City Master Plans
Purpose

WALT (We are learning to...)
✔ Revise and improve our knowledge of all areas of shape, location and measurement
✔ Understand how to find information without teacher assistance
✔ Set ourselves a challenge
✔ **Articulate** our thinking
✔ Not stay stuck
✔ Move on independently
✔ Work as a member of a larger team
✔ Stay on task
✔ Check our own work and make sure we have done all that the teacher has asked
✔ Make smart choices and not let blockers distract us.

You’ll be successful if....
✔ You feel more confident understanding the mathematical terms associated with space, location and measurement
✔ You are able to clarify and define unknown terms as a group
✔ You are able to articulate your thinking and explain how you have met the task requirements.
✔ You move independently between tasks and stay on task all the time
✔ Your team works constructively together
✔ You don’t stay stuck on a task.

City Name: _________________________________

Group Members: _____________________________________________

### Key Points:
- **Articulate** our thinking
- Work with a range of different people
- Don’t stay stuck!
- Stay on task and don’t let blockers distract them.
What do you need to do?

The people of Simbola have had their old city destroyed! They are holding a competition to find a design for a new city. Your task, as a group, is to create an entry for their design competition!

They will have a blank block of land to build on, so your model should be built from the ground up on the block of land you have been provided with. It should meet as many of the requirements as possible.

There are two parts to the task, which should be worked on concurrently.

Before you start however, you have ten minutes read through the instructions, talk and plan within your group. You cannot collect any materials, move around or write anything down at this point, just discuss. You should also come up with a name for your new city.

Part One
Once planning time is up, you can begin constructing the model of your city. The Simbola people love maths, and have based their city requirements on mathematical concepts. Try to meet as many of their requirements as possible. You can use any resources you have access to. Do not waste them.

Don’t forget to make your city aesthetically pleasing. Remember small things like naming streets, buildings, creating parks, lighting, signage etc.

Part Two
You need to be able to show how you have met each of the requirements of the city design in order to win the competition. You will do this by creating a Powerpoint. You need to articulate your thinking by using photos and text to explain how you have met what is required from the city. There are some examples to the right. If you can’t explain the reasoning, the requirement has not been met.
Requirements

The Simbolan people love maths, and have a number of requirements to meet when designing their city with maths in mind. The city building competition will be judged by awarding one point for every criteria met below. Don’t forget to justify how you have included each point. You can include other items in the city.

There will also be a score out of 5 awarded for city aesthetics, a score out of 5 for presentation and a score out of 5 for teamwork.

- Streets are 2cm wide throughout the city
- At least 1 set of parallel streets
- A perpendicular intersection
- A diagonal street running NE to SW
- An intersection with 2 acute angles
- An intersection with a reflex angle
- An intersection with 4 right angles
- An intersection with a round about with a diameter of 6cm in the middle section
- A park with an area of 68sq cm
- A car park with a perimeter of 60cm
- Three skyscrapers 200mm tall
- An intersection with a 35˚ angle
- An intersection with a 120˚ angle
- An intersection with a 255˚ angle
- A petrol station
- A school
- A footy oval with a length of 10cm.
- A square based pyramid
- A triangular prism
- At least 3 different rectangular prisms. The name of the building should be written on the front. It should be named after the area of the front face of the building (ie, 36sq cm Towers)
- A pentagonal prism
- A lake with a perimeter of 50cm, but with at least 1 non straight side
- A Court House north of the school
- A town hall south of the lake
- A supermarket west of the oval
- A mayor’s house north east of the petrol station.
- Some cube shaped buildings
- A flag pole of 15cm high
- A flag with an area of 150sq mm
- A field with 24 shrubs, arranged in an array.
- A town square with tessellated paving.
- A house with a symmetrical yard
- 2 congruent town houses
- A town clock showing 3:45pm in 24 hour time.
- A town water
- 1m of powerlines
- A street with the houses numbered in roman numerals.
- A post office adjacent to the town hall