

# LESSON 5: BUILDING A CITY

## SUPPLIES

### MAIN BIN

- White paper bags (30)
- Masking Tape (1)

### HANDOUT FOLDER

- Construction Paper (30)
- Paper (30)


### PENCIL BOX

- Markers
- Pencils
- Glue
- Tape

## OBJECTIVES


- To understand the function of different city buildings and their importance to a community.
- Create buildings that are functional and fit for purpose.

## HOOK

 2-3 min

We all reside in a town, city, village, borough or municipal. But do you know who designs these spaces we call home? An urban planner designs and implements plans for community developments focusing on creating sustainable, efficient, and people-friendly communities. Can you name essential components to a thriving town or city? Schools, hospitals, libraries, fire stations and grocery stores are all essential to a thriving community.

## INTRODUCTION

 3-5 min

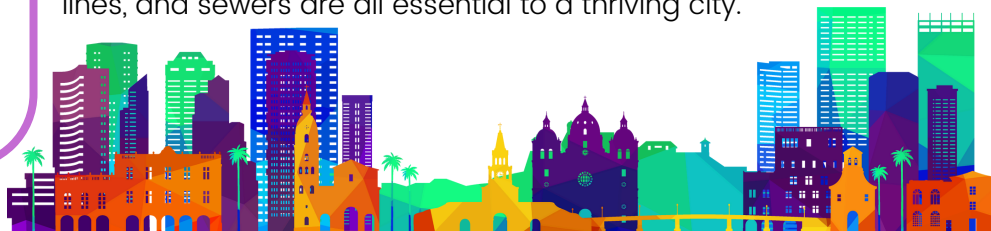
Calling all architects, engineers, artists, and urban planners! Today we will be working together to design and build our very own iSTEAM City! When building a new city, urban developers must plan, design and build carefully considering how all city elements fit and work together. Just like real city planners, today you'll get to make decisions about what our city looks like, how people move around, and what buildings and spaces are needed to make it a great place to live. Before we begin, let's consider a couple essential components.

### Land Use and City Layout


Urban developers need to carefully consider where to place residential areas like houses, commercial areas like grocery stores and businesses, industrial areas like factories, and recreational spaces like parks and playgrounds in order for these spaces to thrive. Developers must also take a city's climate and weather into consideration. For example, if a city experiences a lot of hurricanes, they will need strong buildings. If it's located in a dry region that could catch fire, developers will avoid wooden buildings or flammable materials.

### Transportation and Infrastructure

Every city needs a way for people to get around. Developers must consider roads, sidewalks, bike paths, and public transportation like train stations. Developers must also consider infrastructure. Infrastructure means the things under and around a city that help it work. Things like water pipes, power lines, phone lines, and sewers are all essential to a thriving city.



## EVALUATE & DESIGN

 5-10 min



### Public Service Spaces

Public services in a city include a wide range of amenities and infrastructure provided by the government for the benefit of residents. These services include things like transportation, public safety, social services, utilities, and infrastructure maintenance. A police department, post office or fire station is an example of a public service building.

### Recreational and Entertainment Spaces

Recreational spaces, green spaces and entertainment are crucial for a thriving community because they offer numerous physical, mental, and social benefits. They promote physical activity, reduce stress, and provide spaces for social interaction and community building. A public park or community center is an example of a recreational space. A museum, movie theater, or sports stadium is an example of an entertainment space.



### Homes & Offices

Homes and offices are essential buildings for city dwellers to both work and live. It's important to think about commute distances, and the effect of long, daily car rides on the environment. Houses, townhomes, condominiums and apartments are all examples of various city housing options.

### City Layout

The placement of these buildings is also important. At the center of the city, it is useful to have the buildings that would be used the many people, like a fire station, police department, city hall and hospital. This ensures that most people can easily access these places through both location and public transportation.

Towards the perimeter of the city, conveniences like shops, gas stations and homes are better suited. These places are not used as often, or are used by people who travel in and out of the city. Additionally, houses on the outskirts of the city can still benefit from city life while also having a quieter location.



### Specific Examples

Review specific examples of essential city components on the following page!



