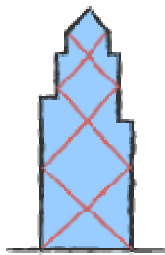


Skyscraper Challenge

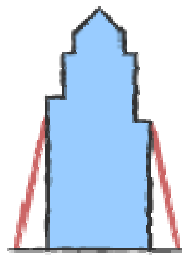
Chicago isn't called the Windy City for nothing. Gusts of up to 45 mph are whipping around your new 50-story apartment building. The building sways so much, tenants are complaining of seasickness! You need to brace the building or it will topple over.

The catch. A geotechnical engineer said the ground beneath the building is very soft. The bracing can't be too heavy or it will sink into the ground.

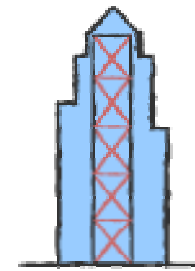
How will you strengthen your wobbly skyscraper?



Diagonal braces on the outside of the building



Long supporting arms



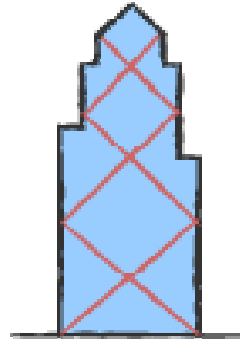
A rigid steel backbone through the core of the building



Skyscraper Challenge

Answer:

Build big diagonal braces on the outside of the skyscraper



Diagonals turn rectangles into triangles. Triangles are one of the strongest shapes used in construction today.

One of the tallest buildings in the world, the John Hancock Center in Chicago, has five sets of enormous diagonals on each of its four sides.

