



As the **Builder**, it is your job to help build your teams next Wonder of the Modern World. Once you have completed your research, you can reconvene with the rest of your team members to collaborate on the final design and construction of your own structure. 1. The form of a structure is dependent on its function. Explain why is it important to consider the function of an object before developing the design?

4. The curve of the CN Tower's legs and the height of its antenna posed a challenge for the original builders. How would you construct them?

5. Which feature of the CN Tower, outside or inside, do you think your project role had the biggest impact on and why?

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2. Why did the CN Tower need to be the tallest unobstructed building in Toronto?

3. How would you test the structural stability of the CN Tower against the forces of wind?

6. The CN Tower is symmetrical; when standing outside looking at the Tower, regardless of where you are standing, all sides look the same. Explain why symmetry is important to the design and construction of the CN Tower. Tell this from the perspective of your role in the project group. Feel free to draw.

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7. Orient yourself using the map below and the view from the top of the CN Tower. The land in this area of Toronto is used for a wide variety of things. Using the list provided, identify each area by placing the appropriate letter on the correct location of the picture.

- A. High density housing
- **B.** Business
- C. Entertainment
- D. Transportation
- E. Housing Community

8. Consider your group's new structure. What would be the ideal location based on its purpose? Indicate that location on the map and describe how it would impact the area around it.



Structures come in many different shapes and sizes, each with its own unique purpose or function. The form of a structure is dependent on its function. Forces acting on the structure and a structures impact on the environment must also be taken into consideration during the planning and design phase. Looking at the city from the top of the CN Tower, identify 3 different types of structure that you can see and complete the chart below.

Type of Structure	Function	Probable forces to be considered	Impact on society, environment, economy	Form
Bus	Transporting large number of people in one vehicle	Wind, rain, weight, weight distribution, etc	Less cars on the road means energy conservation, provides public with a means of getting around	Low centre of gravity, long, narrow