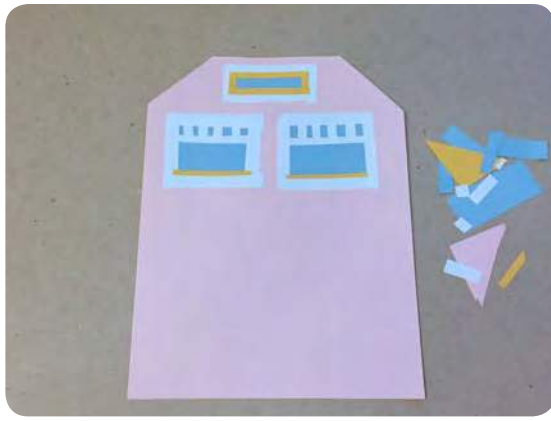


## CLASSROOM ACTIVITY: MATERIALS TRANSFORMED

<b>ESSENTIAL QUESTION</b>	How can we use everyday materials to create an architectural model that is unexpected and special?
<b>GRADES</b>	K-4
<b>TIME</b>	Two class periods and prior prep to gather materials
<b>ART CONCEPTS</b>	Lines (one-dimensional), shape (two-dimensional,) form (three-dimensional), sculpture, architecture, collage, texture, and overlapping.
<b>MATERIALS</b>	A selection of the following: white paper (8.5" x 11"), natural brown craft/butcher paper, colored paper, silver card stock, tin foil, popsicle sticks, scissors, oil pastels, clear cellophane/ vellum/ transparency sheets, strong packing tape, glue or glue sticks, a glue gun (only if a teacher is assisting), and reused/recycled materials: cardboard boxes from kitchen items (cereal, oatmeal, rice, etc), and empty toilet paper and paper towel rolls.
<b>TALKING ABOUT ART</b>	<p>View photos of the Frank Gehry Residence from different angles. What do you see? Do you see any shapes? Can you name them? Do you see any lines? Are they straight? Curvy? Zigzag? Horizontal (long) or vertical (tall)? What do you think you would do in this building? Do you think someone could live here? Why? Do you think this building is art?</p> <p>Frank Gehry first became famous for his work on his own home. When he bought his house, it looked very plain and average, but he wanted to add to it to make it stand out and reflect his work and ideas. Instead of tearing down the house and building a brand new one, Gehry decided to build around the house. He began to wrap the house with materials that are very common, but not normally associated with houses, like chain-link fencing. In his own words, "I found the material that people hated the most, and used the most."</p>
<b>MAKING ART</b>	<p>Collect various materials that you may want to use that will make your project uniquely yours.</p> <p>Draw a house (or your own home) with windows and doors using oil pastels/crayons/ markers on a white or colored piece of 8.5" x 11" piece of paper.</p> <p>Then glue your drawn image to a recycled (cereal, rice, etc) box and stand it up. After the drawing of a house has been glued onto the recycled box, begin to think of how you would create an extension that wraps around the drawn house and makes the house more unique and reflective of you.</p> <p>To apply the element of collage, begin creating different parts of the home separately before applying it to the construction of the house (i.e. accordion-folding the paper and/ or cardstock, gluing popsicle sticks together to make window frames with cellophane or vellum transparency sheets, and/or using crayons or oil pastels to decorate). Combine different kinds of shapes like rectangles, squares, and triangles. Use rulers to measure the height of your house and the parts you will be adding to it to make sure the different parts will fit together around the house.</p> <p>Arrange the elements you've created around your standing house until you feel your house looks unique. Use tape and glue to make sure your pieces are connected and secure.</p>

## EXAMPLE



## REFLECTION

Display your sculptures around the classroom or in an outdoor space (i.e. grass, garden, dirt, etc.). Walk around and look at your peers' work from all angles. Discuss what you noticed, what you liked and why. Would you want to live in that house? Why or why not? If you bring your sculptures outside for the discussion, you can have an interactive installation display where you can place the house in an environment that you believe suits it.

