STRONG STRUCTURE
BY DESIGN!

Professional Field Services,
Statewide Student Initiatives
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
Dome

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

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