2021-2022 City Model Slideshow

School/Organization: **New Hope Solebury Middle School**

Educator Name: **Meka Chuma**

Future City Team Name: **Miyagi**

Deliverable Details/Requirements

- This slideshow is your chance to present your model. Whether your team created a single model or multiple segments, here is where you show off the future city you designed to the judges.

- Choose photos of the various segment(s) that best show the requested content. Where noted, you can put one (1) or two (2) photographs of your team's work. The photos can take up as much space on the slide as you like, as long as they do not cover the slide title (upper left) or the text block descriptions on the right of the slide. More than two photographs are not permitted per slide. Collage images with more than two photos are not permitted.

- Do not change the size of text boxes in this template. All written text must fit within the boxes and *cannot* be smaller than size 14 in Calibri (or equivalent) font.

- When finished, save the slideshow as a PDF and upload to the Educator Dashboard at FutureCity.org.

- Review the 2021-2022 Program Handbook for a full list of rules and requirements.

Section I

CITY DESIGN

Residential Zone

What is important for the judges to know about your residential zone?:

Residential towers with outside markets span the city.

Children of Miyagi are taught about plants and how to take care of them. They compost trash in the vertical gardens located in each house. There are solar chimneys that warm air and make natural drafts in each house.

Water collection and filtration system, funnel rain water to residents.

Commercial Zone

What is important for the judges to know about your commercial zone?:

Commercial zones are built in the middle of both the industrial and residential buildings, so that people don’t have to go as far to reach them.

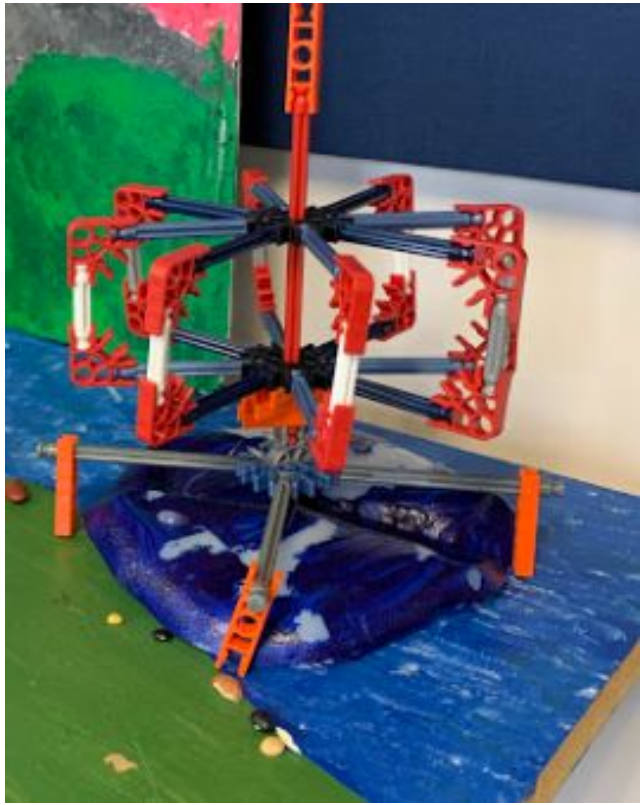
Industrial Zone

What is important for the judges to know about your industrial zone?:

In Miyagi, R&D (Research and Development) resources are abundant. These resources are used to advance technology like holographs and robots.

The making of these inventions is waste-free, powered by solar and lunar panels, and the technology itself can be recycled. The technology is made out of UBQ materials, stainless steel, PET materials, and bamboo. Miyagi also has a semiconductor factory, which produces solar and lunar panels.

Infrastructure Example 1



What type(s) of infrastructure are shown here (water, power, utilities, etc.)?:

Power - Wave Energy

How are these related to the realities/challenges of a Waste-Free City?:

All around the prefecture, there are sensors that measure seismic activity, rise in sea level, and they also are able to harness wave energy.
Wave energy offers very close to unlimited amounts of power, and it's stable. This energy is transferred through the use of underground wires. A great benefit is that it also has better compatibility with batteries than other types of energies.

Infrastructure Example 2

What type(s) of infrastructure are shown here (water, power, utilities, etc.)?:

Solar & Lunar Panels

How are these related to the realities/challenges of a Waste-Free City?:

The city harnesses solar and lunar energies.

City Services Example 1

What type(s) of city services are shown here (health, education, etc.)?:

Health

What do you want the judges to know about your city's operations?:

There are mobile health drones that patrol the city in case any residents need medical attention.

