

# Wednesday, March 13, 2019

Your Learning Goal: Students will be able to observe the forces of tension, compression and torsion through the engineering of a found materials bridge.

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Feel the tension- 40L + R

- Catalyst 40L): 1. Push your weight against the hands of your partner. Feel the force.
- 2. Clasp hands with your partner and let your weight pull your bodies apart. SAFELY What forces are at work here?



Homework:

Quiz Retake Pack time Today  
3/12!!



Agenda:

1. Catalyst
2. Engineer a Bridge
3. LEAF

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3/13/19

### Catalyst:

1. Push your weight against the hands of your partner.

Feel the force.

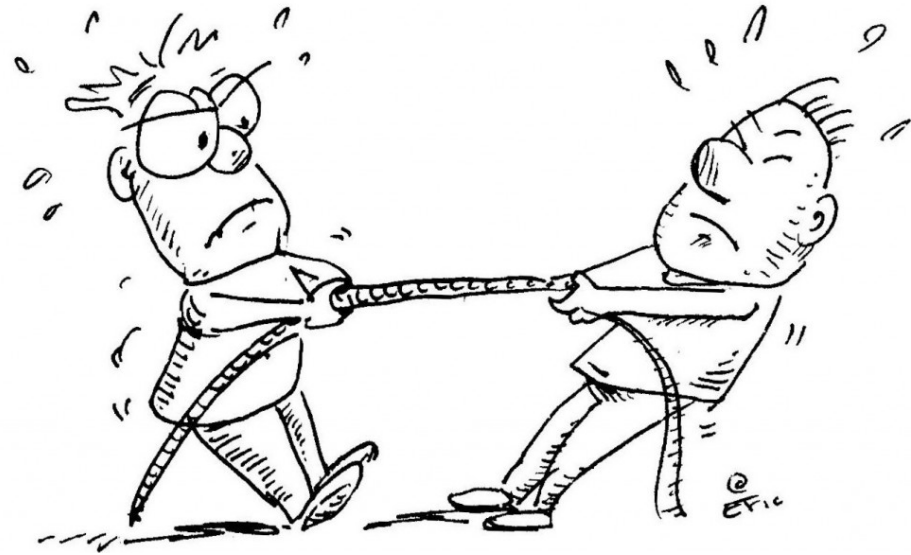
2. Clasp hands with your partner and let your weight pull your bodies apart. SAFELY What forces are at work here?

