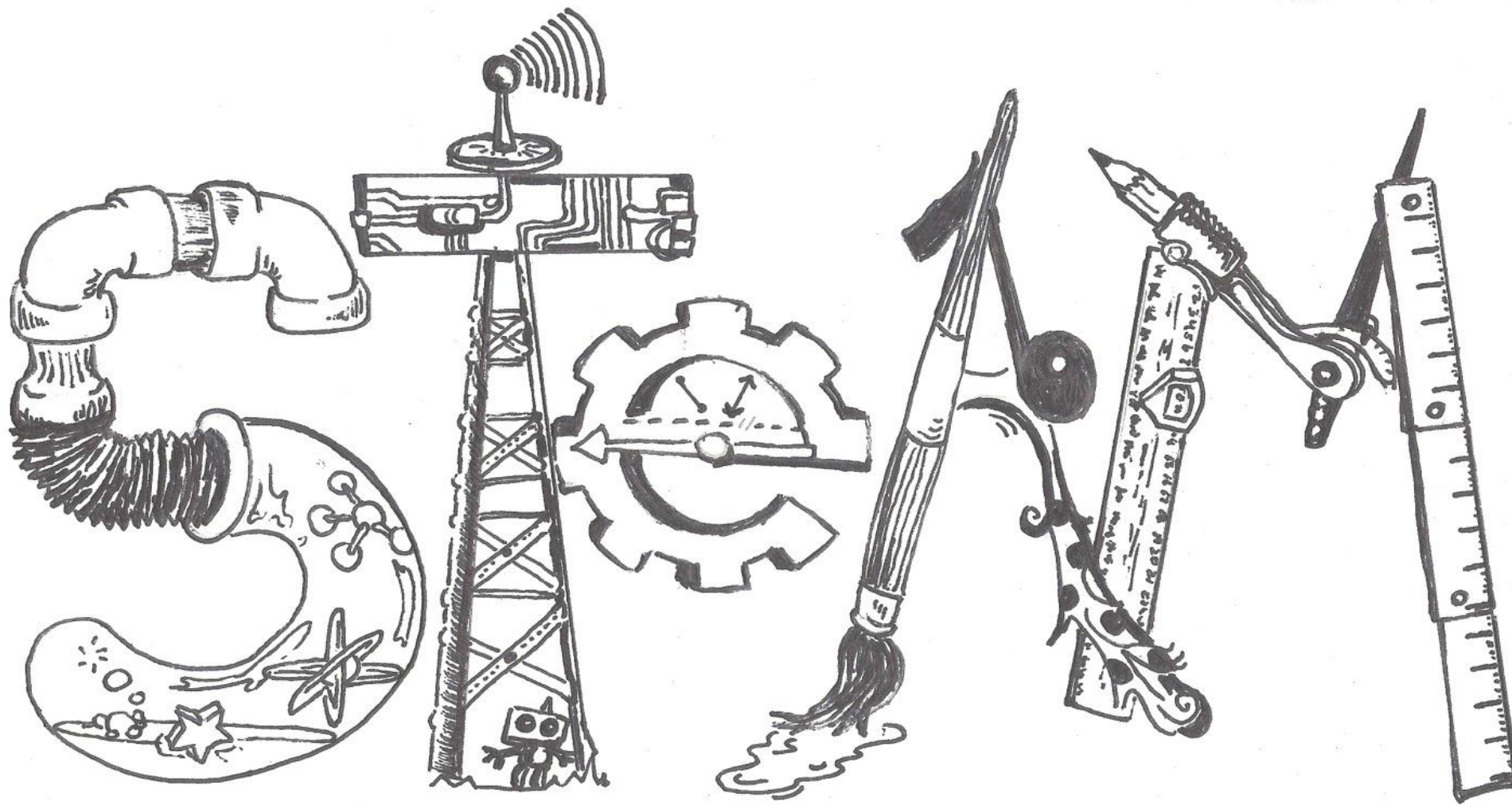






MAKING
IN THE LIBRARY





















Benzonia MakerFest 2016

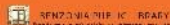


**Wednesday, August 17
6-8pm**

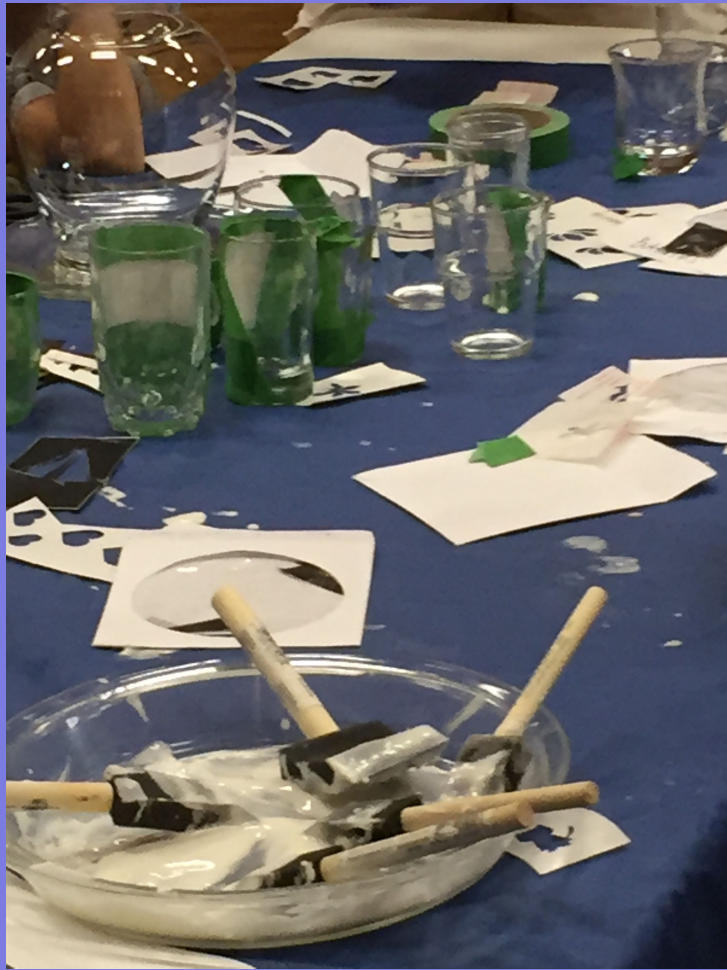
**Benzonia Public Library
891 Michigan Ave
Benzonia**

**A family-friendly celebration of tinkering,
technology, and crafts, including**

**Fashion Hacking
Glass etching
3D printer
LEGO
Circuit Building
Makey Makey**



Sponsored by the University of Michigan School of
Information's Making in Michigan Libraries Project
in collaboration with the Benzonia Public Library.
Funding made possible in part
by the Institute of Museum and Library
Services (IS-40-15-0021-15).

