**Cell City Analogy – how a cell is like a city**

In a far away city called Grant City, the main export and production product is the steel bolt. Everyone in the town has something to do with steel bolt making and the entire town is designed to build and export bolts. The town hall has the instructions for bolt making, bolts come in all shapes and sizes and any citizen of Grant can get the instructions and begin making their own bolts. Bolts are generally produced in small shops around the city, these small shops can be built by the carpenter's union (whose headquarters are in town hall).

After the bolt is constructed, they are placed on special carts which can deliver the bolt anywhere in the city. In order for a bolt to be exported, the carts take the bolts to the postal office, where the bolts are packaged and labeled for export. Sometimes bolts don't turn out right, and the "rejects" are sent to the scrap yard where they are broken down for parts or destroyed altogether. The town powers the bolt shops and carts from a hydraulic dam that is in the city. The entire city is enclosed by a large wooden fence, only the postal trucks (and citizens with proper passports) are allowed outside the city.

Match the parts of the city (underlined) with the parts of the cell.

|  |  |  |
| --- | --- | --- |
| Cell organelle | Matching part of the city | Reason(s) why |
| Mitochondria |  |  |
| Ribosomes |  |  |
| Nucleus |  |  |
| Endoplasmic Reticulum |  |  |
| Golgi Apparatus |  |  |
| Protein |  |  |
| Cell Membrane |  |  |
| Lysosomes |  |  |
| Nucelolus |  |  |

**Higher Order Thinking Question**

“A cell is like a city” is a common simile used by teachers to teach how a cell works. Discuss whether or not this simile is accurate enough to be used for Year 8 science. You may like to consider this question to be asking you the advantages and disadvantages of using this simile to teach year 8 science.

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