



**Program:** Skyscrapers workshop

**Grade Level:** 5 -8

**Group Size:** Max. 30

**Length:** 90-120 minutes

**Location:** Center for Architecture and Design or on site



### Overview

Explore the challenges of building tall in the Pacific Northwest. Youth are introduced to the physics, engineering and design behind skyscrapers and the factors that bring them down, earthquakes and wind. Participants are then challenged to build their own skyscraper.

### Big Ideas

- Architects and engineers must consider multiple factors (earthquakes and wind) when designing skyscrapers.
- There are several ways to create a stable skyscraper (foundation, braces, base isolation, and tuned mass damper).

### Outcomes

- Define what a skyscraper is.
- Create a model skyscraper that can withstand a mock earthquake .

### Vocabulary

- Plate tectonics
- Subduction Zone
- Tuned mass damper
- Brace

### Standards Supported

#### Common Core State Standards (CCSS)

- ELA: Speaking & Listening: CCSS.ELA-Literacy.SL.5.1, CCSS.ELA-Literacy.SL.5.1.b, CCSS.ELA-Literacy.SL.6.1, CCSS.ELA-Literacy.SL.6.1.b, CCSS.ELA-Literacy.SL.7.1, CCSS.ELA-Literacy.SL.8.1

#### Next Generation Science Standards (NGSS)

- MS-ETS1-1 Engineering Design
- 3-ESS3-1 Earth and Human Activity



21<sup>st</sup> Century Skills

- Collaboration
- Communication
- Creativity and innovation
- Critical Thinking
- Flexibility

**Reservations**

For reservations, please call 206-957-1921 or email: [info@seattlearchitecture.org](mailto:info@seattlearchitecture.org)