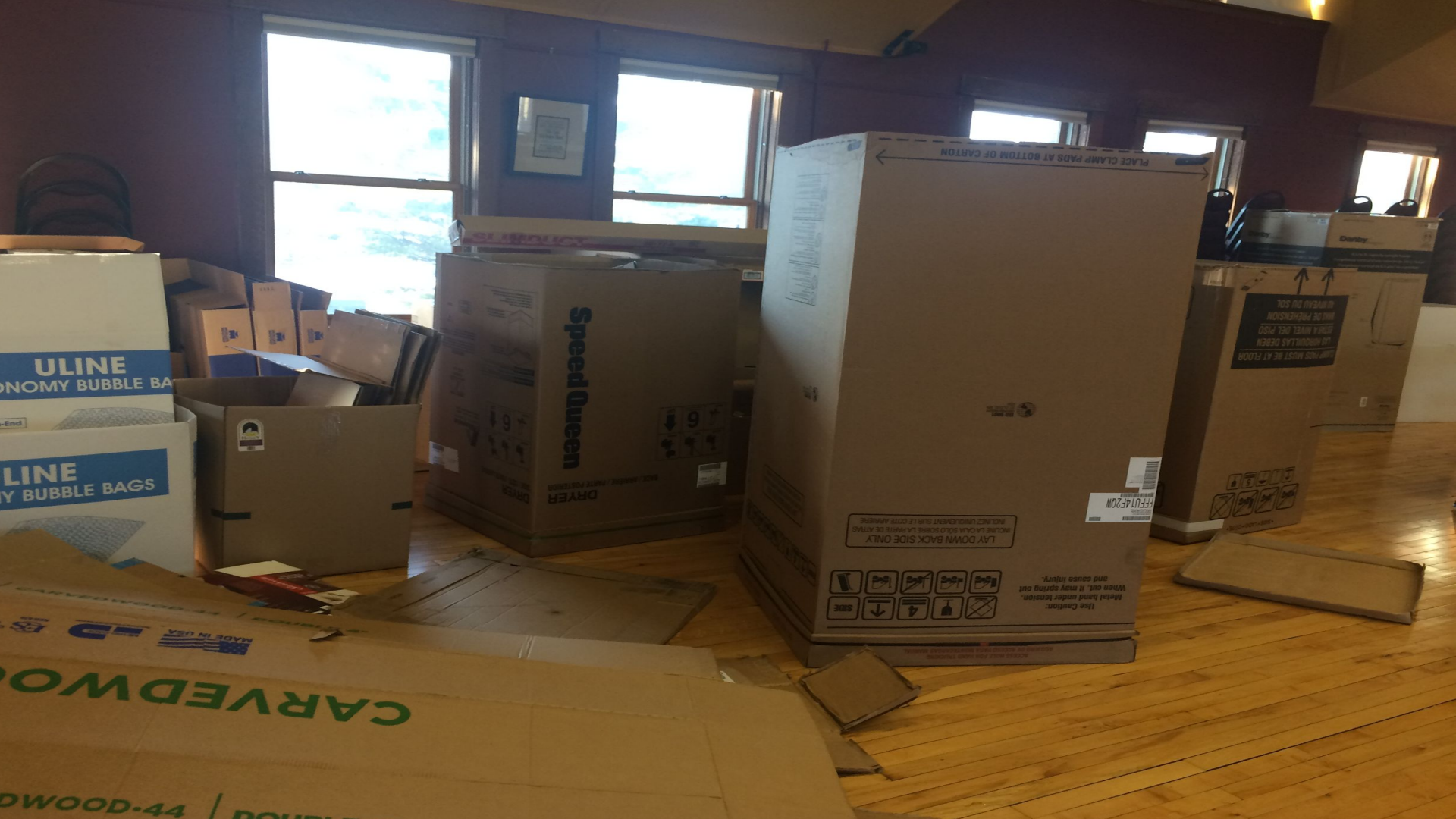












CARDBOARD CHALLENGE

BENZONIA PUBLIC LIBRARY
NEXT SATURDAY

10 AM - 1 PM

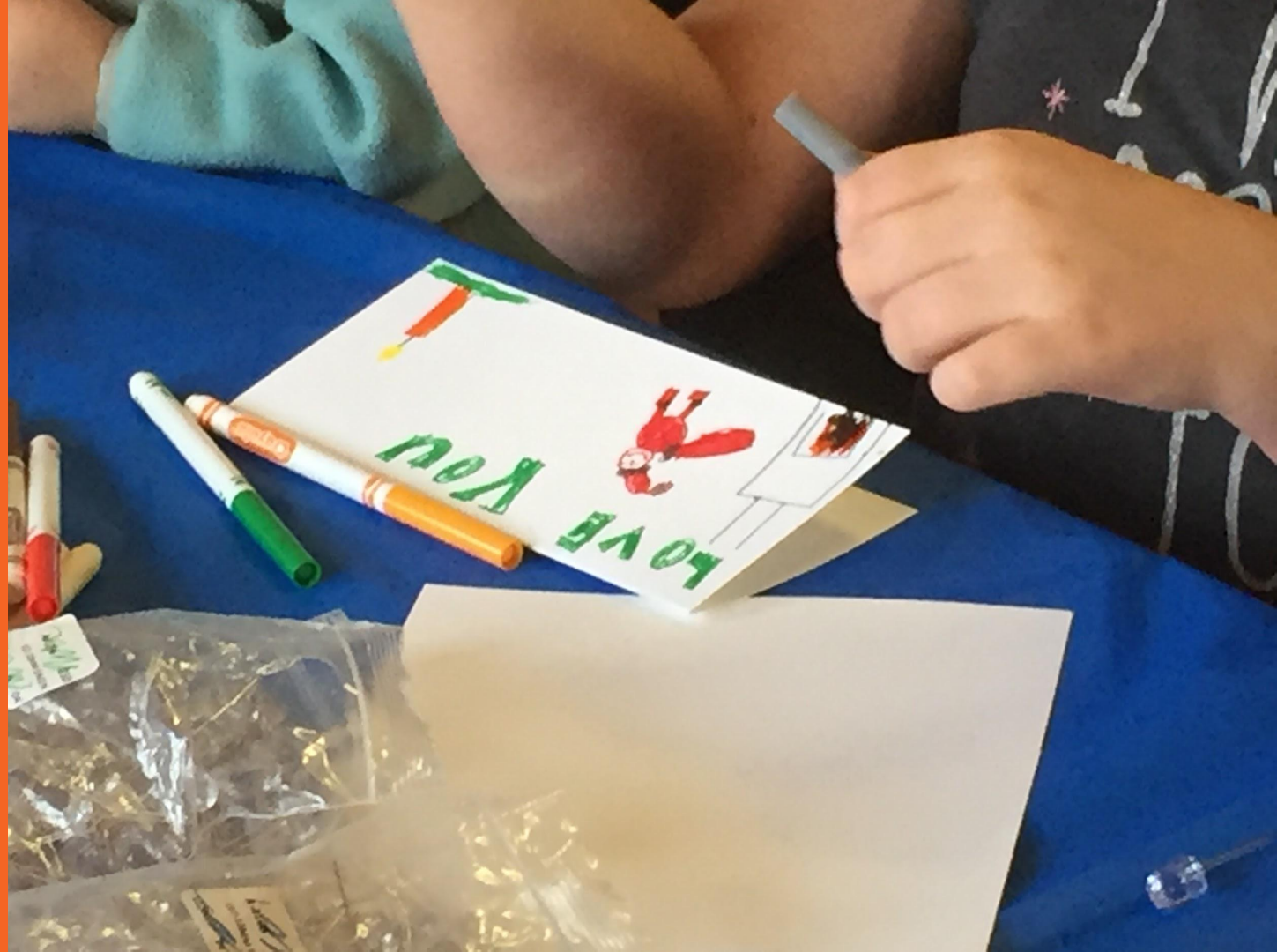
*FREE *ALL MATERIALS PROVIDED















Guild of Makers Wednesday

1st and 3rd Wednesdays, 4-6pm
MAKING Wednesdays Awesome!

@ Benzonian Public Library

891 Michigan Ave., Benzonian



**Join the
Benzie Guild of Makers
the first and third Wednesday
of each month, 4-6 pm.**

Students 4th grade and up can
come together and explore anything
from new and innovative technology
to traditional handicrafts.

Every meeting will consist of some discussion and instruction, but will
mainly focus on creating in an open and safe environment.

If you can imagine it we want to help you make it!

