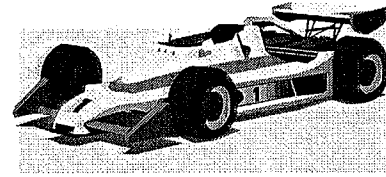


# EggMobile Design Competition



Welcome to LEGO Motors. You have just been hired as a design engineer to build a non-motorized vehicle, the EggMobile, using the materials that we have provided today. Like all engineering projects you will work with a team to design, build and test a final EggMobile. You will have a goal, budget, schedule as well as specific design requirements. Final performance (distance) and safety testing will determine the successful completion of your design.

## Goal

Your design team's goal is to build a vehicle, the EggMobile, using LEGO's and other supplies to safely transport your passenger, Mr. Raw Egg. Mr. Raw Egg will be supplied by LEGO Motors. You will only receive one egg and you will be charged Design Bucks if your egg is damaged; so it is important to build a safe.

## Budget

Each team will be given a budget of 150 Design Bucks to use throughout this design project. These Design Bucks can be used to buy parts (LEGO's, etc....) to build your EggMobile. The Design Bucks will also be used to pay for fines resulting from the failure of your design to meet specific design requirements as well as product liability lawsuits. These penalties will be discussed below.

## Schedule

You are allowed \_\_\_\_ minutes to design and build the EggMobile.

## Performance Requirements

At the end of the allotted design time you will test your design on two levels: distance and safety.

You may test your design once prior to final testing but will still be accountable for damage to Mr. Raw Egg that may occur during testing.

### *Distance – The Distance Test*

Your EggMobile, along with Mr. Raw Egg as the passenger of your design, will travel down the designated test ramp. Upon leaving the ramp, the EggMobile shall travel a minimum distance of \_\_\_\_ inches. The distance will be measured from the end of the ramp to the EggMobile's rear axle (the center of the back tire). The final testing will be repeated a total of \_\_\_\_ times and the best distance will be recorded. Failure to meet the minimum distance will cost your design team 25 Design Bucks. If your EggMobile exceeds a distance of \_\_\_\_\_ inches, your design team will be awarded a bonus of 50 Design Bucks.

### *Safety – The Crash Test*

The EggMobile's design should consider the safety of its passenger, Mr. Raw Egg, as one of the primary design goals. Upon successful completion of the Distance Requirement Test, the EggMobile will be tested for Mr. Raw Egg's safety. A barrier will be placed at the end of the ramp. The EggMobile and Mr. Raw Egg will travel down the ramp and crash into the barrier. If Mr. Raw Egg survives the crash without cracking, the EggMobile will have met the Safety Requirement Test. If Mr. Raw Egg does not survive the crash, Mr. Raw Egg's Family will hold your design team accountable for an unsafe EggMobile design. Your design team will be charged 50 Design Bucks to pay for the crash. Although the Crash Test is performed to specifically test for design safety, the safety of Mr. Raw Egg will be considered in the distance test as well. If at any time Mr. Raw Egg receives injuries, his shell is cracked, broken, and/or he is dripping egg yolk or egg white, the design team will be held accountable for Mr. Raw Egg's injuries and the Design Team will have to pay 50 Design Bucks.

## AND THE WINNER IS

The design team with the most Design Bucks after completion of testing will be declared the winner of the EggMobile Design. In the event of a tie, the team with the longest distance traveled will determine the tiebreaker.