|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Raptor Bike** | **Mobile Assult Walker** | **Thumper Heavy Tank** | **Mosquito Fighter** | **Hornet Bomber** | **Sign** | **Rescrictions** | **end values** | **Slack** |
| **maximum damage** | 20 | 32 | 60 | 35 | 55 | = | Max | 508 |  |
| Metal | 75 | 100 | 150 | 150 | 250 | ≤ or ≥ | 2700 | 1900 | 800 |
| Energy | 1 | 40 | 80 | 90 | 120 | ≤ or ≥ | 900 | 840 | 60 |
| Production Time | 15 | 20 | 40 |  |  | ≤ or ≥ | 180 | 180 | 0 |
| Production Time |  |  |  | 30 | 45 | ≤ or ≥ | 180 | 180 | 0 |
|  | **Solutions** | | | | |  |  |  |  |
|  | **X1** | **X2** | **X3** | **X4** | **X5** |  |  |  |  |
|  | 0 | 9 | 0 | 0 | 4 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

According to the research I have conducted of our strategy game the optimum out put for maximum damage is to produce 9 mobile assault walkers and 4 hornet bombers. This ratio will give the user a total 508 damage within the 3-minute time limit. However many resources are not used. The spreadsheet below shows the values.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Raptor Bike** | **Mobile Assult Walker** | **Thumper Heavy Tank** | **Mosquito Fighter** | **Hornet Bomber** | **Sign** | **Rescrictions** | **end values** | **Slack** |
| **maximum damage** | 20 | 32 | 60 | 35 | 55 | = | Max | 500 |  |
| Metal | 75 | 100 | 150 | 150 | 250 | ≤ or ≥ | 1800 | 1800 | 0 |
| Energy | 1 | 40 | 80 | 90 | 120 | ≤ or ≥ | 900 | 840 | 60 |
| Production Time | 15 | 20 | 40 |  |  | ≤ or ≥ | 180 | 180 | 0 |
| Production Time |  |  |  | 30 | 45 | ≤ or ≥ | 180 | 180 | 0 |
|  | **Solutions** | | | | |  |  |  |  |
|  | **X1** | **X2** | **X3** | **X4** | **X5** |  |  |  |  |
|  | 0 | 5 | 2 | 0 | 4 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

It appears that metal production is far more than what is needed. If we adjusted the metal production to be a development rate of 10 metal per second this would help off set the overstock. In addition this added restriction would create a positive tension for players and require them to thing more strategically in their resource use. The units that would need to be built to optimize damage would have to change and be more diverse to meet the criteria.

I also recommend increasing the energy cost of the mobile assault walker unit from 40 to 50. Doing this would close the gap more in energy excess. I hope my studies will prove useful in the improvements and updates to the game to keep it top notch and exciting for our players.

-William Koepp