Benzonian Public Library

891 Michigan Ave (US-31), Benzonian, MI
231-882-4111 * www.benzonialibrary.org











BUILDING UP



S

T

m

**Benzonia Public
Library**
engineering



Structural Engineering Made

FUN + EASY

With Your Hosts:





What is Structural Engineering?

→ **Structure**

Something that is load bearing

→ **Engineering**

**Type of science that deals with
design and building**



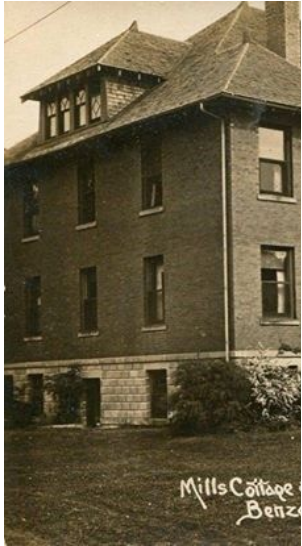
! BUT WAIT,

Mr. Jimmy ?

—

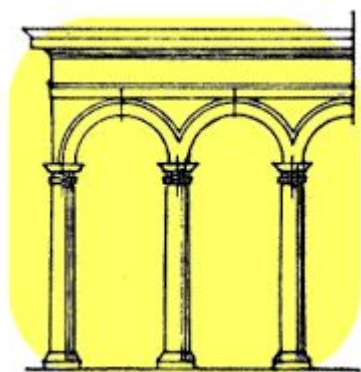
GO BACK! What is a
structure? What is load
bearing?

STRUCTURE





www.shutterstock.com - F25X10M



Arcade



LOAD BEARING

A structure is something that is load bearing, which means it either supports or resists a load or does both at the same time.

