Nanjing weather assignment 2017

**GRADE 8 – IB MYP HUMANITIES Unit 1**

**Weather and Climate**

**Global Context: Scientific and Technical Innovation**

**Key Concept: Change**

**Related concepts: Patterns and Trends**

Learning Outcomes: Understand how data can be used to show the changes in weather patterns and trends.

Background

Nanjing has a humid subtropical climate and is under the influence of the East Asia Monsoon. Seasons are distinct in Nanjing, Summers are generally hot with high rainfall, and winters are generally cool and drier. Spring and Autumn tend to be short seasons.

On average it rains about one day in every three, and the average annual rainfall is around 1000mm.

Data relating to the climate in September is shown in the table below.

|  |  |
| --- | --- |
| September | |
| Average Temperature | 23 C |
| Average rainfall | 72 mm |
| Number of wet days | 9 |
| Average humidity | 79% |
| Average wind speed (Beaufort Scale) | 3 |
| Average Wind Direction |  |

**Research Question**

**How closely does the weather for a single week in Nanjing in August 2015 reflect the climate for that month?**

**Are the weather patterns and trends for a week the same or different as the climate data?**

**Tasks**

You will answer the research question by completing the following tasks:

**1. Create an Action Plan to investigate the research question.**

Your action plan must show how you intend to carry out your investigation. It should show how, where and when you plan to record your weather data. It should include the following elements:

a). The creation of a seven day record sheet for the following primary data:

wind direction

rainfall

cloud cover

wind speed

and secondary data:

temperature

humidity

air pressure

b) How you plan to record precipitation, cloud cover, wind speed and wind direction (you will need to create four instruments or methods to record these).

c) Where you plan to site the instruments near your home, and when you will take your readings.

**2. Record the weather in Nanjing for a seven day period on your recording sheet.**

You will record precipitation (rainfall), cloud cover, wind speed and wind direction each day yourself (primary data), but you can collect data for temperature, humidity and air pressure (secondary data) using this link:

<http://news.bbc.co.uk/weather/forecast/1584>

You must take at least 4 photos on separate occasions during the week to provide evidence of how you collected your primary data. These must be submitted with your final assignment.

**3. Written report**

You will present your information as a written report that includes the following sections:

**Introduction and research question**

This will introduce the project and establish what you were aiming to achieve.

**Method**

Here you will outline the data needed to answer the research question and the methods you used to collect it. You should provide details of what you did, and include reference to primary and secondary sources. Include your photographs in this section.

**Presentation of Results**

You need to:

Make a good copy of your results table

Create a 7day climate graph for Nanjing (temperature and rainfall)

Produce a wind rose (see above)

Chose one other set of data and devise suitable way of presenting this information in a visual format.

**Analysis and discussion**

You need describe your results and explain how they relate to the research question.

What **patterns and trends** did you see in your data? Are any of these patterns and trends the same as the climate data for September in Nanjing? Where did you see patterns and trends being broken?

**Reflection**

Identify the strengths and weaknesses of the methods that you used throughout the research assignment. How did this effect the quality of your data?

**Conclusion**

You need to:

Answer the research question. Your answer should not include any new information that has not been already described in the report.

**Assessment Criteria**

You will be graded using;

Criteria B: Investigating

Criteria C: Communicating

Criteria D: Thinking critically

Please refer to the rubric.

**References**

Nanjing climate data - retrieved from <http://www.nanjing.climatetemp.info>/

Nanjing wind rose - retrieved from [http://www.windfinder.com/windstats/windstatistic\_nanjing.htm#](http://www.windfinder.com/windstats/windstatistic_nanjing.htm)