### Feel the Tension

**40L**

**40R**

# Catalyst 40 L



**With someone you trust and feel comfortable:**

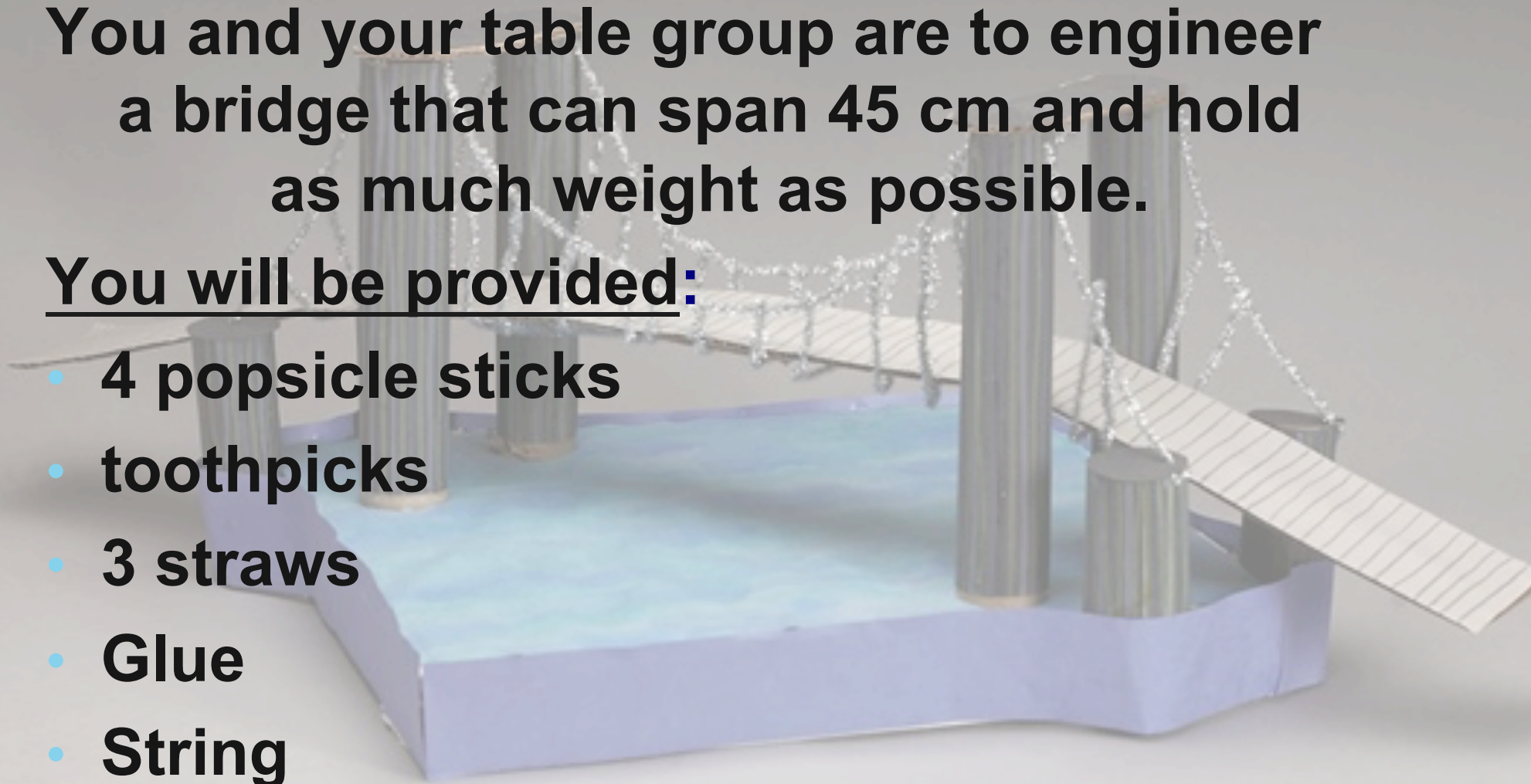
1. Push your weight against the hands of your partner. Feel the force.