**Education: School**

A school is where students receive formal education, playing a crucial role in shaping a knowledgeable and skilled society.



**Healthcare: Hospital**

A hospital provides medical care and treatment, making it essential for maintaining public health and responding to medical emergencies.



**Law Enforcement: Police Station**

A police station houses law enforcement officers who protect citizens and uphold laws, ensuring community safety and order.



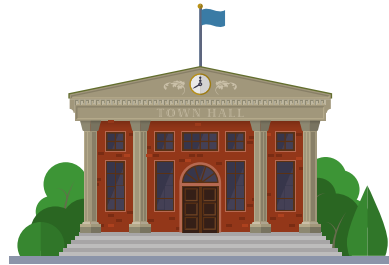
**Public Service: Post Office**

A post office handles mail and packages, serving as a vital communication and logistics hub for both residents and businesses.



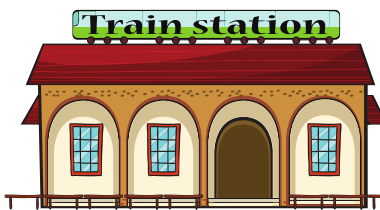
**Public Service: Library**

A library offers free access to books, information, and technology, supporting lifelong learning and community engagement.



**Government: City Hall**

City hall is the center of local government administration, where officials make decisions that shape civic life and public services.



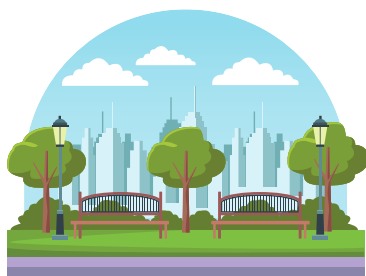
**Transportation: Train Station**

A train station connects people to regional and national destinations, supporting mobility and economic activity through public transportation.



**Cultural Institutions: Museum**

A museum preserves and displays art, history, or science exhibits, enriching cultural understanding and education.



**Recreational Spaces: Public Parks**

A public park provides green space for recreation and relaxation, contributing to residents' well-being and environmental quality.



**Safety and Emergency Care: Fire Station**

A fire station is where firefighters and emergency equipment are based, playing a critical role in protecting lives and property through fire response and rescue services.



## DESIGN & BUILD

🕒 30-40 min

1. Review city elements with the class. Then, decide as a class which buildings are necessary to have in your town, then assign each student 1 or 2 buildings to create.
2. Have students spend 3-5 minutes drawing a plan of their building and considering the key features of it that are necessary to include.
3. As a class, decide on a style (or styles) for the buildings.
4. Give each student a paper bag. Allow students to decorate the outside of the bag using the supplies.
5. After 5-10 minutes, have students fill their bag with stuffing. You can use other paper bags or extra paper, whatever you have the most of. Fold over the top edge and seal it with tape.
6. Then, have students add roofs, final designs and creative elements using the supplies within the bin. Lastly, allow students to set up their city keeping in mind the importance of a functional city layout.



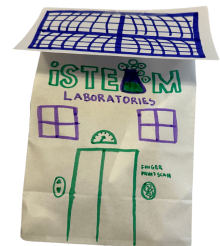
**DECORATE**



**STUFF**



**FOLD & TAPE**



**DECORATE MORE!**

## CONCLUSION

🕒 3-5 min

Urban planners play a crucial role in designing the communities we live in, focusing on creating spaces that are safe, sustainable, and enjoyable for all. By carefully planning land use, city layout, transportation, and infrastructure, they ensure all the essential elements are accessible to city residents. Components like education, healthcare, safety and law enforcement, public services, government buildings, transportation stations, cultural institutions, safety and emergency care and recreational spaces not only allow a city to function but allow its community to thrive.

These essential elements work together to support a thriving city and its community. Just like real urban developers, when we build our own iSTEAM City, we must think critically and creatively about how all parts of the city fit together to make it a great place to live.



## Exit Ticket



Ask each student the following question as they walk out the door.

- Q: Can you name a key component to a town, city, village, borough or municipal?
  - A: Examples may include: schools, hospitals, water and sanitation facilities, financial institutions, movie theaters, recycling centers, fire stations, etc.