



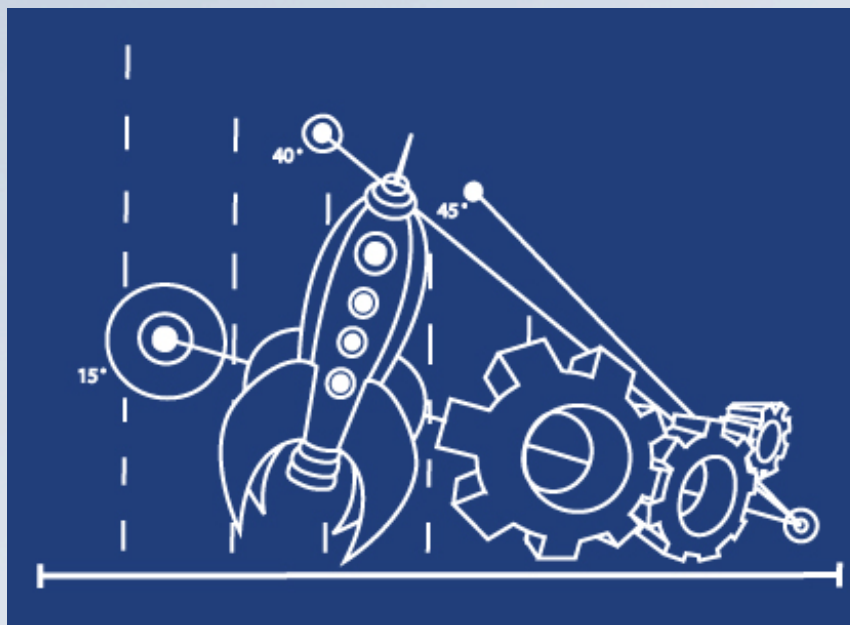
STRONG STRUCTURE BY DESIGN!



Professional Field Services,
Statewide Student Initiatives



WELCOME



Introductions ...

Professional Field Services, Statewide Student Initiatives

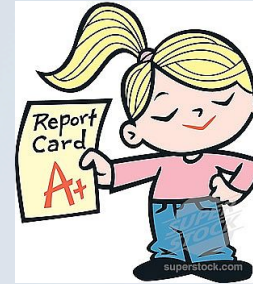
Allies Program



FUNShops, Summer @ IMSA, Online Learning



Teacher and Student Modes



□ **Teacher Mode**

Write notes or questions for the last ten minutes at the end, a debriefing time, when we go back into Teacher Mode.

□ **Student Mode**

Take notes as students. We will be in Student Mode for most of this activity. Students will be between grades 3-8.

Strength Test

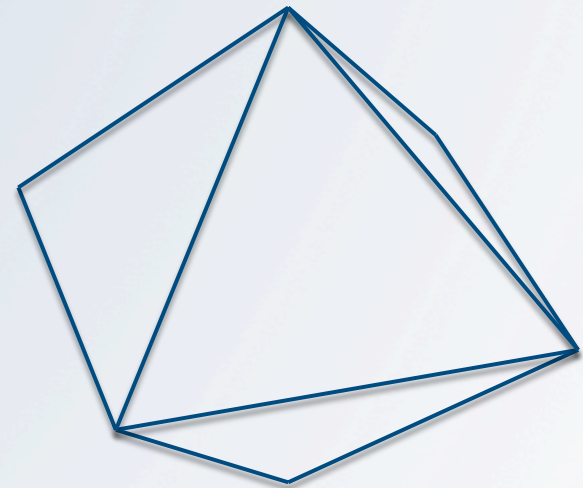
**How much mass can
egg shell domes
support before cracking?**

