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The 4 page 60 minute ESL British English lesson – 25/01/14

## Is the sun going to sleep?

Is the sun going to sleep? It's an interesting question. Scientists have said that the sun is in a phase of a "solar lull" – meaning it has fallen asleep. This is baffling them as right now the sun is actually at its solar maximum – the point where it is at a peak of its 11-year cycle. The giant ball of plasma should be spewing out more flares and sunspots than normal. Instead it is relatively quiet.

Analyses of ice-cores, which hold a long-term record of solar activity, suggest the decline in activity is the fastest that has been seen in 10,000 years. In the near future Europe could see 'a cold snap' forming more often; with cold air coming in from Russia and the Arctic.

History suggests that periods of unusual "solar lull" coincide with bitterly cold winters. During the 17<sup>th</sup> century, the sun went through a similar such phase, a period called 'Maunder Minimum'.

During this time Europe experienced some bitterly cold winters. Snow covered the continent. The Baltic Sea iced over. In London people enjoyed frost fairs on the river Thames after it froze over. Some people describe this period as 'a mini ice age'.

Considering all the talk you hear of 'global warming' makes you wonder quite what is going on? What would be the consequences for earth today if we do get another mini ice age? Perhaps it would help cool it down? It may stabilize climate change. In today's world do electronics heat it up?

The consequences of a quietening sun are still not fully understood by scientists. It is still unpredictable. At the end of the day the sun remains a complex beast.

### SPEAKING – WARM UP

Think of three things you know about the sun. Go round the room swapping details with others.

### LISTENING – WRITING - DICTATION

The teacher will read some lines of the article slowly to the class.

### READING

Students should now read the article aloud, swapping readers every paragraph.

### SPEAKING - UNDERSTANDING

**1) The article** – Students check any unknown vocabulary or phrases with the teacher.

**2) The article** - Students should look through the article with the teacher.

- 1) What is the article about?
- 2) What do you think about the article?
- 3) Was this an easy or difficult article to understand?
- 4) Was this a boring or interesting article?
- 5) Discuss the article.

**3) Article quiz** - Students quiz each other in pairs. Score a point for each correct answer. Score half a point each time you have to look at the article for help. See who can get the highest score!

#### Student A questions

- 1) Where is 'the Baltic Sea'?
- 2) Where is 'the Arctic'?
- 3) What is an 'ice-core'?
- 4) What is 'global warming'?
- 5) History suggests what?

#### Student B questions

- 1) What remains a complex beast?
- 2) What happened during the 17<sup>th</sup> century?
- 3) What is a "solar lull"?
- 4) What was a frost fair?
- 5) What continues to heat what up?

**Category: Science / The Sun / Temperature Change  
Intermediate / Upper Intermediate**

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**WRITING / SPEAKING**

*In pairs.* On the board write as many words as you can to do with 'a mini ice age'. *One-two minutes.* Compare with other teams. Using your words compile a short dialogue together.

**WRITING / SPEAKING**

*In pairs* – Choose three advantages of a cooling sun. Add three disadvantages. Write them below. Talk about them.

- 1) \_\_\_\_\_ (1) \_\_\_\_\_
- 2) \_\_\_\_\_ (2) \_\_\_\_\_
- 3) \_\_\_\_\_ (3) \_\_\_\_\_

**Add** three things you would do if you suddenly found yourself in a mini ice age. Add three important points about the sun! Discuss together.

- 1) \_\_\_\_\_ (1) \_\_\_\_\_
- 2) \_\_\_\_\_ (2) \_\_\_\_\_
- 3) \_\_\_\_\_ (3) \_\_\_\_\_

*The teacher* will choose some pairs to discuss their findings in front of the class.

**WRITING / SPEAKING**

*In pairs,* write down ten ways to keep warm in a bitterly cold winter! *5-10 mins.*

*The teacher* will choose some students to read out their work to the class.

**DISCUSSION**

**Student A questions**

- 1) Did the headline make you want to read the article?
- 2) How would *you* describe 'a bitterly cold winter'?
- 3) Have you ever visited the Arctic?
- 4) What would we do without the sun?
- 5) Is the sun going to sleep?
- 6) Explain why electronics are playing their part in warming up the Planet.
- 7) What would be the consequences today for Earth if we did get another ice age?
- 8) Can you ice skate?
- 9) Is the sun a complex beast?
- 10) Have you learnt anything in today's English lesson?

