BOX-CITY
Urban Ecosytem/Community

Grade Level: K – 2

Created by Phanat Xanamane
2020 Teaching Artist in Residence

Robert C. Tannen | BOX-CITY Exhibition
February 7th, 2020 – May 16th, 2020

BOX-CITY Urban Ecosystem/Community
Grade Level: K–2nd Grade

Lesson Description:

Students will learn urban design terms and practices through engaging with the
Robert C. Tannen | BOX-CITY exhibition. The centerpiece of the exhibition is an interactive
installation consisting of 48" x 40" x 48" triple wall cardboard boxes. Students will design a
BOX-CITY that addresses community needs and wants: homes, green spaces, economic, and
social-cultural spaces. After the students set up an initial layout for the boxes, they will have to
adapt their design in response to an environmental challenge. Students will explore key concepts
such as scale and model. This will involve working as a group to problem solve and consider a
range of design choices. After working with the box model, students will move to the museum's
classroom to plan and create models for the growth of one city block in the West End District of
New Iberia, Louisiana. Students will also have a chance to view and comment on architectural
models built by University of Louisiana at Lafayette architecture graduate students.

Overarching Theme/Universal Concept:
Using Models to Solve Design Problems, Community

Essential Questions:
• What does a community need?
• What is the difference between wants and needs?
• How can diagrams, drawings, and models be used to convey information and solve problems?
• How can humans adapt to environmental challenges?
• What makes a community more resilient? How can we design and create resilient
   communities?

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Objectives and Focus Questions:

• What is urban design? What does an urban designer do?
• What models and diagrams can you make to study a community?
• What is scale?
• What information do different scale models convey?
• Why is a scale model useful for solving problems?
• What are examples of needs and wants that communities have? What are examples of resources and assets that a community needs and has?
• What makes a design good? What are some other design options or choices?

Key Terms:

Adaptable: able to adjust to changes or new conditions

City Code: rules or laws for building in a city

Community: a group of people living or working together in the same area

Green Space: an area of grass, trees, or plants

Need: something that is necessary for living

Resilient: able to survive or recover from challenges

Scale Model: a copy or representation of an object that is larger or smaller than the object

Urban Area: any place where people live, a city or town

Urban Designer: someone who plans and creates cities and other spaces where people live

Want: something you would like to have

Zone: a section of a town or city that is created for a particular use

Standards:

Louisiana Science Standards

Science instruction will focus on communicating ideas and solving problems using different types of scale models.

Science and Engineering Practices

1. Developing and using models

Modeling in K-2 builds on prior experiences and progresses to include using and developing models (e.g., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

• Develop and/or use a model to represent amounts, relationships, relative scales (bigger, smaller), and/or patterns in the natural and designed world(s).

Developing Possible Solutions

Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solution(s) to other people. (LE.ETS1B.A)

Performance Standards:

K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

Louisiana Social Studies Standards

Social Studies instruction will focus on identifying needs and wants.

K.5.1 Identify wants and basic needs

1.5.2 Distinguish between needs/wants of people by responding to real life situations

2.5.3 Explain how scarcity of resources and opportunity cost require people to make choices to satisfy wants and needs

Louisiana Visual Arts Standards

Art instruction will focus on recognizing and comparing design choices. Students will compare different urban design choices and use this knowledge when explaining judgments about the built environment.

VA-AP-E4 Recognize that there are many possibilities and choices in the processes for designing and producing visual arts.

VA-CA-E3 Express and explain aesthetic judgements about the created (built) environment.

Pre-Visit Activity

Materials:
• Powerpoint Introductory Lesson for students
• BOX-CITY Pre-Visit Handout

Activity 1:

View

PowerPoint Introductory Lesson for Students.

After explaining to students that they will be taking a field trip to the museum, view the slides introducing Phanat Xanamane, the Hilliard Art Museum's 2020 Teaching Artist in Residence, and the exhibition *Robert C. Tannen | BOX-CITY.*

Review the City Code for BOX-CITY. In the exhibition, students will work together to move cardboard boxes to design a BOX-CITY.