Octahedrons

- **Color**
- **Cut**
- **Assemble into 3D**

**Octahedron
structure**

- **Tape sides**



www.online-stopwatch.com

Stop Watch

Stop Watch

Stop Watch

Stop Watch

Stop Watch

Stop Watch



Count Down

Count Down

Count Down

Count Down

Count Down

Count Down



Dome

- Assemble 10 into a Dome structure
- Tape together
- Take a picture with your phone



www.online-stopwatch.com

Stop Watch

Stop Watch

Stop Watch

Stop Watch

Stop Watch

Stop Watch



Count Down

Count Down

Count Down

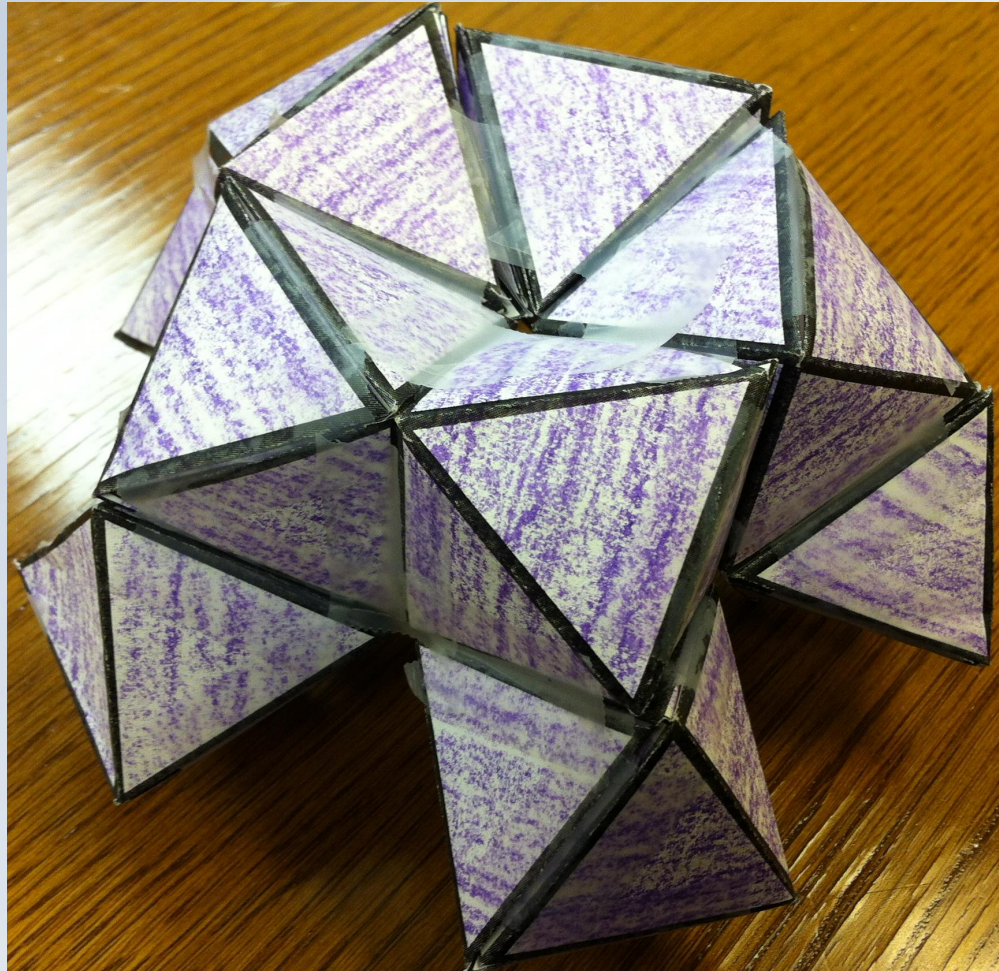
Count Down

Count Down

Count Down



Dome of octahedrons



Sphere

- **Assemble 2 Dome structures into a sphere**
- **Tape together**
- **Take a picture with your phone**