## CURRICULUM CONNECTION

CCSS.ELA-LITERACY.SPEAKING AND LISTENING.K-4

K-4.1 Participate in collaborative conversations with diverse partners. Language. K-2.6. Use words and phrases acquired through conversation. Language. 3.6. Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships. K.4 Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.

CCSS.MATH.K-4

Geometry K-5.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. Correctly name shapes regardless of their orientations or overall size. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). Analyze, compare, create, and compose shapes. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length). Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. Measurement and Data 2.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. Geometry 2.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

## CLASSROOM ACTIVITY: INSPIRATION COMES FROM EVERYWHERE

<b>ESSENTIAL QUESTION</b>	How do artists and architects find inspiration in the world around them?
<b>GRADES</b>	3-8
<b>TIME</b>	One class period
<b>ART CONCEPTS</b>	Inspiration, abstraction, imagination, sketching, line, shape, form, architecture, and design process.
<b>MATERIALS</b>	Images of animals, nature, natural objects, and sculptures. Newsprint for sketching, pencils, rulers, colored pencils, card stock, scissors, and glue.
<b>TALKING ABOUT ART</b>	<p>View and discuss the model for the Lewis Residence. What do you see? What does it make you wonder? Do the forms in the model remind you of anything? What would you like to ask the architect?</p> <p>Architect Frank Gehry's design for the Lewis Residence, the proposed home of art collector Peter B. Lewis, was inspired by a wide range of sources, such as animals, 14th century sculptures, and Baroque modeling techniques. When we use elements of something in our work, we can abstract them; that is, we can use aspects of our sources to guide or inspire our designs rather than reproducing the images exactly as they are. Do the forms in this model remind you of anything?</p>
<b>MAKING ART</b>	<p>Look through the images provided. Which are you drawn to? What is most interesting to you? Choose three images. Find a partner with whom you can collaborate. Together, look at the images that inspire each of you and discuss which ones have elements that you'd like to use in your building design.</p> <p>Together with your partner, design a building (a home, business, school, museum, hospital, etc.) that is in some way inspired by your source material. Sketch your ideas, and then create a final drawing with a written description of the building and its sources (include images). If you have time, you can then make a paper model of your building using the paper-folding techniques in the accompanying diagram.</p>
<b>REFLECTION</b>	<p>Provide each team a chance to present their ideas, sketches, and sources of inspiration to the group. Create an open forum so that the class can ask questions about the inspiration and creation of the work. What do you notice? What do you wonder? If this design were to be built, what materials would you use? Allow time for each team to share their ideas.</p> <p>*If time is an issue, pair up teams to present to each other.</p>
<b>CURRICULUM CONNECTION</b>	<p>CCSS.ELA-LITERACY.SPEAKING AND LISTENING</p> <p>3-8.1 Engage in a range of collaborative discussion, building on others' ideas and expressing their own clearly. 6.4 Present claims and findings, using pertinent descriptions and details. 6-8.6 Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level.</p> <p>CCSS.READING STANDARDS FOR LITERATURE</p> <p>6.2 Determine a theme or central idea of a text (artwork) and how it is conveyed through particular details.</p>