Activity 2:

Community Needs and Wants

Have students name three needs and three wants. Have students identify what is needed to meet their wants and needs.

For example:

Identify a need: Food

• What is needed in order for me to meet this need: I need a place to get food.

• Where do you go in your community to get food: I go to the grocery store

Students will draw or write three needs and wants on their handout.

Draw A City

Ask students to brainstorm about what they think people in a city need. Discuss what they may want to include in their city: houses, grocery stores, schools, parks, etc.

Students will draw their city. Older students should label the items in their city.

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Key Terms:

Need: something that is necessary for living

Want: something you would like to have

City Code: rules or laws for building in a city

Classroom Extension:

Look at photographs of different cities. Discuss what is in the photograph: buildings, roads, sidewalks, etc. Ask students to identify how the city in the photograph is similar or different from where they live.

Have students color/label/draw a diagram of a natural/nature-made shelter (a bird's nest etc.) and human-made shelter (house). Have students identify different ways that the natural and human-made shelters address the needs of their inhabitants. Teachers might discuss how access to certain renewable resources (such as water or sunlight) and nonrenewable resources impact the quality of life for the living organism that inhabits the shelter.

At the Museum

## BOX-CITY Construction: Designing Adaptable and Resilient Communities

What is an urban designer? Students will work with urban designer, Phanat Xanamane, to design urban models.

Activity 1: Models and Scale

Students will look at models of the same living unit at three different scales and discuss how having different scale models can be useful for problem solving.

Discussion Questions:

• What is a model? What is scale?

• Which scale model will be best to use for planning a city? A community? A house?

• What different information can you learn from each type of model?

• How many people do you think can live in the 8'x 8'x 8' living unit?
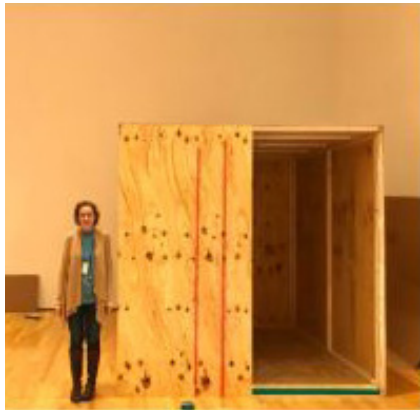
Full Scale 1 ft = 1 ft   Half Scale 6 in = 1 ft   ½ in = 1 ft

Building Challenge: Box City 1.0

Create an urban design model that meets community needs.

Students will list needs and wants that they think a community might have. Needs and wants will be categorized by types of needs, including green spaces, social or cultural needs, housing needs, or economic needs.

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Please Touch the Art

The central artwork of the exhibition *Robert C Tannen | BOX-CITY* is a large conceptual and interactive artwork consisting of movable cardboard boxes that represent modular living units.

Students will be assigned building zones and needs based on their previous discussion and will work in teams to build a BOX-CITY that includes design elements that address a community need appropriate for their assigned zone. The building zones are a green zone, an economic zone, and a social/cultural zone. Each zone will receive seven boxes and seven 4'x4' sheets of paper representing green space. Depending on their assigned zone, students will receive additional boxes or green space to include in their design. **Each BOX-CITY zone must include living space for all the students assigned to that zone.**

Sample Team

10 children are assigned to the green zone. They are given seven boxes and seven sheets of paper representing 4'x4' green spaces and are challenged to create a city with additional green spaces. They are giving three additional sheets of paper to create more green space.

Flows and Zones in an Community:

Small Group Work

After building their cities each group will:

• Explain how their design choices fit the needs of their community

• Explore other design options for improving or adapting their city

• Draw a map and label the parts of their BOX-CITY

Large Group

• Students will listen to other groups explain their design choices

• Students will discuss how people and resources will flow in their BOX-CITY design

• Using colored sticky notes, the Teaching Artist and students will mark boxes according to the need category each box serves.