www.online-stopwatch.com

Stop Watch

Stop Watch

Stop Watch

Stop Watch

Stop Watch

Stop Watch

Stop Watch



Count Down

Count Down

Count Down

Count Down

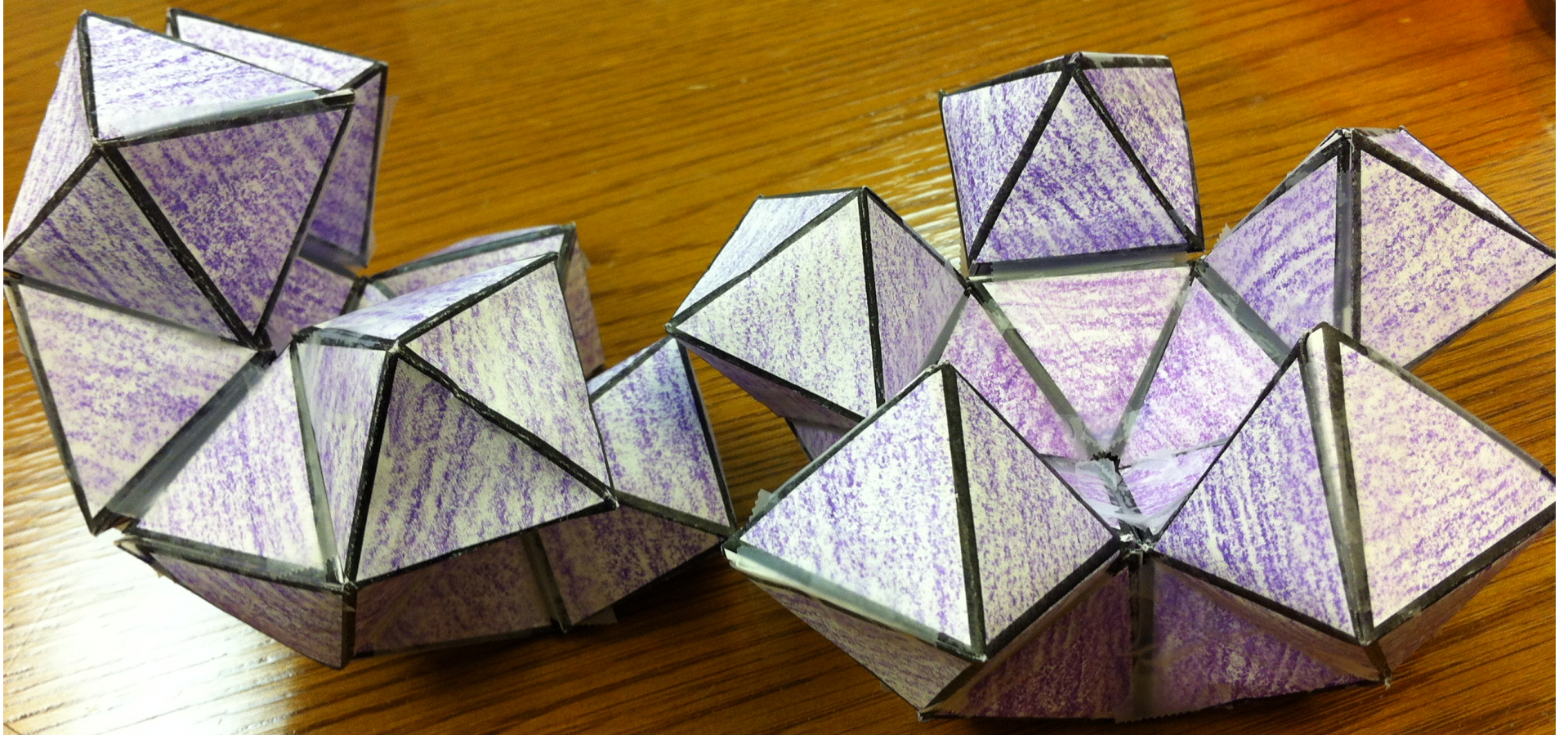
Count Down

Count Down

Count Down



Sphere of octahedrons



Dome structures





Teacher Mode



Debriefing Time ...

Key Ideas

Design Pedagogy

- Problem Introduction
- Solution Brainstorming
- Design
- Build
- Test
- Re-design → Iteration
- Re-build
- Re-test

Content

- Geodesic domes
- Triangulation
- FUN FACTS:
 - Dr. Wilson, inventor of the dome structure, was inspired by the structure of an egg.
 - Research shows that there was a dome that was hit with 5000-pounds of explosives and still remained standing.
 - It is more economical to heat and cool a dome-shaped home or building.



Thank you!