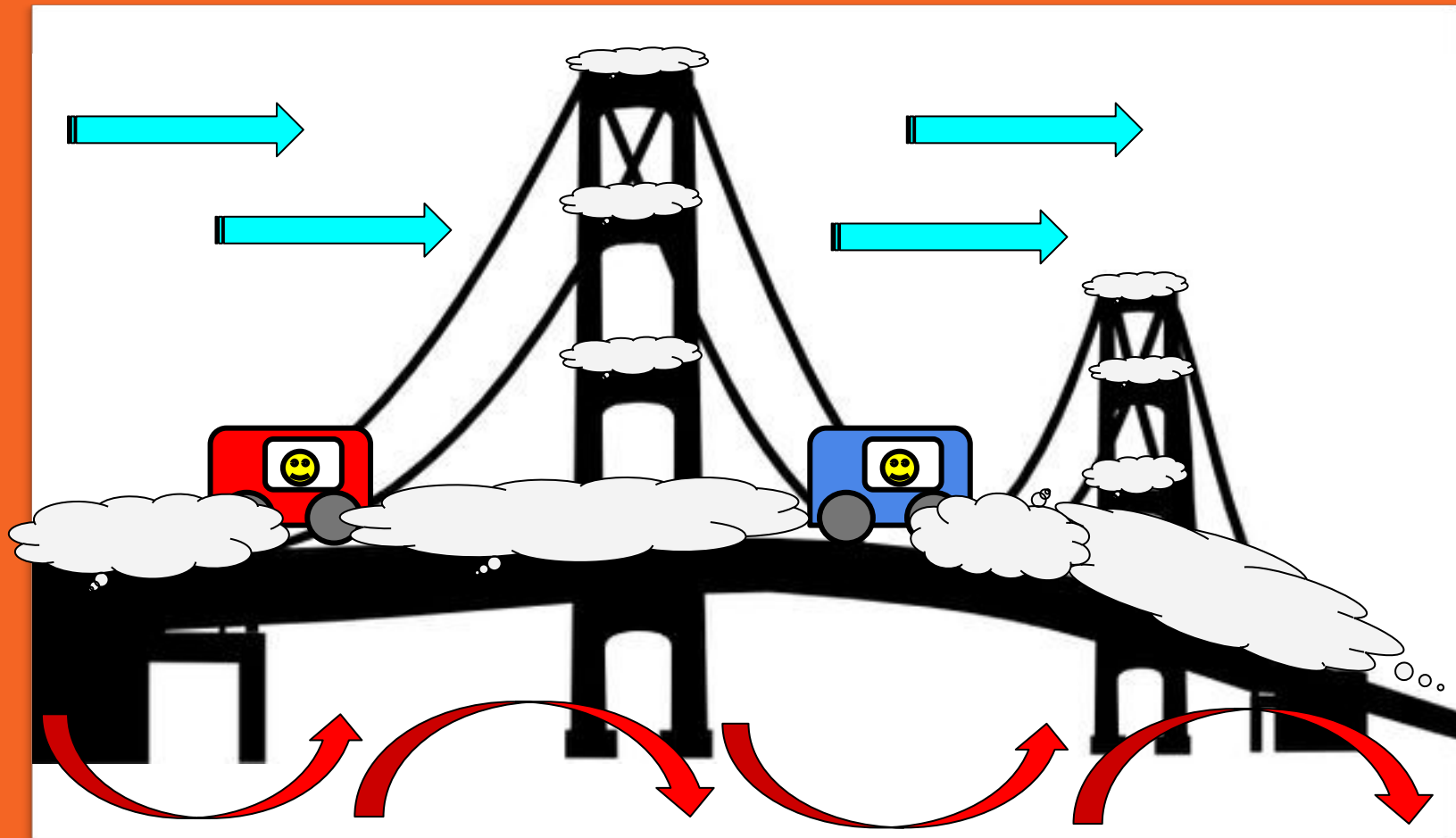
BUT WAIT,

Mr. Jimmy

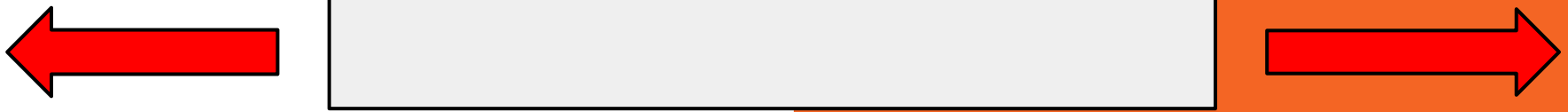
LOAD BEARING

A structure is something that is load bearing, which means it either supports or resists a load or does both at the same time.

Load is another word for force, and different structures are designed to hold up with different forces being exerted — on them.