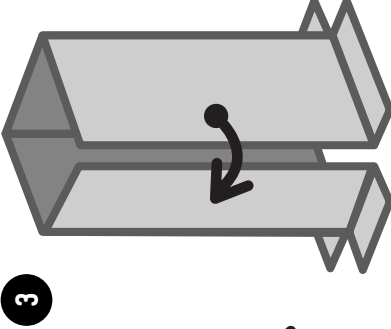
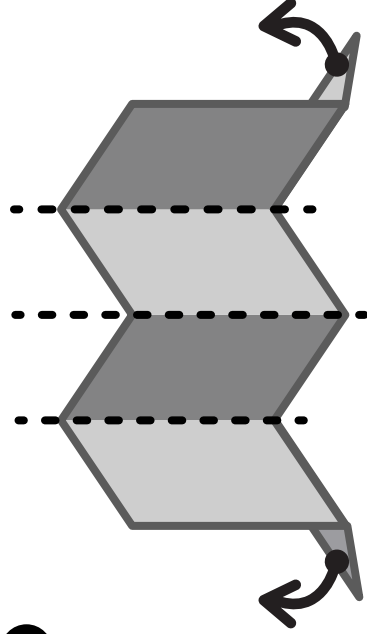
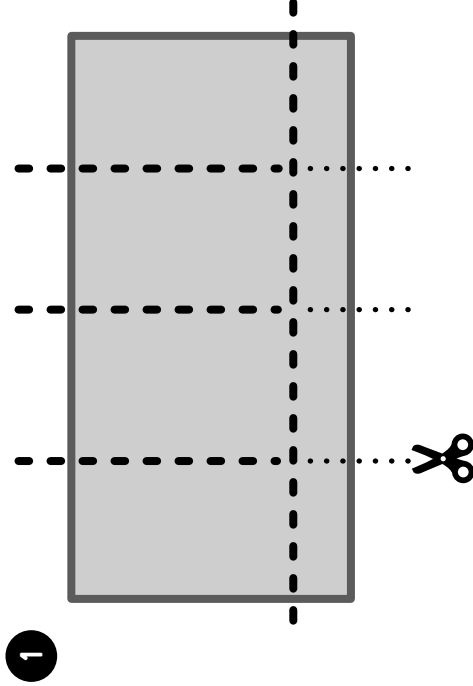
EXAMPLE



Evenings for Educators, Frank Gehry, December 2015.  
Prepared by Kerry Buchman with the Los Angeles County Museum of Art Education Department.

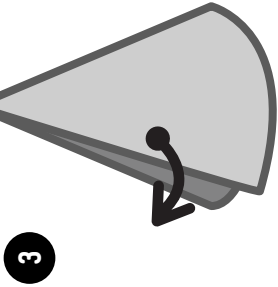
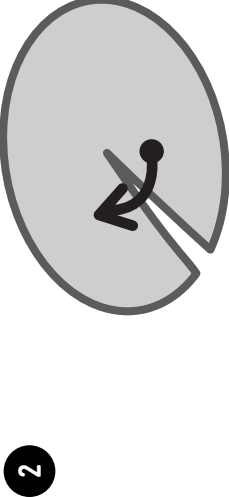
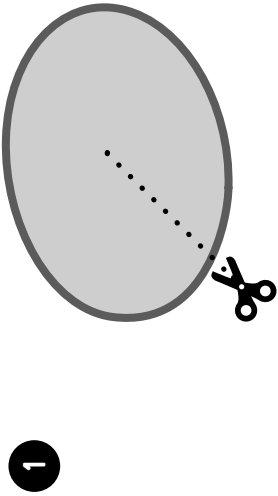
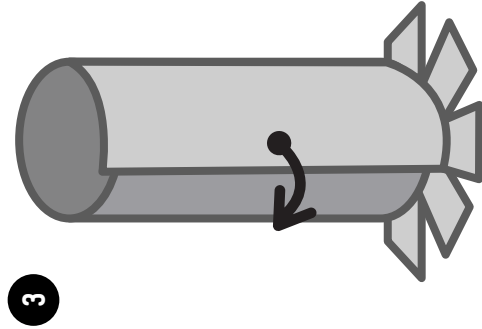
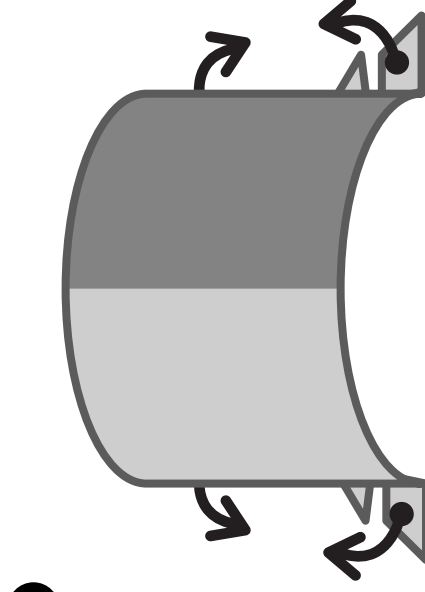
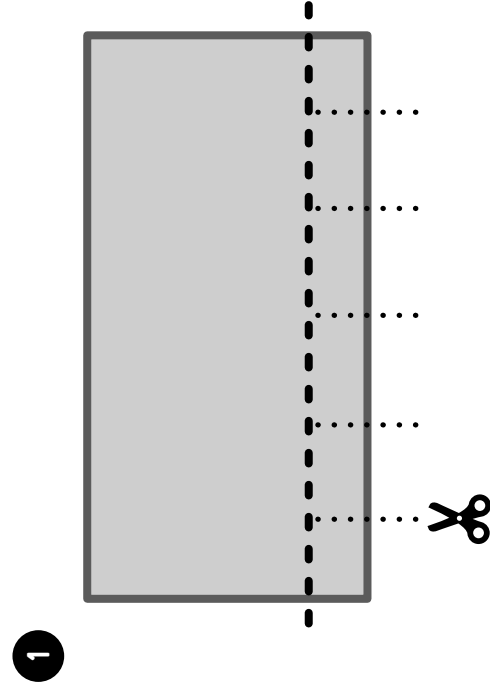
# 3D PAPER TECHNIQUES

