

Project Guide

Learning Target:

- Students will use their compassion and creativity to imagine and design a city of the future, where the needs of all members of the community are met.

Materials:

- Text: *The Fantastic Bureau of Imagination* by Brad Montague
- Photos of one or more city
- [See, Think, Wonder worksheet](#)
- [Reflecting on Cities worksheets](#)
- [SCAMPER worksheets](#)
- Pencils
- Paper
- Art supplies

PART 1

Read the text *The Fantastic Bureau of Imagination*. (Optional - Use [The Fantastic Bureau of Imagination Discussion Guide](#) during reading to further explore the text with students.)

Explain to students that they will act as Agents of Imagination as they use their compassion and creativity to imagine and design a better world. This world will be in the form of an Ultra City. An Ultra City is an ideal city of the future, where the needs of all members of the community are met.

Extend: Consider showing Mara Mintzer's TED Talk entitled [We let kids design our city -- here's what happened](#) when introducing this project to students.

Reflect on the city students are most familiar with - usually the city closest to where they live. Use a [See, Think, Wonder Thinking Routine](#) to encourage students to make observations, thoughtfully interpret what they see, and begin asking questions about city design.

Helpful Resource: A thinking routine is a specific process that is designed to scaffold thinking and guide students toward deeper levels of critical thinking and reflection. More thinking routines can be found within [Project Zero's Thinking Routines Toolbox](#).

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Observe photos of the city. Ask students to work individually to describe what they see and record their ideas on the [See, Think, Wonder worksheet](#). Next, describe what they think about what they see. Use questions such as “What else is going on here?” or “What do you see that makes you say that?” to guide students to support their thoughts with evidence. Finally, ask students to record any lingering questions about what they see.

Tech Tip: Use [Google Earth](#) to take a virtual tour of other cities, or connect with students from another city through [Flip GridPals](#). Through these experiences, students can compare and contrast the design of their own city to other cities around the world.

Ask students to share:

- What can be found in a city?
- What does a city need in order to function?
- What needs do people have?
- How do members of the community meet their needs within a city?

Guide students to recognize that within cities, we can categorize the way that land and buildings are most often used. These categories are designed to meet the needs of those who live in and use the city:

- Residential - Places where people live (*single family homes, apartment buildings, condominiums, townhouses, etc.*)
- Commercial - Places where people buy and sell things - these locations often meet people’s needs and can also provide entertainment (*stores, banks, malls, pharmacies, offices, sports arenas, theaters, restaurants, etc.*)
- Institutional - Places where people learn or receive services (*schools, hospitals / doctors, libraries, museums, places of worship, police / fire stations, government buildings, etc.*)
- Agricultural - Places where food is produced (*farms, fields, orchards, etc.*)
- Industrial - Places where things are processed, made, or disposed of (*factories, recycling centers, landfills, water treatment facilities, power plants, etc.*)
- Transportation - Places that help people get from place to place (*airports, subways, train stations, roads, walking paths, etc.*)
- Public Spaces - Places where people enjoy time outdoors (*playgrounds, parks, plazas, trails, monuments, sports courts / fields, etc.*)

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Introduce students to the concept of urban planning. When cities are developed, many decisions are made about how the land and space will be utilized and designed. Decisions are also made about what types of services, programs, and activities are available. Sometimes, problems arise because the design of the city does not align with the needs of those who live and work there. We can see evidence of this in many cities around the world.

Extend: Connect with a professional in the field of urban planning through a video call or face-to-face visit to learn more about their job. Encourage students to ask questions about the profession and invite the urban planner to provide recommendations to students as they begin creating their own Ultra City.

Collaborate in small groups to identify the positives and negatives of the city or cities students explored during the See, Think, Wonder activity. Record ideas on the [Reflecting on Cities worksheets](#).

Invite students to share their thoughts with the group. As students share, compile their ideas on the board to create a class list of positives and negatives. Use the following questions to guide discussion:

- What would it be like to live in this city?
- What positives do you see in this city?
- What do you like most about this space?
- Based on your observations, what is important to the people who live here?
- What problems or challenges have yet to be solved within this city?

Extend: Students can use a digital survey tool, such as [Google Forms](#) or [Microsoft Forms](#), to collect feedback from other members of the community about the positives and negatives of their city. After reviewing the data, they can identify trends and include the information on their Reflecting on Cities worksheet.

Determine what could be done to improve the city and use this information to design an Ultra City, individually or in small groups. Encourage students to use their creativity and imagination to generate ideas and inventions to brighten days and improve lives in the city.

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Introduce students to the SCAMPER technique as they work to promote the development of new and creative designs and solutions. When using this technique, students will identify an existing feature, product, or service within the city and use each letter of the SCAMPER acronym (Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Reverse) to guide their brainstorming. Ideas can be recorded on the [SCAMPER worksheets](#).