City Services Example 2

What type(s) of city services are shown here (health, education, etc.)?:

Tsunami Safety Alert Sensor

What do you want the judges to know about your city's operations?:

The Tsunami Safety Alert Sensor are planted all throughout the prefecture, and measure seismic activity and rises in sea level. If it detects tsunami, everyone is alerted and monotrusses are sent underground.

Transportation Example 1

What type(s) of transportation systems are shown here?:

Monotrusses

What do you want the judges to know about your transportation system(s)?:

Miyagi's main public transportation are called monotrusses, a combination of a monorail, train, and bus. Monotrusses run on rails, and don't take up space on the road. Because they do not cause traffic, they are a faster, easier way for the people of Miyagi to reach their desired destination. Children have access to monotrusses specifically designed for the use of schools.

Transportation Example 2

What type(s) of transportation systems are shown here?:

Cars

What do you want the judges to know about your transportation system(s)?:

The cars run on electric energy, and chargers are used to keep cars running. Boats are also used in Miyagi, so the residents can travel on water powered by electric and solar energy.

In emergency situations only cars can run on Biodiesel, a waste free diesel that is manufactured through our circular economy using recycled cooking grease and vegetable oil.

Principles of a Circular Economy in Action - Example 1

What is important for the judges to know about this element of your circular economy solution?:

Agricultural engineers created vertical farms, called “cresceres” (grow in Latin). In Miyagi, food is grown in these towering buildings in the middle of the city, producing food for all of Miyagi. The cycle starts at the top of the buildings, where recycling, human waste, and animal waste are dumped. This system turns the unwanted materials into nutrient-rich soil, breaking it down into fertilizer that is used to grow crops.

Cow farms in the crescere trap methane from the cows and is transferred to energy to power the city.

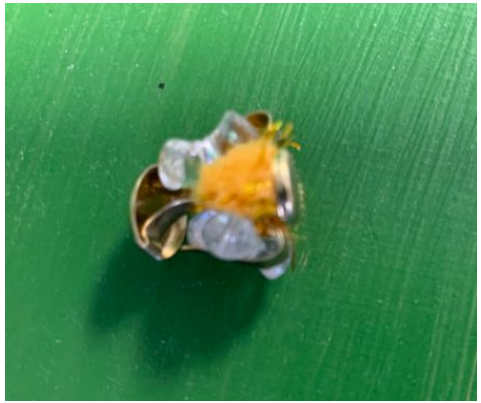
Principles of a Circular Economy in Action - Example 2

What is important for the judges to know about this element of your circular economy solution?:

Trash is composted in vertical gardens located in each house.

The trash that cannot be composted is sent down a chute to be repurposed into building material.

Principles of a Circular Economy in Action - Example 3



What is important for the judges to know about this element of your circular economy solution?:

Miyagi also manufactures waste-free, water-resistant, 100% recyclable cars that run on electric energy. The chassis of the cars are made out of flax, sugarcane, recycled materials from the ocean, and recycled aluminum. The body of the car is made out of reusable UBQ(ubiquitous) materials.

In emergency situations only cars can run on Biodiesel, a waste free diesel that is manufactured through our circular economy using recycled cooking grease and vegetable oil.

Section II

BUILD IT: QUALITY, SCALE, AND MATERIALS

Innovative Material & Use Example 1

Choose a recycled or reused item and describe how you used it creatively in your model:

Beans

Beans were used to create the rocky shore line.

Innovative Material & Use Example 2

Choose another recycled or reused item and describe how you used it creatively in your model:

Medicine Cup

The cup was used as the upper tier of the mobile hospital unit.

