Name: Points: \_\_\_\_\_\_\_\_/

1. *Form questions to the underlined part of the sentence.*
2. Quantum theory was largely driven by empirical results.
3. Power point can also assist you in preparing your poster presentation.
4. The hormone increased the power output of healthy volunteers by 16 per cent.
5. The most controversial issues in vegetarianism are health and nutrition.

1. What was quantum theory largely driven by?

2. What can ppt assist you in? How can ppt assist you?

3. How much did the hormone increase the power output of healthy volunteers?

4. Where/ in which area are health and nutrition the most controversial issues?

1. *Transform the sentences below.*
2. It seems that they decided for the project.

They seem \_\_\_to have decided\_\_\_\_ (3w) for the project.

1. It is stressed that data loss may occur while the virus is being eliminated.

There \_is emphasis on\_\_\_\_ (3w) the fact that data loss may occur while the virus is being eliminated.

1. Postgraduate students have to compete hard for quality jobs at the moment.

\_\_Competition for quality jobs\_\_\_ (4w) at postgraduate level is fierce at the moment.

1. It is widely agreed that people with high tension will benefit from a vegetarian diet.

There is \_\_widespread agreement on\_\_ (3w) benefits of a vegetarian diet to people with high tension.

|  |  |  |
| --- | --- | --- |
| 1. *Decide which answer (A, B, C or D) best fits each gap:* 2. He is very clever, \_\_\_\_\_\_\_\_\_\_\_ being very young.   a)though b)as opposed to c)in spite of d)with respect to   1. Cold fusion is little viable;\_\_\_\_\_\_\_\_\_\_\_, it is very expensive.   a)moreover b)nevertheless c)for this reason d)despite   1. There are too many examples of quoted or paraphrased information without acknowledgement in your work, \_\_\_\_\_\_\_\_\_\_ it is a plagiarism.   a)despite b)furthermore c)in other words d)on the contrary | | |
| 1. *Complete gaps in the text below with the following words. There are three words that you will not need to use:* |

cause range atoms compounds concept involves implementation extent application provides pose

**Nanotechnology is a branch of** technology which 1\_\_\_\_\_\_\_\_\_\_\_\_\_\_ manipulating with structures and properties at the nanoscale 2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, from 1 to 100 [nanometres.](https://en.wikipedia.org/wiki/Nanometers) A particle which is 1 nanometre in size is 1 × 10-9 metres small - a billionth of a metre. With the 3\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ introduced initially in 1959 by physicist Richard P. Feynman during his "[There's Plenty of Room at the Bottom](http://media.wiley.com/product_data/excerpt/53/07803108/0780310853.pdf)" talk, where he expressed the ability to control and manipulate individual 4\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and molecules, the study has today developed exponentially to revolutionise perspectives in cosmetics industry, agriculture and most recently, medicine.

**Medicine has thrived through** the incorporation of nanotechnology in its discipline as the efficacy of drugs improved significantly due to its 5\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in drug delivery, isolation of cancer cells in the body and reparations in clogged arteries. However, use of nanotechnology can be risky, as particles behave differently at a nanoscale level. This unpredictability can 6\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hazards to human health if it is unable to be controlled in its 7\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in medicine. Substances such as engineered fibrous nano-materials can 8\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ inflammation on lungs while the small size of individual particles allows them to enter cells and form clumps. This report will explore the risks and hazards which nanotechnology carries in its use in medicine on human health.

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Distractors: compounds, extent, provides

1. *Word formation: complete the sentences with words formed from the ones in brackets. You cannot use the same word or –ING ending.*
2. This would imply a strong geomagnetic storm during the \_\_\_deep\_\_\_\_ phase of the MM (deepen).
3. They are pleased if they find \_\_abundant\_\_\_\_\_\_\_ evidence (abundancy).
4. The investigation was \_\_\_undertaken\_\_\_\_ to explore Mars conditions (take)
5. The data \_\_\_confirm/confirms/confirmed\_\_\_ hazardous character of the use of nanotechnology in medicine (confirmation).
6. Proposals to construct new nuclear reactors have received great resistance from \_\_environmentalists\_\_ (environment).
7. Lasers are \_\_effective\_\_\_\_ in treating some causes of blindness (effectively).

*VIII. Find in the text below synonyms of the terms a-e*

a) stimulating, provoking

b) characteristics

c) invulnerable, immune

d) subjected

e) assessed

Current surface conditions on Mars are extremely challenging for life. The question is whether there are any features on Mars that could provide protection against the surface conditions. One possibility is that the surface material plays a protective role. With the aim of evaluating this possibility two microorganisms, Aciditiobacillus ferrooxidans, an acidophile, and Deinococcus radiodurans, a radiation-resistant microorganism, were exposed to simulated Mars conditions. Exposure was for different times under the protection of 2 and 5 mm layers of oxidised iron minerals. Survival was evaluated by growing the organisms on fresh media. Here we report that both layers provided enough protection for the bacteria to survive.

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1. Decide where in the text these phrases belong.

a) related to high geomagnetic latitudes

b) based in a revision of historical sunspot observations

c) noticed by Zhang (1985)

d) since it poses an important observational constraint on centennial evolution of solar activity

e) caused by misinterpretation of the data

f) interpreted as auroras

g) confirmed by cosmogenic isotope data for the last millennia

h) as new data are revealed and some old data are revisited

i) which form a special quiet mode

A period of extremely low solar activity which took place during the second half of the 17th century – beginning of the 18th century (1645 – 1715), is called the Maunder minimum (MM). It is the subject of numerous investigations 1.\_\_\_\_\_\_ (e.g. Sokoloff, 2004; Charbonneau, 2010). Although the very existence of the MM is known (e.g. Eddy, 1976; Eddy, 1983), the exact level of activity during that period is still discussed 2.\_\_\_\_\_ (Vaquero et al., 2011; Vaquero and Trigo, 2014; Vaquero et al., 2015; Usoskin et al., 2015; Svalgaard and Schatten, 2016). Very recent estimates of the level of solar activity during the MM 3.\_\_\_\_\_ clearly imply very low values (Carrasco, Alvarez, and Vaquero, 2015; Carrasco and Vaquero, 2016; Usoskin et al., 2015; Vaquero et al., 2016). We note that a claim of a moderate level of solar activity during the MM (Zolotova and Ponyavin, 2015) was 4.\_\_\_\_\_\_, as shown by Usoskin et al. (2015). Moreover, the existence of the MM and other similar grand minima of solar activity, 5.\_\_\_\_\_\_ of the solar dynamo, is independently 6.\_\_\_\_\_ (e.g. Beer, McCracken, and von Steiger, 2012; Steinhilber et al., 2012; Inceoglu et al., 2015; Usoskin et al., 2014; Usoskin et al., 2016). There are some records of auroras observed during the MM (e.g. Letfus, 2000), however all the European records are 7.\_\_\_\_\_ where auroras occur regularly (the auroral oval) even without geomagnetic storms and sunspots (V ́azquez et al., 2016; Usoskin et al., 2015). On the other hand, there are also records from Korean chronicles that may be 8.\_\_\_\_ (Zhang, 1985; Lee et al., 2004). However, as 9.\_\_\_\_\_, most of these events were observed in the southern direction, which contradicts with the data from the neighbouring China and Japan. Accordingly, the nature of these records is still debated (see discussion in Vazquez et al., 2016).

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