..... CUT    - - - - FOLD



## CUBES AND CYLINDERS

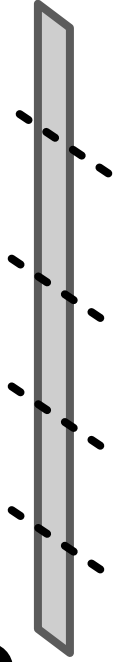
Cut small strips at the bottom of a rectangular piece of paper and fold into cubes or cylinders. The strips/tabs can be glued or taped to other surfaces and shapes.



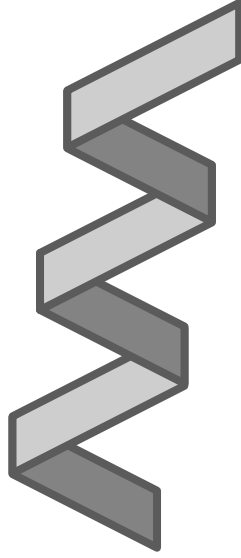
## CONES

Cut a circle shape, then cut a single straight line to the center and fold one edge over the other into a cone.

1



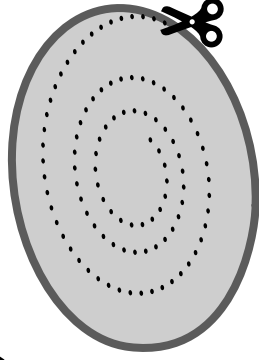
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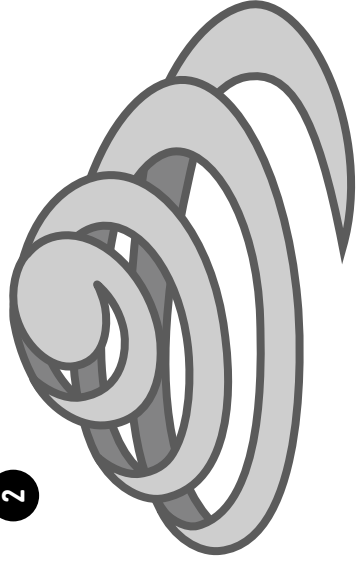
### ZIG ZAGS

Cut long strips of paper and fold segments in alternating directions to create zig zags.

1



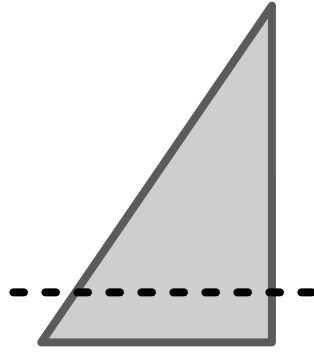
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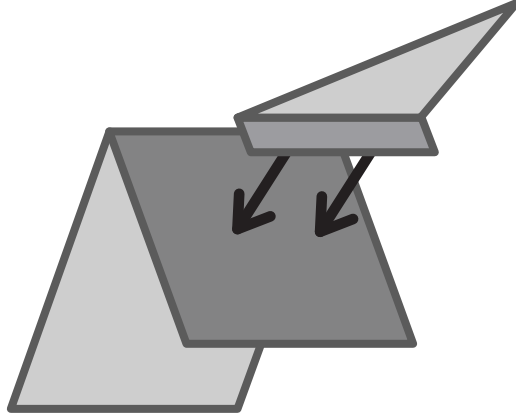
### SPIRAL