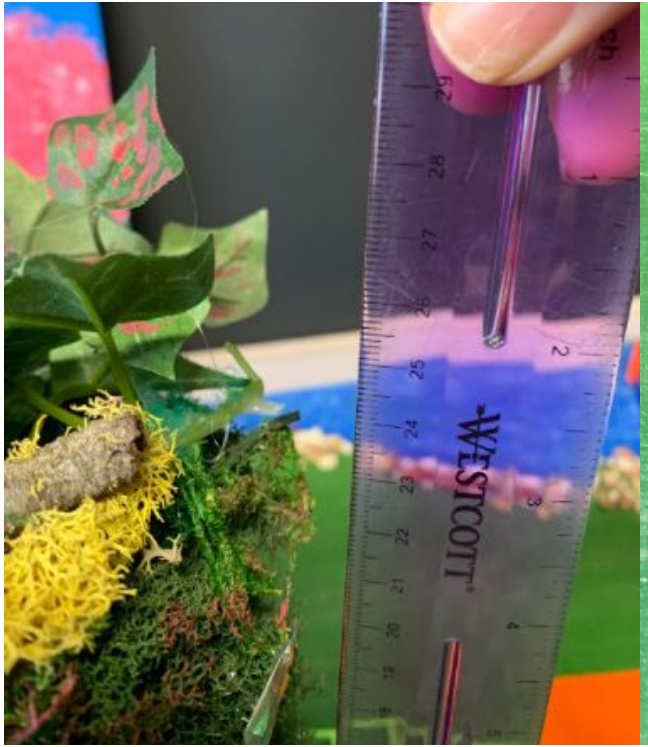
Innovative Material & Use Example 3

Choose another recycled or reused item and describe how you used it creatively in your model:

Chocolate containers.

The solar and lunar panels are made out of containers used to hold chocolate.

Example of Scale



Scale used in model

1 cm = 6 meters

Structure 1

What type of structure is this?:

Vertical Farm

What size is the structure on the model?: **29.5cm**

What size would this structure be in real life?: **177m**

Structure 2

What type of structure is this?:

Car

What size is the structure on the model?: **1.7cm**

What size would this structure be in real life?: **10.2m**

Moving Part - https://www.youtube.com/watch?v=NqncLRVvSEs

- **Team Educators**: Don't forget to include the link to your team's moving part video in your Educator Dashboard submission section.

- **Judges**: Watch and review the moving part video from this team in your Judge Dashboard.

Video Details:

- The video must be posted as to be publicly available for judges to access on either YouTube or Vimeo.
- Video cannot exceed 1 minute.
- Teams need to mention their city/team name in the video.
- Teams must show the moving part in action.
- In the video, share what role the part plays within the city and how your team built it.

Section III

JUDGE ASSESSMENT OF MODEL

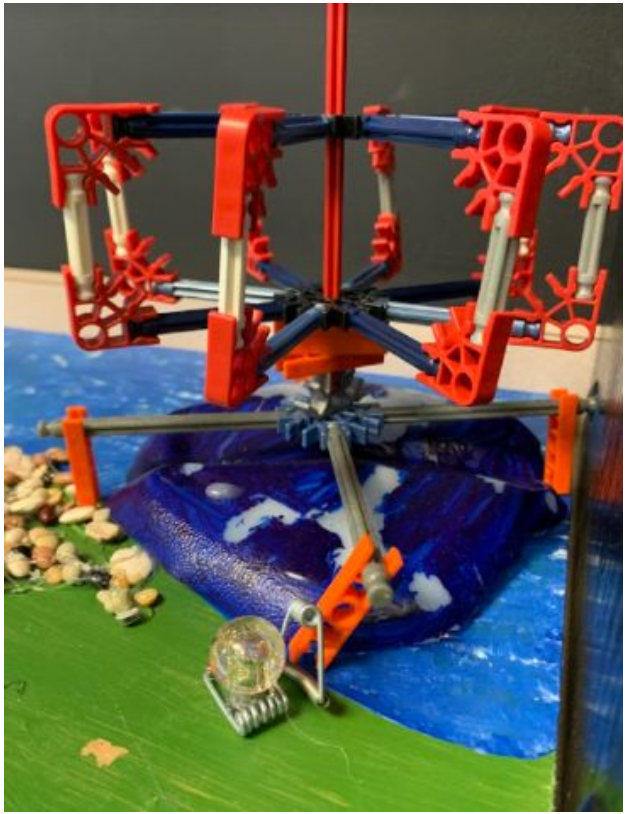
Futuristic Technology Example 1

What is important for the judges to know about this example of technology?:

Vertical farms, called “cresceres”

Cow farms in the crescere trap methane from the cows and is transferred to energy to power the city. If you are a resident of Miyagi, you may go to the crescere anytime you want. We are proud to say that this innovative system has helped eliminate hunger in our city. The crescere encourages skills like cooking your own, locally grown, food. The idea is a little pocket of nature and agriculture at its roots, in the middle of the developed and modern city.

Futuristic Technology Example 2



What is important for the judges to know about this example of technology?:

In Miyagi, earthquakes and tsunamis often occur. All around the prefecture, there are sensors that measure seismic activity, rise in sea level, and they're also able to harness wave energy. If a Tsunami's ever detected, a warning alarm is sent to all the citizens, and immediately sends the monotrusses to safety. Along with this, there are advanced underground drainage systems for floods and tsunamis. Wave energy offers very close to unlimited and significant amounts of power, and it's stable and constant. A great benefit is that it also has better compatibility with batteries than other types of energies, like wind or solar.