Yellow: Shelter or Living Space

Blue: Economic Space

Pink: Social/Cultural

Green: Green Space

• Students and the Teaching Artist will use the colored sticky notes to discuss and track how goods, resources, and people might travel across the different zones of the city.

Individual Work:

• In their gallery guide, students will complete a flow diagram showing how people and items flow through the different zones and patches in their community.

Key Terms:

Urban designer: someone who plans and creates cities and other spaces where people live

Urban: any place where people live; a city or town

Flow: movement of people or items through a community

Zone: a section of a town or city that is created for a particular use. Ex. business zone or residential zone

Building Challenge: BOX-CITY 2.0

Create a BOX-CITY model that can adapt to change.

Change

Due to flooding, there is less livable land in BOX-CITY.

Challenge

Build a BOX-CITY for the same number of people, but now everyone must live in two zones instead of three. Your adapted BOX-CITY must include housing for everyone and meet the same economic, social/cultural, and green space needs.

Students will work together to design and build a new BOX-CITY that contains the same number of living units and green space in two zones instead of three.

Discussion Questions:

• How does your new design meet all the community's needs?

• How did you adapt your design?

• How have the patches and flows changed in the BOX-CITY?

• How resilient is your BOX-CITY?

Key Terms

Mixed-Use Planning: a type of urban development in which different functions or uses can happen in the same space. For example allowing residential or living space to be in the same building as a business.

Resilient: able to withstand or recover from difficult conditions

Adaptable: able to adjust to changes or new conditions

Classroom Extension

Create a smaller scale BOX-CITY in your classroom using file boxes or boxes that students collect.

In the Museum's Classroom

West End District, New Iberia, LA

Essential Questions

How do you design to meet the needs of a particular community?

How do you judge the quality and effectiveness of a design?

How can a scale model be used to plan or problem solve?

Activity 1

Students will look at a model of one city block in the West End neighborhood. Students will discuss the needs of the community.

Scale: Neighborhood Block 1/16 in = 1ft

Building Challenge

Design a 1/16" scale model for one lot on Hopkins St. in the West End District.

Students will receive a plastic base and building blocks for constructing their model. The student will be assigned a particular lot that is zoned for certain uses. The zones will correspond to the colors used during the exhibit building challenges. Most lots will be mixed use and assigned more than one color.

Building zones and building block colors

Yellow: Shelter or Living Space

Blue: Economic Space

Pink: Social/Cultural

Green: Green Space

Activity 2

Zones and Flows

Students will lay their models on the larger site model of Hopkins Street. Since colors on the building blocks correspond to the different zones, students will be able to see what types of needs are being addressed on each lot and examine how the flow of people and things in the neighborhood have changed.

Discussion Questions

How does the flow of items and people in the neighborhood change with the addition of the new designs? What people and items now flow in the community?

How is the redesigned community more resilient?

How does your design help meet the community's needs?Are there additional changes that could be made to improve the community and better serve the residents?

Activity 3

Evaluate and Contribute to Community Feedback

Students will view models created by University of Louisiana at Lafayette graduate architecture students for the Hopkins Street area. Students' comments and ideas will be collected along with feedback from other community members. This feedback will inform future revitalization efforts in the West End District.

Post-visit Activity

Design Challenge:

Four Block Neighborhood

Students will draw a model with four city blocks on four colored sticky notes. Each block can have four buildings or types of green areas. Each lot is zoned by color.

Students will describe the neighborhood they designed and how it meets the needs and wants of the people living in the neighborhood.

Resources:

Envision da Berry - Community Organization in New Iberia

https://www.facebook.com/EnvisiondaBerry/

www.daberry.org

Lesson Plan Teaching Map Skills through Storybooks

https://www.nationalgeographic.org/activity/mapping-storybooks/

Lesson Plan on Mapping a Classroom

https://www.nationalgeographic.org/activity/mapping-classroom/

Maps of a Neighborhood and Classroom

https://www.nationalgeographic.org/maps/maps-and-models/

Ecological resilience and Resilient Cities

https://www.academia.edu/20304099/Ecological_resilience_and_resilient_cities