

Chain Reaction Machine

We will build a class contraption that carries a marble from one end to the other. Each group will design and build one section.

Here are the minimum requirements for your section:

1. Its footprint can be no larger than 40 cm long or wide (but it can be as high as you want).
2. Your contraption must accept the marble at a height of 10 cm and deliver it to the next contraption at the same height. The marble must be moving fast enough at the end of your contraption so that it enters the next contraption successfully.
3. The marble must have a height change of at least ten centimeters in the contraption. Since the marble must enter or leave at the same height, it will need to go up and back down—or down and back up.
4. The marble must take at least 10 seconds to traverse your section (longer is better!).
5. Your section must contain at least one event triggered by a sensor and two different simple machines. It must include music or sounds.

Contraption Checklist

10 centimeters in	
10 centimeters out	
10 centimeter height change	
Simple machine	
Second simple machine	
Sensor-triggered event	
Music or sound	
Marble takes 10 seconds	
Marble moving fast enough at end	
Marble traverses machine unaided	
Length and width under 40 cm	