
Machine Madness



An amazing special event for families to build a machine at home (or at a museum pre-build) and then connect their machines to set off a giant chain reaction.

Related Exhibits: all

Time: Several hours for the events

Ages: Family, scout or school groups

Staff: Event coordinator, volunteers to help with trouble-shooting and connecting

Safety: General reminder of safety as the chain reaction is set up.

Background:

The Montshire originally hosted this event in conjunction with a local art museum which was hosting an Arthur Ganson exhibit (www.arthurganson.com). We have continued the event since we found it's a wonderful opportunity for families to build something together and then interact with other groups as they connect their machines. This generates an amazing amount of creativity and a great opportunity to see physics in action in fun ways.



Organizing the Event:

Publicize the guidelines.

- Your "link in the chain" should be no more than 2' wide and no longer than 4';
- It should NOT use chemicals, electricity (batteries and low power DC are OK), or require more than a cup of water;
- Your link must begin and end by a string pull. Be sure that it takes no more force than the hanging weight of a golf ball to start your link, and that it ends by pulling a string with enough force to lift a golf ball several inches;
- Your link must be repeatable;
- Test your machine before bringing it to the event.

Consider sponsoring a pre-build event:

We have invited the local college engineering club to assist families in building a machine with supplies we provide at the museum the weekend before the event. Families get ideas and start building, then finish their machine at home before the event.

The day of the event:

Schedule two times, one for the set-up and one for the actual chain reaction. The set-up takes time to connect and trouble-shoot. Again, we have enlisted the local college

engineers to help with set-up and trouble-shooting. Place the machines on long tables arranged as a horseshoe shape so people can sit in the middle and see the whole chain.



Start the chain reaction!

Materials:

- Basic tools
- Extra string and basic materials to connect the machines
- Tape
- Other fix-it supplies