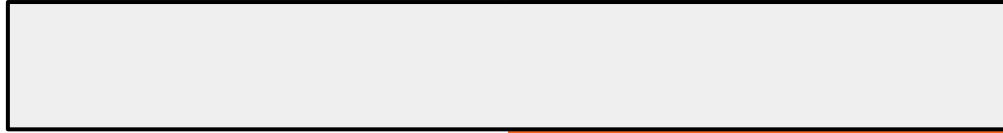


TENSION

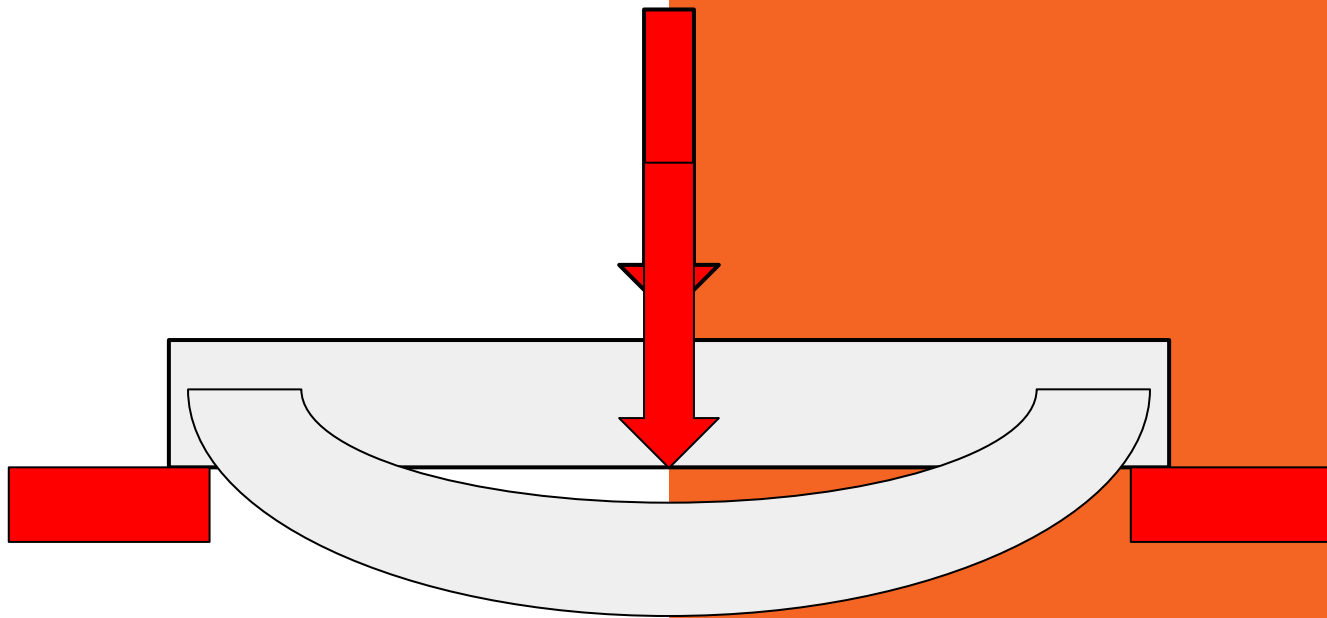


(stretching)

COMPRESSION

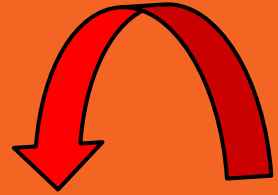
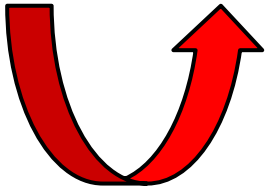


(Squeezing)

