

# EDUCATING ELEMENTARY CHILDREN THROUGH ARCHITECTURE



AN INTERACTIVE ARCHITECTURE LEARNING UNIT FOR ELEMENTARY STUDENTS

UTAH CENTER *for*  
ARCHITECTURE

## LESSON 02 - SPACE/CLASSROOM

### TIES TO CURRICULA (5TH GRADE - LANGUAGE ARTS)

Language Standard 4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade specific reading and content, choosing flexibly from a range of strategies.

Writing Standard 2.d: Use precise language and domain-specific vocabulary to inform about or explain a topic.

### SUMMARY

Space is the fundamental building block of architecture. How space is used, defined, enclosed and organized determines its architectural qualities. The arrangement of furniture, equipment, etc. determines how a room functions. These changeable requirements create both challenges and solutions in the daily activities of a room.

### MATERIALS

#### Classroom/Teacher:

- pencils

#### Architect/Volunteer:

\*\* optional

- Building Typology Sheets for your Map (copies for number of students you anticipate being in each group + one master copy)
- Handout 2.1 (copies for each student)
- Handout 2.2 or 1/4" graph paper (copies for each student) \*\*

### LESSON ACTIVITY 1 - WHAT'S IN A "ROOM"? (10 MINUTES)

Pass out copies of **Handout 2.1**. Have them write down descriptions of words they may know. Review a few of the vocabulary words. Explain to the students the importance of using words to describe architecture. You may wish to reinforce understanding of certain words using pictures. Ask a couple of students how they would define a "room". (A room is usually assumed to have a floor, walls and ceiling to define it, as well as a particular function that sets it apart from other rooms.)

How do we get from one room to another? (The issue of doorways, doors, halls and passageways is crucial for later work in floor plans; remember that an interior door always serves two rooms at once.) Are there often windows between rooms? Why? Brainstorm a list of the different kinds of rooms (see attached vocabulary list). What are the special functions of these rooms? What activities take place in each one? As time allows, you may wish to discuss the following.

#### Special Room Qualities:

- function
- size (relative to other rooms in the building)
- materials/color/texture
- windows (why are they important?)
- public or private use (in a home, "public" can mean guests while "private" means limited to family or individuals)
- furniture (characterize furniture; a kitchen stool is very different from an armchair)

Have students write a description of a walk through their bedroom. Have them mention doors, windows, materials, color, texture, furniture, etc. Have them write about what they like about their room and what they dislike.

## LESSON 02 - SPACE/CLASSROOM

### ACTIVITY 2 (OPTIONAL) - FLOOR PLANS (25 MINUTES)

Pass out a piece of graph paper or a copy of **Handout 2.2** to each student. Give a visual demonstration on the blackboard of how to draw a floor plan of a room to scale. You can perhaps draw a simplified plan of the classroom or an imaginary room. You will need to help students measure or understand the size of a room, the general sizes of common items like doors, windows, or beds, and then how to correctly scale/size them for a floor plan.

Ask the students to draw a floor plan of the room they described in Activity 1. As students are determining sizes of things, it may be helpful to compare things they can see to their descriptions, perhaps asking questions like "If your ruler is 1 foot long and your room is this big, how many rulers wide do you think your room is?" or "If the classroom is 30 feet wide and your room is 1/3 its size, how wide do you think your room is?" At first let them only draw what they have described in their papers. Later as time allows, you can allow them to embellish their drawings.

**Pro Tip:** *You may just want to demonstrate how to draw a floor plan (say of an imaginary bedroom or the classroom) together as a class. A few students could take turns drawing different items to scale (e.g. door, window, furniture). This approach tends to take less time and keeps the whole class focused together.*

### BOX CITY ACTIVITY - GROUPS & TYPOLOGIES (20 MINUTES)

Here you will organize the students into their **nine (9) box city groups**. Future lessons will be a mixture of individual and group work, but the students will always keep the same groups. Explain that in order to successfully build our Box City, the students will be divided into groups to provide an efficient social structure for the project. Break students into groups randomly (so that no one has to deal with "last one to be picked" syndrome). The size of groups is to be determined by the size of class divided by 9 (the number of plots in each classroom's Box City). Depending on the amount of class time you would like to use, you could pick group letters out of a hat, line up the students and count them off according to the first 9 letters of the alphabet, or teachers may wish to assign groups. Self selection is **not recommended** – this is an opportunity for all students to be involved with unknown others.

Pass out the **Building Typology Sheets** for each group, these are the building types that the groups will be building on their plots (blocks) for the Box City. Have the students determine as a group which building each group member is going to build. Assign or encourage groups to develop a name based on a class theme (e.g. letters A through I, materials (Steel Group, Glass Group, Masonry Group), colors etc.). This helps to strengthen group and class unity and identity.

Tell the students that during the next week, they should be thinking about these typologies (bank, house, gas station, apartment building, etc.) and to start imagining what they might look like. Suggest they find images online of the specific typology they have been assigned. Remind the students to bring in boxes (cereal, oatmeal, juice boxes, etc.) in anticipation of building the Box City.

**Pro Tip:** *Be sure to record the group names, members, and their assigned typologies, and encourage the students to do the same. This will help to eliminate confusion later if students forget.*

### RESOURCES

*Architecture in Education: A Resource of Imaginative Ideas and Tested Activities*

Foundation for Architecture, Philadelphia; Edited by Marcy Abhau with Rolaine Copeland and Greta Greenberger

## HANDOUT 2.1

### Architecture Vocabulary Words - Describe a ...

attic	_____
balcony	_____
ballroom	_____
bedroom	_____
cafeteria	_____
carport	_____
cellar	_____
closet	_____
crawl space	_____
deck	_____
dining room	_____
entrance	_____
foyer	_____
garage	_____
half-bathroom	_____
hall	_____
kitchen	_____
library	_____
living room	_____
lobby	_____
nook	_____
nursery	_____
office	_____
pantry	_____
porch	_____
restroom	_____
study	_____
veranda	_____
vestibule	_____

### Architectural Elements of a Room

archway
banister
baseboard
carpet
chandelier
column
curtain
counter
doorway
drapery
elevator
escalator
fireplace
floor
furniture
lamp
lighting
mezzanine
mirror
molding
outlet
partition
rafter
rug
shelves
stairway
wainscoting
wall
window: sash, shade, sill

Describe your bedroom with as much detail as possible. What size is it? What architectural elements does it have? What do you like and dislike about your room?

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## HANDOUT 2.2

### INSTRUCTIONS

Try drawing a floor plan of your bedroom to the scale of  $\frac{1}{4}$  in = 1 ft. If you don't know the size of something, take your best guess. Once you have the basic layout, add some of the items you described in Handout 2.1.

My bedroom is \_\_\_\_\_ ft long and \_\_\_\_\_ ft wide.  
If I multiply this by  $\frac{1}{4}$ , I get it's scaled size.

Length: \_\_\_\_\_  $\times \frac{1}{4} =$  \_\_\_\_\_

Width: \_\_\_\_\_  $\times \frac{1}{4} =$  \_\_\_\_\_

