

# Building with a Purpose *pre-activity*



Frank Lloyd Wright was one of the most well-known architects who taught the idea of how to design using organic architecture principles. Wright viewed organic architecture as designing and building in a way that is harmonious with nature. He felt that a structure should not dominate the space, but act as if it grew out of the ground and be one with nature.

Wright designed over 1,000 structures and nearly 500 were built in the United States and internationally. Wright designed many structures including bridges, private homes, skyscrapers, commercial buildings, museums, hotels, and gas stations. He had to consider many environmental factors when designing and building, including how he could design with as little of an impact on the natural landscape as possible.

## Principles of Organic Architecture

Below are a few examples of principles of organic architecture that Frank Lloyd Wright integrated into his designs:

- **HARMONY WITH THE SITE**—respect the nature of the site. Do not be intrusive to the site but enhance it through your building.
- **USE OF SHAPES IN BUILDING AND DESIGN**—use basic shapes for building designs like triangles, squares, circles, rectangles, ovals
- **NATURAL LIGHT**—make use of the sun
- **USE OF MATERIALS**—use local materials, respect the harmonious relationship between form, design, and function of the building
- **CREATIVITY**—think outside the box

There are five regions within the United States that architects and engineers design and build for: East Coast, West Coast, Great Plains, Midwest Plains, and Southwest. In this activity, consider your region as a building site.

As a pre-activity to your field trip experience to Frank Lloyd Wright's Taliesin West, please have your students, in groups, research and explore the principles of organic architecture that architects use in the five regions in the country.

### PART 1

Please assign students into five design groups. Assign them a region, and let them research and make observations using the principles of organic architecture as their gauge on the weather of the region, building structures that have been built within the area, and geological processes. Have them consider if the area is prone to flooding, hurricanes, tornadoes, earthquakes, rain, snow, extreme climate change, monsoons, and/or any other major weather events.

**REGIONS:** East Coast, West Coast, Great Plains, Midwest Plains, and Southwest

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## **PART 2**

Please have students review the images attached. If there is time, students can research each region.

Have students think about the landscape on which they would build.

- Is the area mountainous, is it a flat plain, is it located along a coastline (Eastern or Western region of the country)?
- Is the area larger than an acre, or is it small with building restrictions?
- How do the regions differ?
- What kind of weather occurs in these regions and how might it affect buildings over time?
- Consider any other factors that could affect a building in the different regions.

## **PART 3**

The photos attached depict examples of environments in each region. Please reference these images as students answer the questions above.

## **PART 4**

In conclusion of the activity, have the groups share their observations and findings in preparation for your field trip experience at Taliesin West.

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## REFERENCE PHOTOS



**EAST COAST**



**WEST COAST**



**GREAT PLAINS**



**MIDWEST CITIES**



**SOUTHWEST**

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## AZ STANDARDS

Kindergarten: K.G.A.2; K.G.A.1; ETK-S3C2-PO4; ETK-S4C2-PO1

First Grade: ET01-S3C1-PO2; ET01-S4C1-PO1; ET01-S4C2-PO1,2; ET01-S1C1-PO1; 1.G.A.1

Second Grade: ET02-S1C1-PO1; ET02-S3C2-PO2; ET-S4C1-PO1; ET02-S4C2-PO1,2

Third Grade: ET03-S3C2-PO1,2; ET03-S1C1-PO1

Fourth Grade: ET04-S1C1-PO1; ET04-S3C2-PO1

Fifth Grade: ET06-S3C2-PO1

Sixth Grade: ET06-S3C2-PO1

Seventh Grade: ET07-S2C2-PO1; ET07-S3C1-PO1; ET07-S4C1-PO1

Eighth Grade: ET08-S2C2-PO1; ET08-S3C1-PO1; ET08-S4C2-PO1

High School: ETHS-S2C2-PO1; ETHS-S4C2-PO2

## NGSS STANDARDS

Kindergarten: K-2-ETS1,2,3

First Grade: K-2-ETS1

Second Grade: K-2-ETS1

Third Grade: 3-ESS3; 3-5ETS1

Fourth Grade: 4-ESS3-2; 3-5-ETS1-3

Fifth Grade: 5-ESS3-1; 3-5ETS1-3

Sixth-Eighth Grade: MS-ESS3-3; MS-ETS1-1,2,3,4

High School: HS-ETS1-1,2,3,4