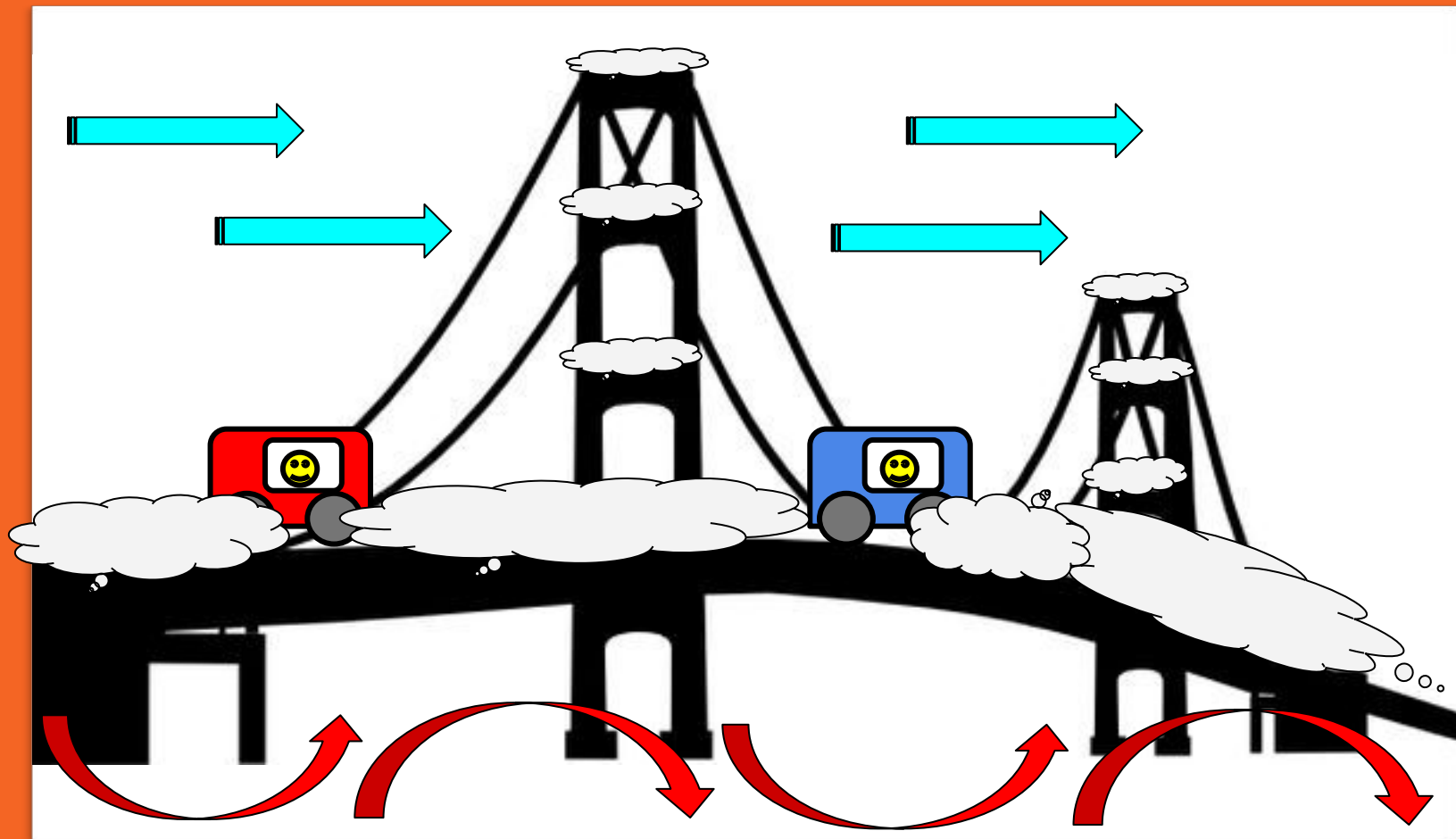


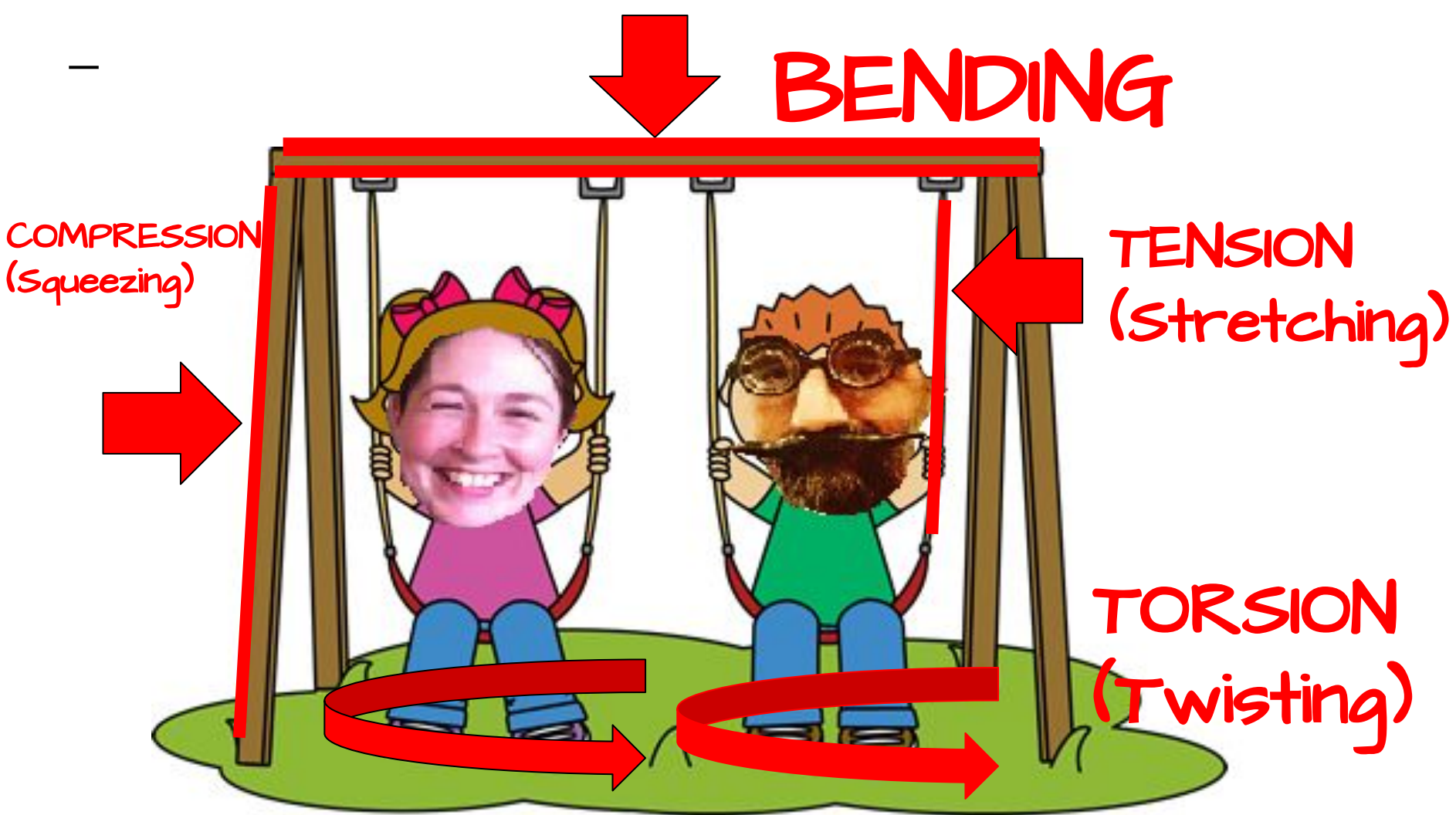
BENDING

TORSION



(Twisting)







The chair is under
compression from
its own weight, its
dead load



Your weight puts
the chair under
more compression,
adding live load to
the dead load

—

When you push
on a spring, you
can feel it push
back against
you.