Cut a circle shape and draw a spiral from the center to the edge of the paper. Cut along the spiral you have drawn.

1



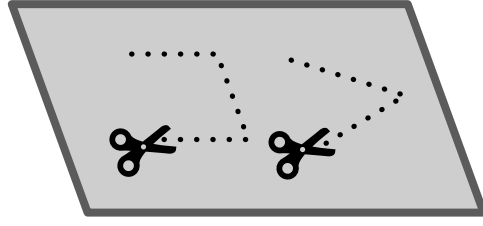
2



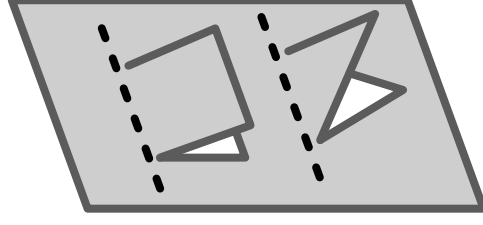
### CREATE A SUPPORT

Hold flat shapes erect by creating supports using triangles.

1



2



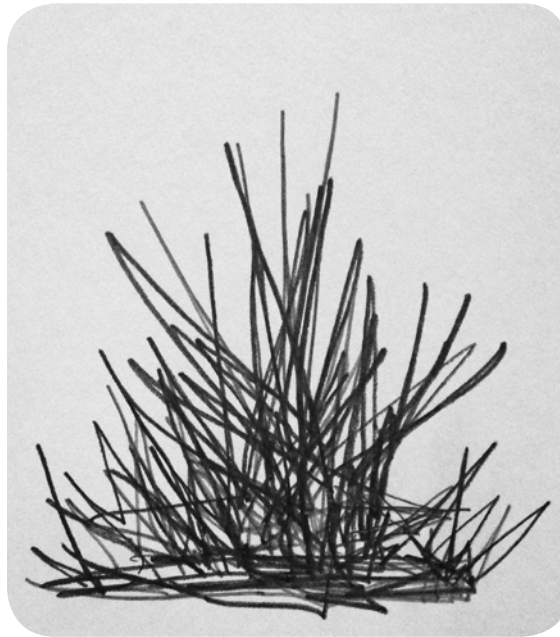
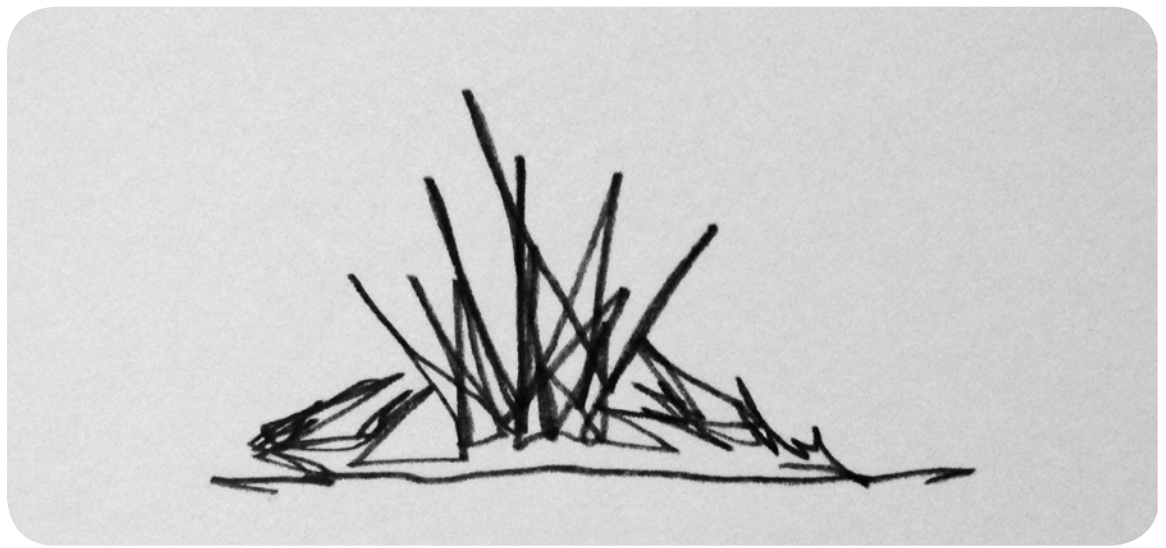
### POP-OUTS