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# The Challenge

You and your table group are to engineer a bridge that can span 45 cm and hold as much weight as possible.

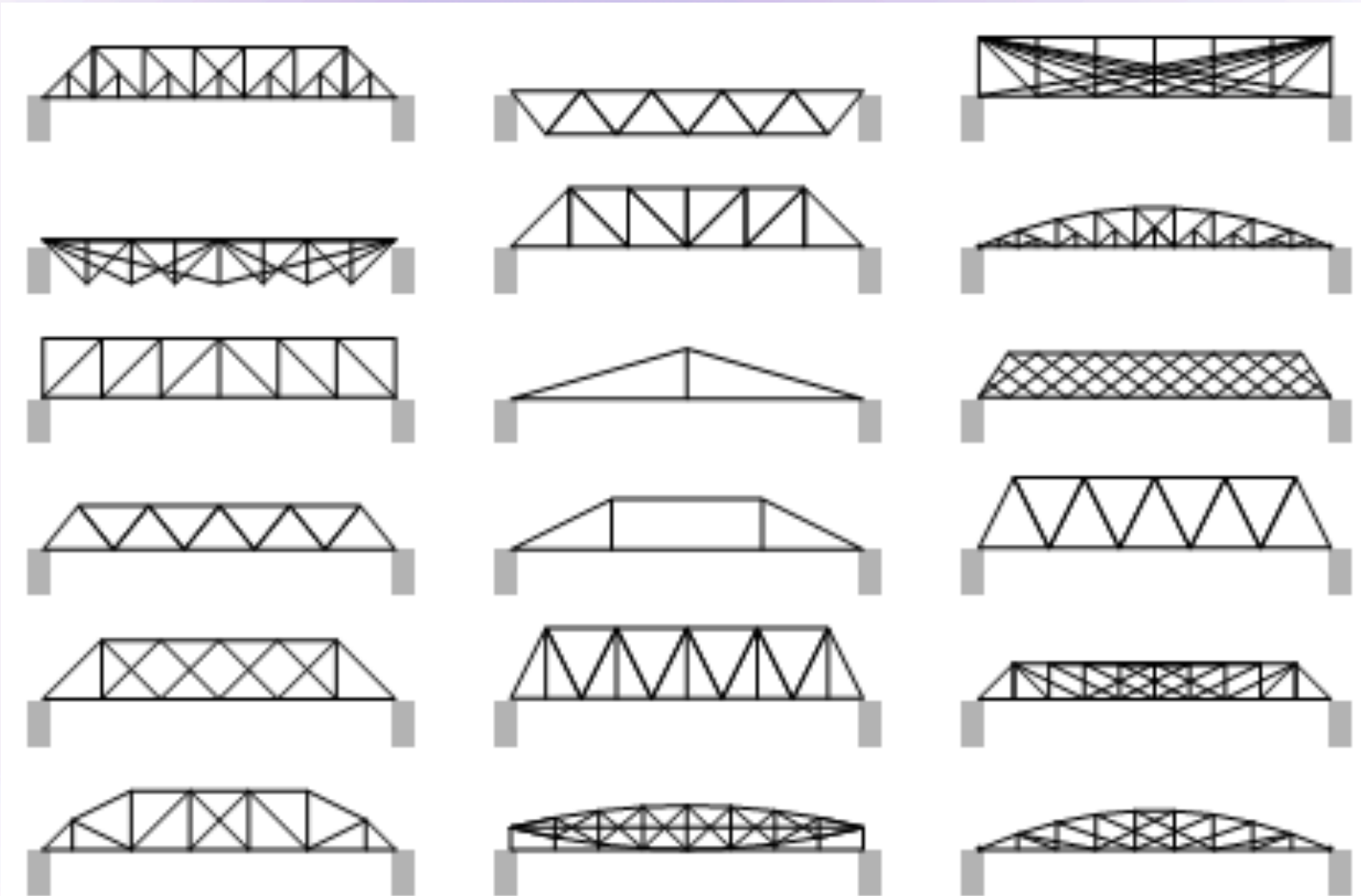
You will be provided:

- 4 popsicle sticks
- toothpicks
- 3 straws
- Glue
- String
- Whatever recycled materials you bring from home



# Design Influence

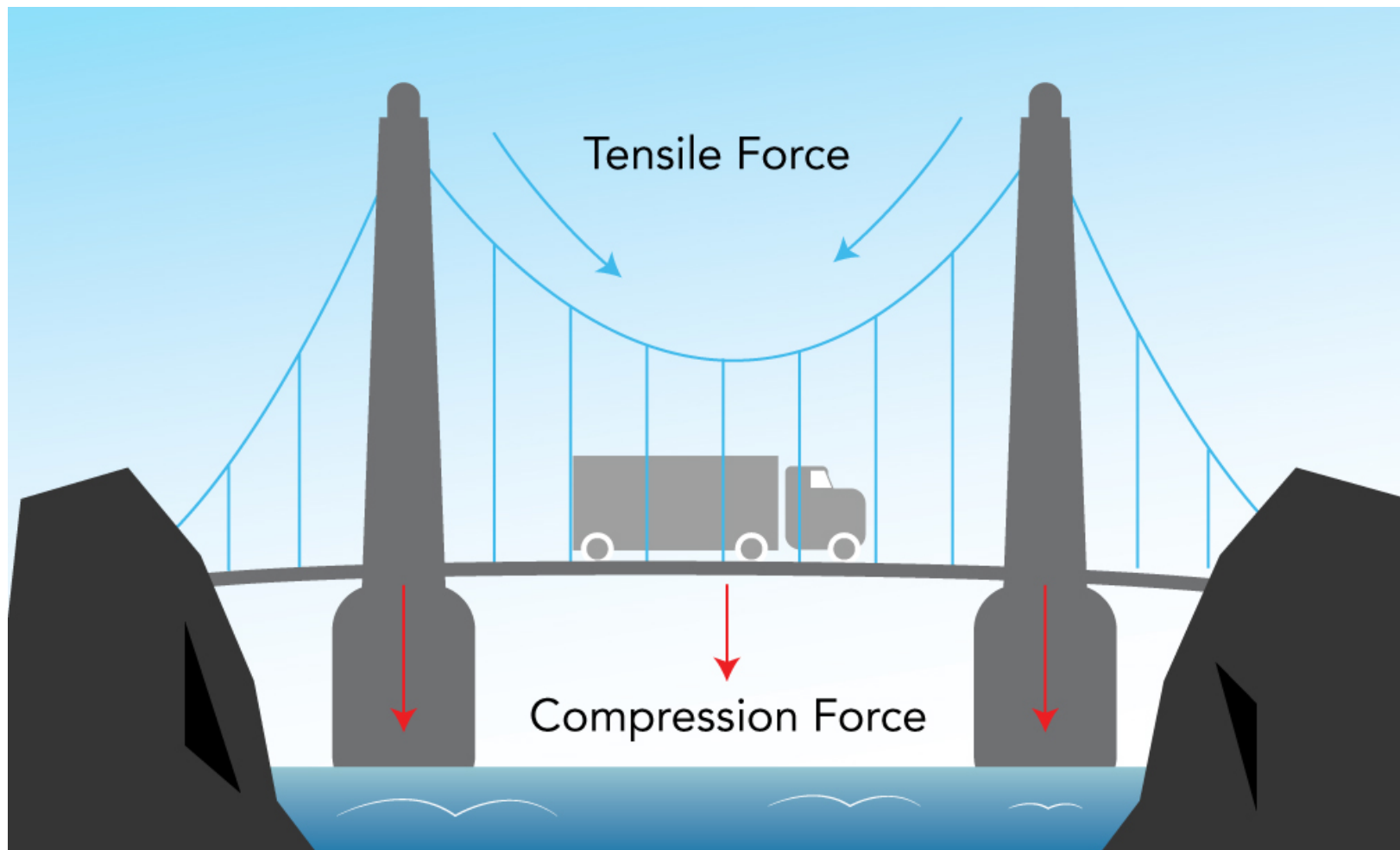
Let's Read



# Forces on Bridges

<https://www.pbs.org/wgbh/buildingbig/lab/forces.html>

[https://www.youtube.com/watch?v=N\\_DLcS1BVc4&frags=pl%2Cwn](https://www.youtube.com/watch?v=N_DLcS1BVc4&frags=pl%2Cwn)





Compression is a pushing force. The application of power or pressure against an object causes it to become squeezed, squashed or compacted.

**40 R**



## Catalyst:

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Feel the force.

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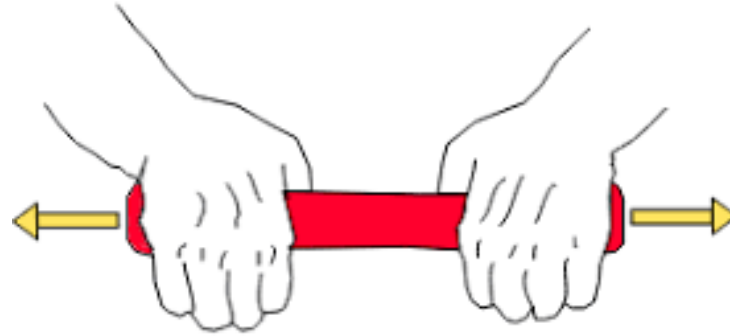
**40L**

3/12/19

## Feel the Tension

- Compression is a pushing force. The application of power or pressure against an object causes it to become squeeze, squashed or compacted.

**40R**



## Tension Forces

Tension is a pulling force. It is transmitted through a string, rope, cable or wire when it is pulled tight by forces acting from opposite ends.

**40 R**

3/12/19

## Catalyst:

1. Push your weight against the hands of your partner.

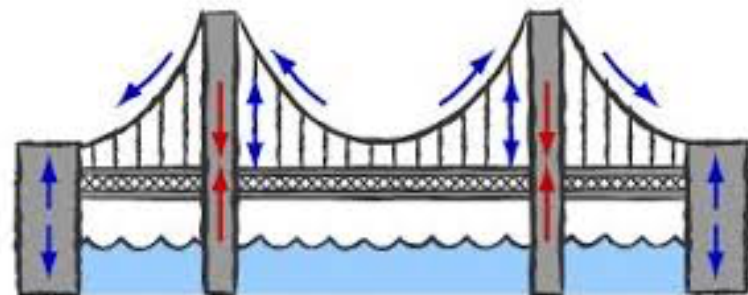
Feel the force.