**Rubric:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Criteria B** |  | **Criteria C** |  | **Criteria D** |  |
| **Investigating** | **TSC** | **Communicating** | **TSC** | **Thinking Critically** | **TSC** |
| **0** | The student does not reach a standard described by any of the descriptors below. |  | The student does not reach a standard described by any of the descriptors below. |  | The student does not reach a standard described by any of the descriptors below. |  |
| **1-2** | The student:  ii. formulates a **limited** action plan or does not follow a plan  iii. **collects** and **records limited** or **sometimes irrelevant** information  iv. with guidance, **reflects** on the research process and results in a **limited** way. | You produce a **very basic action plan** that includes **one** of how, where and when you plan to collect your data.  You collect data for **1-3 of the weather elements**, but there is some inconsistency .  Your **methods are not likely** to give accurate information. They are **inappropriate**.  Your **data record sheet is incomplete** and not very clear.  You include a small number of **mostly  irrelevant images.** | The student:  i. communicates information and ideas in a style that is **not always** clear  ii. organizes information and ideas in a **limited** way  iii. **lists** sources of information **inconsistently**. | • **tries in a limited way** to communicate information and ideas in a style that is appropriate to the audience and purpose.  • **tries in a limited way** to structure information according to the task instructions  • **tries in a limited way** to create a list of sources of information. | The student:  i. **begins to analyse** concepts, issues, models, visual representation and/or theories in a **limited** way  ii. **begins to identify** connections between information to make **simple** arguments | **Basic descriptions** of findings are made, but there is **little or no analysis.**  There are **no comparisons** between the two sets of results.  There is either no conclusion or the research question is not answered in the conclusion. |
| **3-4** | The student:  ii. formulates and **occasionally** follows a **partial** action plan to investigate a research question  iii. **uses** a method(s) to collect and record **some relevant** information  iv. with guidance, **reflects** on the research process and results. | ii. You produce an **action plan** that includes how, where and when you plan to collect your data and you **partially** follow it.  iiYour data collection methods are **mostly** **effective**. The data is **partially** recorded on the record sheet.  Ii With guidance you write a **basic** reflection of the research process indicating what helped to get accurate data and what led to less accurate data | The student:  i. communicates information and ideas in a way that is **somewhat** clear  ii. **somewhat** organizes information and ideas  iii. **creates** an **adequate** reference list and **sometimes** cites sources. | The written report **is somewhat presented** in the format given in the investigation sheets.  There is **some structure** in the written report.  It is **partially formal**  Data is used to create **basic graphs and charts,** and there is **some variety** in how these are presented.  Either the climate graph or wind rose are **presented effectively**.  There is an **attempt** at APA formatting. | The student:  i. completes a **simple analysis** of concepts, issues, models, visual representation and/or theories  ii. **summarizes** information to make **some adequate** arguments | Findings are **described and there is some analysis. Comparisons** are made between both sets of results, but there is l**ittle development.**  There is a **simple conclusion** that either summarises the main findings or attempts to answer the research question **(but not both).** |
| **5-6** | The student:  ii. formulates and **mostly** follows a **sufficiently developed** action plan to investigate a research question  iii. uses methods to collect and record **appropriate relevant** information  iv. with guidance, **evaluates** on the research process and results. | ii. You produce an **action plan** that includes how, where and when you plan to collect your data and you mostly follow it.  All data is collected and recorded **accurately** on an **appropriate data record sheet.**  Ii You mostly use **appropriate** methods to collect and record the primary and secondary data  Ii You write a reflection of the research process indicating what helped to get accurate data and what led to less accurate data | The student:  i. communicates information and ideas in a style that is **mostly** appropriate to the audience and purpose  ii. **mostly** structures information and ideas according to the task instructions  iii. creates an **adequate** reference list and **usually** cites sources. | The written report is **mostly** presented effectively in the format given in the investigation sheets.  The structure is **mostly** **appropriate**.  It is **mostly formal**  Good quality graphs and charts are included that are **generally relevant** to each data set.  **Both** the climate graph and wind rose are presented, though there may be **some errors.**  You have included images which are **mostly** relevant.  Sources of data are given in APA format, with **few errors.** | The student:  i. completes a **substantial** analysis of concepts, issues, models, visual representation and/or theories  ii. **summarizes** information in order to make **usually valid** arguments | Findings are **described and there is some analysis. Comparisons are made** between both sets of results. but there is **little development.**  There is a **simple conclusion** that summarises the main findings **and** attempts to answer the research question. |
| **7-8** | The student:  ii. formulates and **effectively** follows a **consistent** action plan to investigate a research question  iii. uses methods to collect and record **appropriate** and **varied relevant** information  iv. with guidance, provides a **detailed evaluation** of the research process and results. | ii. You produce a **detailed action plan** that includes how, where and when you plan to collect your data.  All data is collected and recorded **accurately** on a **well-designed data record sheet.**  Ii You use **appropriate** methods to collect and record the primary and secondary data  Ii You write a **detailed** reflection of the research process indicating what helped to get accurate data and what led to less accurate data | The student:  i. communicates information and ideas in a style that is **completely** appropriate to the audience and purpose  ii. structures information and ideas **completely** according to the task instructions  iii. creates a **complete** reference list and **always** cites sources. | The written report is **presented effectively** in the **format given** in the investigation sheets.  There is a **clear structure** in the written report.  The report is **formal**.  **High quality graphs and charts** are included that are relevant to each data set.  **Both** the climate graph and wind rose are presented **effectively.**  You include at least 4 **relevant images** of you collecting data.  Sources of data are given in APA format, with f**ew errors.** | The student:  i. completes a **detailed** analysis of concepts, issues, models, visual representation and/or theories  ii. **summarizes** information to make **consistent**, **well-supported** arguments | Findings are **described clearly** and there is **some analysis**.  **Comparisons are made** between both sets of results., which are **developed**.  **Convincing reasons** for any differences are proposed.  There is a **detailed conclusion** that summarises the main findings **and** addresses the research question. |