Athlete Data Crunch

Student Name: Click or tap here to enter text.

Introduction
Sport scientists and data analysts love the Olympics. They get to witness amazing performances and have access to thousands of results.

The last summer Olympic Games were held in 2016 in Rio De Janeiro, Brazil. More than 11,000 athletes from 205 countries took part. With 918 medals awarded over 306 events from 42 different Olympic sports. These Olympic events took place at 33 venues in the host city and at five separate venues in different Brazilian cities.

In this task, you will become a data researcher and analyst. Your challenge is to make the data from these Olympic Games more meaningful and easier to understand. You will need to use your researching, calculation and graphing skills.

**Instructions**

1. **Use your researching skills to fill in the missing data.** (Hint- [Wikipedia](http://www.wikipedia.com) is a great resource for this information)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Rank** | **Country**  | **Flag** | **Population to nearest million** | **Number of athletes at 2016 games** |
| **1** | United States of America |  | Click or tap here to enter text. | 554 |
| **2** | Click or tap here to enter text. |  | 207 | 465 |
| **3** | Germany |  | 83 | 425 |
| **4** | Australia |  | 24 | Click or tap here to enter text. |
| **5** | Click or tap here to enter text. |  | 1379 | 413 |
| **6** | France |  | Click or tap here to enter text. | 399 |
| **7** | Great Britain |  | 64 | 366 |
| **8** | Japan |  | 126 | 338 |
| **9** | Canada |  | 36 | Click or tap here to enter text. |
| **10** | Click or tap here to enter text. |  | 60 | 309 |

**Table 1. 2016 Rio Olympics Participant Data
Top 10 ranked countries based on athlete attendance at Olympics games**

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**Data Analysis**

Using data from the completed Table 1, answer the following questions. Show the working out where possible so your teacher can see how you got to your answer. *HINT: if you get stuck, use the list of helpful formulas on page three.*

|  |
| --- |
| Click or tap here to enter text. |

**Question 1.
What is the mean number of athlete participants from each country?**

|  |
| --- |
| Click or tap here to enter text. |

**Question 2.
What is the smallest country by population? Write out the population in digits and words.**

|  |
| --- |
| Click or tap here to enter text. |

**Question 3.
What is the largest country by population? Write out the population digits and words.**

|  |
| --- |
| Click or tap here to enter text. |

**Question 4.
What is the range of the population data?** *(Use the helpful formulas on page three if you are stuck)*

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**Data Analysis**

**Question 5.**A friend from the United States of America, has been boasting about how great they are for having the most athletes attend the 2016 Olympic Games in Rio. But sometimes raw numbers don’t tell the whole story!

Your task as the **data analyst**, is to make a new ranking system for the top five countries relative to the country’s population size. This is known as **per capita** data.

It’s a great way to show that some countries may be at an advantage to others, as the bigger countries have a larger population pool from which to develop athletes.

Once again, if you get stuck, use the list of helpful formulas at the bottom of the page.

**Table 2. 2016 Rio Olympics Participant Data
Top 5 ranked countries based on athletes per million of population**

|  |  |  |  |
| --- | --- | --- | --- |
| **Per capita rank** | **Country** | **Calculation** | **Athletes per million of population** |
| **1** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| **2** | **France** | $\frac{399 athletes}{67 million}$ **= 5.96** | **5.96** |
| **3** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| **4** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| **5** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

**Helpful Formulas:**

Use the following formulas to help you solve questions on the previous page.

* $Mean athletes=\frac{Total number ofathletes}{number of countries } $
* $Range=Highest population- Lowest population$
* $Athletes per million population=\frac{Number of athletes}{Country population in millions} $

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**Further challenge: Visual representation**

Use a piece of paper, pencil and ruler to create a vertical column graph representing your new data set in Table 2, Athletes per million of population.

Take a photo of your finished graph and insert it below.

