

Future City Model

Use these questions to help you build a model that meets requirements.

1. What scale would work best for your model?
2. What features do you want to include to best represent your solution?
3. How can you show that your city is well planned, accessible, and considers the environment?
4. How will you include your solution to the Feeding Future Cities essay in your model?
5. What makes your city innovative and futuristic? How can you show your futuristic ideas are based on science and engineering?
6. What recycled materials could you use? How could you use them in creative ways?
7. As you build your model, how will you use the design process to help you work through problems (define the problem to solve; brainstorm various solutions; select a solution; design, build, test and redesign the solution; share results)?

Choose a scale that works for your city design. In engineering, scale is used to describe proportion.

Proportion is how the size of one thing compares with another. There is no set scale for the model. You decide the scale based on your design. You will need to create a scale key, such as, $1/4'' = 1.0'$.

Research Essay. Be sure to represent your team's **solution** to the Feeding Future Cities Essay in the model.

1. City design • Includes all zones: residential, commercial, industrial • Clearly recognizable elements, identifiable structures, zones	No evidence of zoning. No variety of structures.	Zoning unclear. Little variety of structures	At least one zone; small variety of structures.	1–2 zones, some variety of structures. Could be more comprehensive.	2 or more zones and some variety of structures.	All 3 zones very good variety of recognizable structures
2. Model demonstrates theme: Feeding Future Cities (Urban Agriculture) • Essay topic/theme incorporated into model • Solutions for urban agriculture	No illustration of problem or solution.	Little illustration of problem or solution.	Some illustration of problem and attempt at solution.	Fairly good illustration of urban agriculture solution.	Good overall illustration of the urban agriculture solution. Could be more comprehensive	Excellent illustration and overall solution for urban agriculture problem.
3. Quality workmanship and age appropriateness • Age appropriate for grade level • Quality construction • Reasonably durable	Poor quality/effort	Mediocre quality.	Fair to good quality.	Good quality. Age appropriate.	Very good quality. Age appropriate.	Excellent quality. Age appropriate
4. Appearance • Use of color, graphics, shapes, etc. • Realistic elements (flora, fauna, landscapes) • Good use of available space	No aesthetics.	Poor aesthetics.	Fair aesthetics.	Good aesthetics, enhance the model.	Very good aesthetics, enhance the model.	Excellent aesthetics, enhance the model, effort is obvious
5. Model scale: _____ • Appropriate scale chosen to create a good city model • Consistent scale throughout model • Applied horizontally and vertically	Scale not used.	Inconsistent scale for majority of model	Some scale inconsistencies. Good scale choice; city elements easy to identify.	Fair scale choice. Consistent application.	Very good scale choice; city elements easy to identify. Scale consistently applied over majority of model.	Exceptional scale choice; city elements very easy to identify. Consistent application chosen across entire model
6. Innovative construction materials, techniques • Variety of materials, imaginative or unusual materials • Creative modification and application of recycled materials	No creativity or innovation..	Very few creative materials or modification	Little creativity, variety. Little attempt to modify.	Some variety of innovative materials. Some creatively modified recycled materials	Good variety of innovative materials. Many creative modifications of recycled materials and applications	Exceptional varied and innovative materials

<p>7. Well planned city design; Considers livability concepts: – Neighborhoods, green spaces, Sustainability and environmental elements – Accessibility (handicapped)</p>	<p>No planning. Excellent planning..</p>	<p>Little planning. Little consideration of livability concepts.</p>	<p>Some planning is obvious. A few livability elements included.</p>	<p>Planned design. Incorporates some livability concepts.</p>	<p>Well planned design. Incorporates several livability elements.</p>	<p>Excellent design Highly livable</p>
<p>8. Innovative solutions • Innovative solutions to problems, such as: transportation, power, environment, urban agriculture, etc. • Plausible, technologically sound.</p>	<p>No solutions...</p>	<p>One solution, not innovative</p>	<p>One solution. Somewhat innovative</p>	<p>More than one solution. Somewhat innovative and plausible.</p>	<p>More than one solution that is innovative.</p>	<p>Several innovative and plausible solutions</p>
<p>9. Application of futuristic, advanced technologies and components • Includes futuristic technologies, components, infrastructure • Plausible extrapolations of technological/scientific advancements</p>	<p>No futuristic examples.</p>	<p>1–2 futuristic examples. Artistic, but not technologically or scientifically sound</p>	<p>Few futuristic examples. At least one technologically or scientifically sound.</p>	<p>Some futuristic examples, most of which are technologically and scientifically sound.</p>	<p>Several futuristic examples, many of which are technologically and scientifically sound.</p>	<p>Highly futuristic based on sound technology and scientific principles</p>
<p>10. Model effectiveness • Functions as stand-alone representation of the city design • Function and purpose of the model elements and their relationship to each other is evident on visual examination.</p>	<p>No effective representation.</p>	<p>Fair representation of a city. But for many elements, one asks “What is this and why is it here?”</p>	<p>Good representation of a city, however the function and purpose of many of the elements is not evident.</p>	<p>Good visual representation of a city, but purpose/function of some elements not evident.</p>	<p>Very good visual representation of a city. A few elements not obvious.</p>	<p>Extremely effective visual representation of a city. Function and purpose of elements easy to understand</p>