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40L

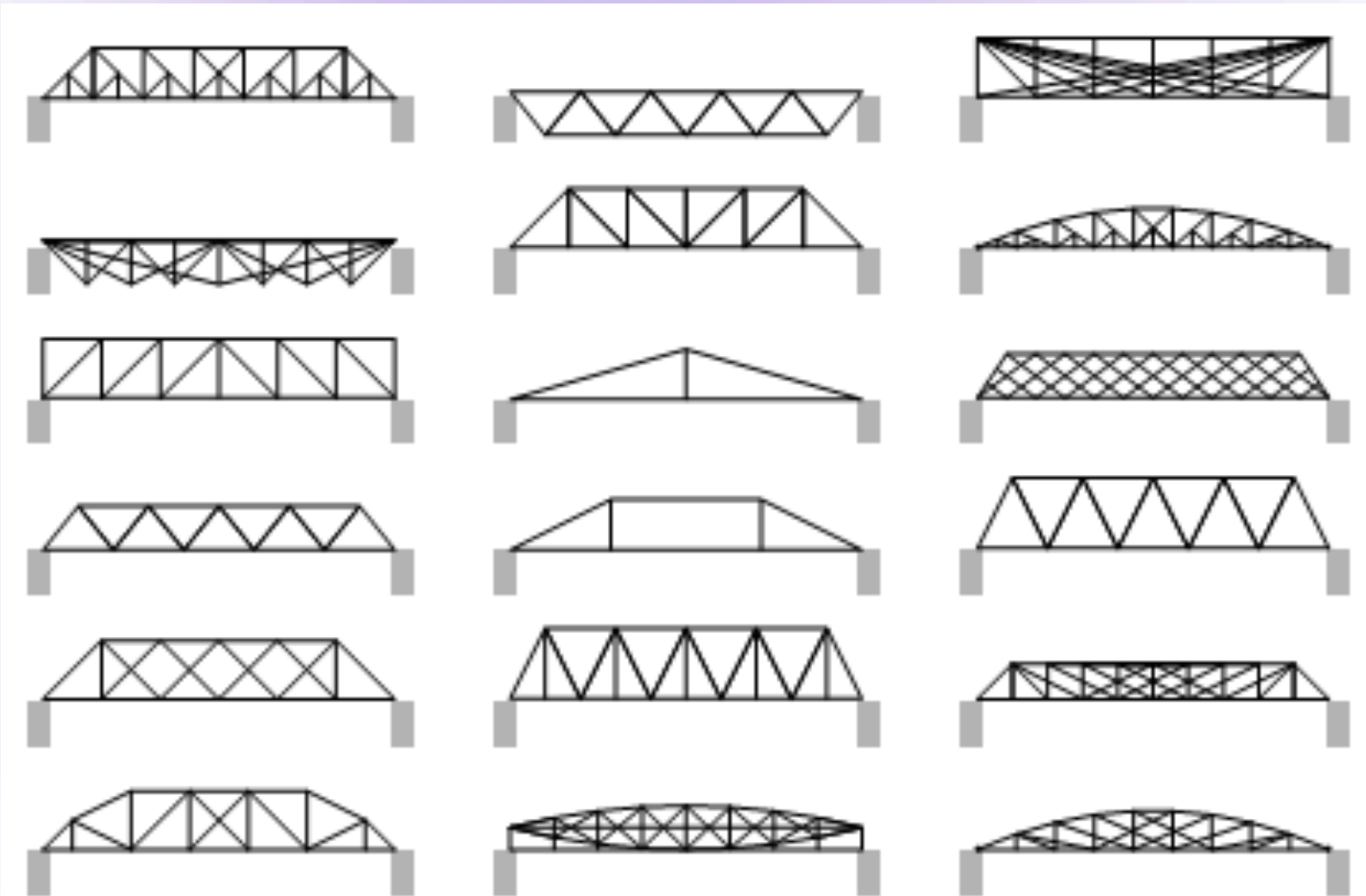
## Feel the Tension

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40R

# Design Influence



3/12/19

## Catalyst:

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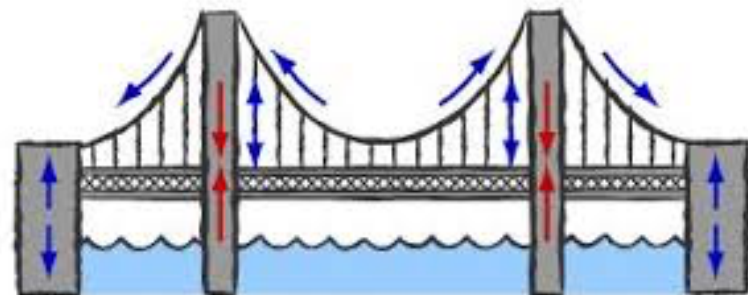
## LEAF:

Describe how successful your bridge was at carrying weight and why. You must include the terms of compression and tension in your reasoning.

40L

## Feel the Tension

- Compression is a pushing force. The application of power or pressure against an object causes it to become squeeze, squashed or compacted.
- Tension is a pulling force. It is transmitted through a string, rope, cable or wire when it is pulled tight by forces acting from opposite ends.



40R