Cut shapes into paper and bend them along an edge to create pop-outs.

## CLASSROOM ACTIVITY: EXPERIMENTAL ARCHITECTURE

<b>ESSENTIAL CONCEPT</b>	Playfulness and experimentation are important tools for innovation in architecture.
<b>GRADES</b>	6-12
<b>TIME</b>	Two class periods
<b>ART CONCEPTS</b>	Form, void, rhythm, experimentation, two-dimensional, three-dimensional, sketch, sculpture, and engineering.
<b>MATERIALS</b>	Pencils, drawing paper, cardstock, construction paper, clear tape rolls, colored tape, paper towel rolls, and scissors.
<b>TALKING ABOUT ART</b>	<p>Frank Gehry experiments with different materials and forms, creating drawings and models with a sense of playfulness. He compares his process to that of an artist, “When the artists and sculptors I know work, there’s a sort of free play idea. You try things; you experiment...Scientists work that way too... It’s kind of throwing things out and then following ideas, rather than predicting where you’re going to go.”</p> <p>View Images of Gehry’s drawing and model for the Guggenheim Museum Bilbao. How do they express his playfulness? In looking at his initial drawings, his models, and then the final building, what changes and developments do you see?</p> <p>How does Gehry use materials in a playful way?</p> <p>The metal used for the Guggenheim Museum Bilbao’s exterior is not much thicker than several sheets of paper stacked together so they often appear to flutter in the wind, and yet these thin metal sheets are actually more stable than stone.</p>
<b>MAKING ART</b>	<p><b>PART 1</b></p> <p>Begin by deciding what type of building you would like to create (a concert hall, a museum, your dream home, a school, a library, a mall, etc.). What is the building’s purpose?</p> <p>Then, with a pencil, draw a rough sketch of your building, letting your hand feel free to create loose-line shapes and forms. As you sketch, experiment with forms, drawing different shapes. Play with how you draw; try closing your eyes and/or moving the paper while you are drawing. Listen to music and let the flow of the rhythms and melodies influence the movements of your sketching. It may take a few sketches to develop your design.</p> <p>Based on your sketches, start to finalize your design. Think of how to enter and exit the building, its light sources, parking, and location. How will you support your design and make it stable?</p> <p><b>PART 2</b></p> <p>Choose one piece of color paper. By folding, bending, curling, scoring, and/or cutting the paper with scissors, create the shapes of your building. Use tape to hold your building together, allowing for some flexibility, and also for color accents. Some elements and ideas from your initial design may change as you make this model of your building, which is fine; let new ideas emerge during the model-making process as well.</p> <p>After you have built your model, name your building and write a label.</p>

## EXAMPLE



## REFLECTION

Arrange a display of all the sketches and sculptural models in rows, as if they make up a city. Ask students to walk around looking at the artworks. Discuss how each person's sketch was transformed into a 3D model. What changes were made in the transition? What shapes can be seen in the building? In what ways did the building's purpose influence the design of the building? What aspects of the building are unexpected or unusual?

## CURRICULUM CONNECTION

CCSS.ELA-LITERACY.SPEAKING AND LISTENING

6-12.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners. 6-12.6 Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level.