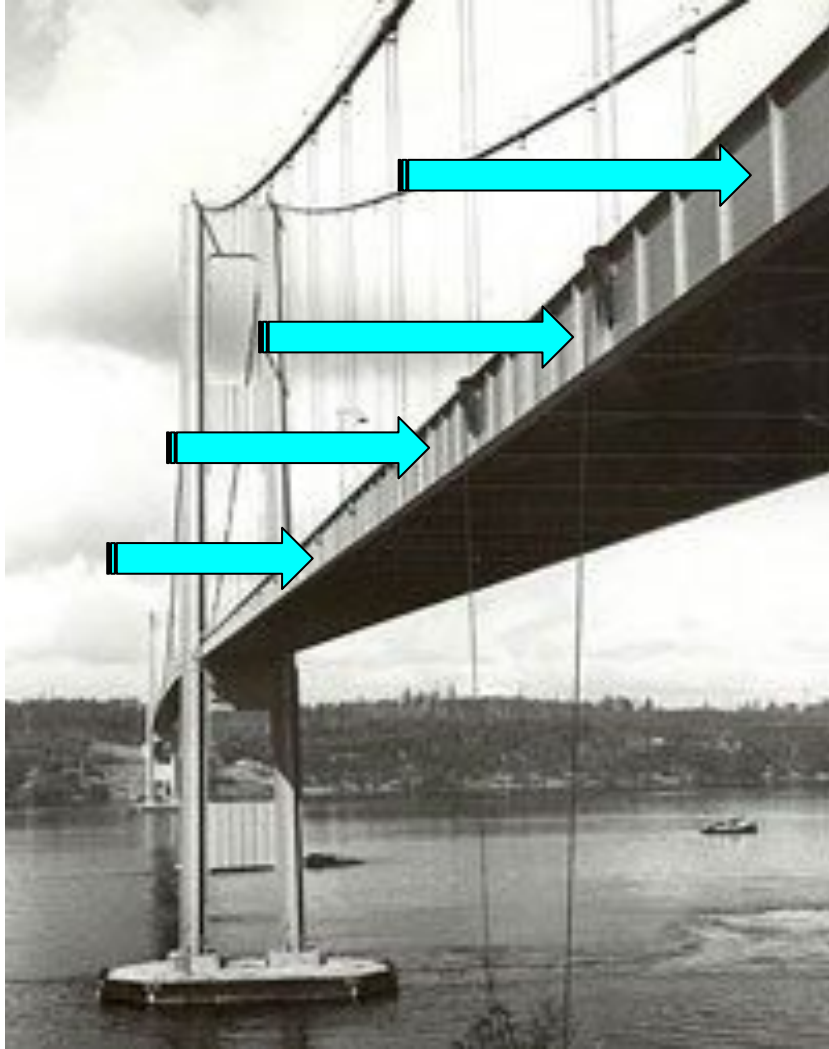




When you sit on
a chair, it pushes
back at you, just
like a spring.

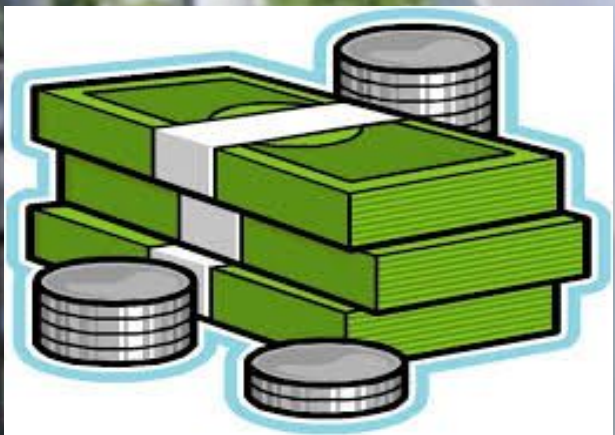
—

Structures stay up in part because they are able to bend, or deflect, under the forces acting on them and return to their original shape when the forces are removed, a behavior called elasticity



**Meet The Tacoma
Narrows Bridge.**





Structural Engineering