Tech Tip: Digital mind mapping tools such as [Padlet](#), [Coggle](#), or [Jamboard](#), can be used for collaborative brainstorming.

Create and share a product that communicates students' Ultra City vision and plan. Examples of products might include posters, presentations, maps, travel brochures, informative reports, videos, or letters to community leaders.

Tech Tip: [Canva](#) is a free online graphic design tool that students can use to create a variety of product types.

PART 2 (optional extension activity)

Imagine that students are figments working in The Makery at the Fantastic Bureau of Imagination, where their job is to experiment and create samples of anything that can be imagined. They will create models to illustrate their Ultra City design. Models can be created in a number of ways, including:

- Utilize recycled materials to build 3D models
- Maps drawn to scale
- 3D paper models
- Pop-up paper maps
- Illustrations using a variety of art materials
- [Minecraft Education](#)
- [SketchUp](#)
- [Tinkercad](#) and 3D printing



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Anchor Standards

CCSS.ELA-LITERACY.CCRA.SL.1
Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

CCSS.ELA-LITERACY.CCRA.SL.4
Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.CCRA.SL.5
Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

CCSS.ELA-LITERACY.CCRA.SL.6
Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Standards for Mathematical Practice

- 1. Make sense of problems & persevere in solving them
- 4. Model with mathematics
- 5. Use appropriate tools strategically

National Core Arts Standards

- Anchor Standard 1: Generate and conceptualize artistic ideas and work.
- Anchor Standard 2: Organize and develop artistic ideas and work.
- Anchor Standard 3: Refine and complete artistic work.
- Anchor Standard 11: Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding

ISTE Standards for Students

Standard 3- Knowledge Constructor:
Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

Standard 4- Innovative Designer:
Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

Standard 6- Creative Communicator:
Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Standard 7- Global Collaborator
Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

Note: Depending on what method students use to create the model of their Ultra City, this project has the potential to meet a variety of additional standards.

National Curriculum Standards for Social Studies

- Theme 3: People, Places, and Environments
- Theme 5: Individuals, Groups, and Institutions
- Theme 7: Production, Distribution, and Consumption
- Theme 8: Science, Technology, and Society

See

What things do you see, observe, and notice?

Think

What do you think is going on?

Wonder

What does it make you wonder?

Reflecting on Cities

Name _____ Date _____

Reflect on what you have observed during your exploration of cities. What positives do you see? What problems or challenges do you identify? Record your ideas in the table below.

Positives	Negatives
Residential - Places where people live (<i>single family homes, apartment buildings, condominiums, townhouses, etc.</i>)	
Commercial - Places where people buy and sell things - these locations often meet people's needs and can also provide entertainment (<i>stores, banks, malls, pharmacies, offices, sports arenas, theaters, restaurants, etc.</i>)	
Institutional - Places where people learn or receive services (<i>schools, hospitals / doctors, libraries, museums, places of worship, police / fire stations, government buildings, etc.</i>)	

Reflecting on Cities

Positives	Negatives
Agricultural - Places where food is produced (<i>farms, fields, orchards, etc.</i>)	
Industrial - Places where things are processed, made, or disposed of (<i>factories, recycling centers, landfills, water treatment facilities, power plants, etc.</i>)	
Transportation - Places that help people get from place to place (<i>airports, subways, train stations, roads, walking paths, etc.</i>)	
Public Spaces - Places where people enjoy time outdoors (<i>playgrounds, parks, plazas, trails, monuments, sports courts / fields, etc.</i>)	

SCAMPER

Name _____ Date _____

Consider an existing feature, product or service within a city. It might be something you've identified as problematic or something you think could be improved. For each letter in the SCAMPER acronym, brainstorm possibilities and record them below.

Remember, there are no bad ideas when brainstorming! The goal is to come up with as many ideas as you can. After brainstorming, review your list to identify the best ideas. Which ideas would you like to explore and develop further?

Substitute

- What can I substitute to make improvements?
- What other process could I use?
- Can I use this as a substitute for something else?

Combine

- What would happen if I combine this with something else to create something new?
- What can I combine to maximize the possible ways this can be used?
- What materials, features, processes, people, products or components can I combine?

Adapt

- How can I adapt or readjust this to serve another purpose or use?
- What part of this can I change?
- In what other ways can I use this?

SCAMPER

Modify

- How can I change the shape, look, or feel of this?
- What can I add, emphasize, or strengthen to make improvements?
- How can I modify this process in some way?

Put to another use

- Can I use this somewhere else?
- Who else could use this?
- How would this function differently in a different setting?

Eliminate

- How can I streamline or simplify this?
- What features, parts, or rules can I get rid of?

Rearrange

- What would happen if I sequence this differently?
- How can I change or reverse the order of how this is done or the way it is used?
- How can I reorganize this?