Name: _____

Date: _____

Design Brief: Industrial Designer

Your task is to discover the unique features that have made the CN Tower one of the Wonders of the Modern World. With this knowledge you must be able to create a structure that stands just as strong and tall as the CN Tower. You will choose from five jobs: Industrial Designer, Architect, Engineer, Builder, and Scientist.

As the **Industrial Designer**, you will design aspects of the structure's interior that might coordinate with the work of an Architect or Engineer, such as elevators, lighting fixtures and more. Below are some questions to help create your structure. Once you have completed your research, you can explore the other jobs to help you flesh out the final design and construction of your own structure.

Questions:

1. The primary function of the CN Tower was to provide visitors with wonderful views of the city.

<div align="center">True   or   False?</div>

2. 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?

_____

_____

_____

_____

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

_____

_____

_____

_____

4. How many moose can the Glass Floor on the Observation LookOut Level hold? Circle the correct answer.

   a. 48
   b. 24
   c. 35

   If the average weight of each moose is 1,350 lb (625 kg), what is the approximate weight that the Glass Floor can hold?

   _____

5. What is housed in the Radome?

   _____

   _____

   _____

6. What type of material is the Radome made from? Explain why this type of material was used?

   _____

   _____

   _____

   _____

   _____

7. Why was it important to test the forces of nature on the CN Tower before it was built?

   _____

   _____

   _____

   _____

LA TOUR CN TOWER

8. What other internationally renowned buildings use the "A" frame principle used by the CN Tower? List below and explain why the architects chose this design.

_____

_____

_____

_____

_____

_____

_____

9. If you were to design and build a structure that resembled the CN Tower using household objects, what would you use to make your accurate representation? Describe what objects you would use and explain why you would choose those materials.

_____

_____

_____

_____

_____

_____

_____

_____

10. Using the picture below as reference, locate the same view from the top of the CN Tower, through our webcams or the CN Tower Viewfinder App. The land in this area of Toronto is used for a wide variety of things. Using the list below, 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

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 webcams at the top of the CN Tower or the Viewfinder App, 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