## CLASSROOM ACTIVITY: URBAN DESIGN

### ESSENTIAL QUESTION

How can we think of architecture in the context of the needs of our communities like “urbanist” architect Frank Gehry?

### GRADES

6-12

### TIME

Two class periods

### ART CONCEPTS

Two-dimensional, three-dimensional, sketch, model, architect, and texture.

### MATERIALS

Black markers, 8 ½” x 11” drawing paper, rectangular cake pads (cardboard), corrugated cardboard and/or plastic panels, wire, contour mesh, miscellaneous papers (aluminum foil, cardstock, etc.), transparencies and/or mylar sheets, scotch tape, painters tape, duct tape, and sharp scissors.

### TALKING ABOUT ART

View and discuss the sketch, model, and photograph of Frank Gehry’s Walt Disney Concert Hall in downtown Los Angeles.

What do you think an architect does? What do you see?

The entire process of building the Walt Disney Concert Hall from initial design to completion took fifteen years and during that time the project underwent numerous transformations and challenges ranging from earthquakes to technological difficulties.

Does the sketch for the Walt Disney Concert Hall look like the final design? Does the model look like the sketch? Discuss the changes you notice.

Frank Gehry takes the surroundings into consideration when designing urban buildings. The building’s context helps dictate the size of the building, the materials he uses for the exterior, and the way in which the building is oriented. This is what makes him an “urbanist”. What do you think the architect and his team of engineers and builders had to consider when placing a building downtown?

### MAKING ART

#### PART 1

Break up into groups of four to work together on the design of a building (in the same way that architects work with engineers, builders, and community leaders) that you feel you need in your neighborhood and community.

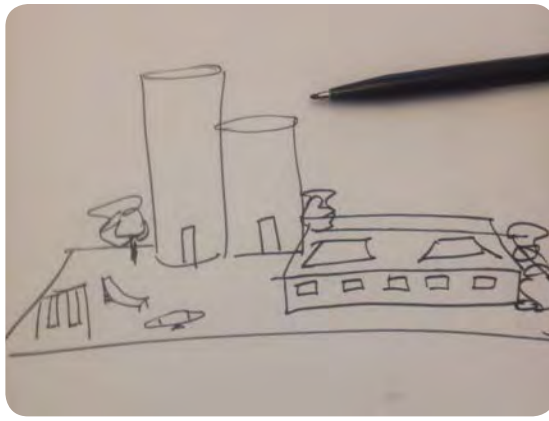
(5-10 min) Discuss what kind of building your neighborhood needs and why. Consider the surrounding area, the placement of this building, the other buildings around it, the materials you would use, and the need for green space.

(5-10 min) Each team member should get a sheet of paper and black pens. Based on the previous group discussion, write what kind of building you’d like to design, why the community needs it, and what it will be made of.

Each team member should then flip the paper over and quickly sketch how they envision the building (5 min).

Vote as a group which sketch to build from. Decide on the name of the building.

## EXAMPLE



## REFLECTION

Each group will share their building sketch, why they feel it needs to be built, what it will be made of, and where it will be built in the neighborhood.

### PART 2

Review the images of Walt Disney Concert Hall. Look at more images of models from the exhibit. What do you think Gehry used to make the models?

Meet with your group and collect an assortment of papers, cardboard, tape, and markers to begin making a model based on the sketch selected by the group.

Decide what each student is doing in the group. Who is working on the landscaping around the building? Who is making the structure for the main building? Who is choosing the materials and finding ways to manipulate them? Who is in charge of creating a unified and interesting facade?

(40 min) Build a model of your building on a piece of rectangular cardboard. Feel free to experiment with folding, bending, and curling paper for your model.

## REFLECTION

Each group will present their model. You must explain why your building is important to your community. You will explain your materials and why you chose to make the building the way that it is.

## CURRICULUM CONNECTION

CCSS.ELA-LITERACY.SPEAKING AND LISTENING.9-12

6-12.1 Initiate and participate effectively in a range of collaborative discussions with diverse partners, building on others' ideas and expressing their own. 9-12.4 Present information, findings, and supporting evidence. 6-12.6 Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level.