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.

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| 1. Well-designed • Includes residential, commercial, industrial areas• Clearly recognizable elements, identifiable structures |  No variety of structures.  | Small variety of structures. | 2 or more clear areas. Some variety of structures. | All 3 kinds of areas; 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. | Some illustration of problem and attempt at 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 | Fair to good quality. | 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.  | Fair aesthetics. | 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. | Some scale inconsistencies. Good scale choice; city elements easy to identify. | 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 of chosen scale across entire model |
| 6. Innovative materials, techniques • Variety of materials, imaginative or unusual materials • Creative modification and application of recycled materials | No creativity or innovation... | Little creativity, variety. Little attempt to modify. | Good variety of innovative materials. Many creative modifications of recycled materials and applications | Exceptionally varied and innovative materials |
| 7. City design considers livability concepts: – Neighborhoods, green spaces, sustainability and environmentally responsible elements. | No planning. No evidence of planning. | Some planning is A A few livability elements included. | Well planned design. Incorporates several livability elements. | Excellent design Highly livable |
| 8. Innovative solutions • Innovative solutions to problems, such as: transportation, power, environment, urban agriculture, etc. • Plausible, technologically sound. | No solutions...  | One solution. Somewhat innovative | More than one solution that is innovative. | Several innovative and plausible solutions |
| 9. Application of futuristic, advanced technologies and components • Includes futuristic technologies, components, infrastructure • Plausible technological and scientific advancements |  | No futuristic examples. | Few futuristic examples. At least one technologically or scientifically sound. | Several futuristic examples that are reasonably sound. | Highly futuristic and based on sound technological and scientific principles |
| 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. |  | No effective represen-tation.  | Fair represent-tation of a city, however the function and purpose of many of the elements is not evident. | Very good visual representation of a city. A few elements not obvious. | Extremely effective visual represen-tation of a future city. Function and purpose of elements easy to understand. |