**SPEAKING – ROLEPLAY 1**

*In groups.* One of you is the interviewer. There are up to four guests. You are in the BBC Science studio. Today's interview is: Is the sun going to sleep? *10 mins.*

- 1) A student at university.
- 2) A scientist.
- 3) A journalist.
- 4) A politician/other.

*The teacher* will choose some groups to roleplay their interview in front of the class.

**SPEAKING - ROLEPLAY 2**

*In pairs.* One of you is in a country where it is bitterly cold. The dark nights are long. The other is in a hot country where the sun shines. Start a telephone conversation about the weather patterns and your lifestyle in each country (Imagine!) *5 mins.*

**SPEAKING – DISCUSSION**

*Allow 10 minutes* – As a class.

<p><i>Is the sun going to sleep?</i></p> <p><i>Add in some examples!</i></p>
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*The teacher* can moderate the session.

**DISCUSSION**

**Student B questions**

- 1) What do you think about what you've read?
- 2) Do you think there could be another mini ice age?
- 3) Should we be worried about the sun cooling? Explain.
- 4) Why are the consequences of a quietening sun still not fully understood by scientists?
- 5) Would a quietening sun cool the earth down?
- 6) What about global warming – have we forgotten about this?
- 7) Why is global warming happening?
- 8) Would you like to skate on a frozen lake over river Thames?
- 9) Has this been a difficult lesson for you to understand?
- 10) Did you like this discussion?

**GAP FILL: READING**

**Is the sun going to sleep?**

Is the sun going to sleep? It's an interesting question. Scientists have said that the sun is in a phase of a "solar (1)\_\_\_" – meaning it has fallen asleep. This is baffling them as right now the sun is (2)\_\_\_ at its solar maximum – the point where it is at a peak of its 11-year (3)\_\_\_ . The giant ball of (4)\_\_\_ should be spewing out more flares and sunspots than normal. Instead it is relatively quiet.

Analyses of ice-cores, which hold a long-term record of solar activity, suggest the (5)\_\_\_ in activity is the fastest that has been seen in 10,000 years. In the near future Europe could see 'a cold (6)\_\_\_' forming more often; with cold air coming in from Russia and the Arctic.

History suggests that periods of (7)\_\_\_ "solar lull" coincide with bitterly cold winters. During the 17<sup>th</sup> century, the sun went through a similar such (8)\_\_\_ , a period called 'Maunder Minimum'.

**unusual / snap / cycle / lull / decline / plasma / phase / actually**

During this time Europe experienced some bitterly cold winters. Snow covered the continent. The Baltic Sea iced over. In London people enjoyed (1)\_\_\_ on the river Thames after it (2)\_\_\_ over. Some people describe this period as 'a mini ice age'.

Considering all the talk you hear of 'global warming' makes you wonder quite what is going on? What would be the consequences for earth today if we do get another mini ice age? (3)\_\_\_ it would help cool it down? It may (4)\_\_\_ climate change. In today's world do electronics heat it up?

The (5)\_\_\_ of a quietening sun are still not fully understood by scientists. It is still (6)\_\_\_ . At the end of the day the (7)\_\_\_ remains a complex (8)\_\_\_ .

**beast / perhaps / consequences / froze / stabilize / frost fairs / unpredictable / sun**

**GAP FILL: GRAMMAR**

**Is the sun going to sleep?**

Is the sun going to sleep? It's an interesting question. Scientists have said that the sun is in a phase of a "solar lull" – meaning it has fallen asleep. This is baffling them as right now the sun is actually at its solar maximum – the point (1)\_\_\_ it is at a peak of its 11-year cycle. The giant ball of plasma (2)\_\_\_ be spewing out (3)\_\_\_ flares and sunspots than normal. Instead it is relatively quiet.

Analyses of ice-cores, (4)\_\_\_ hold a long-term record of solar activity, suggest the decline in activity is the fastest (5)\_\_\_ has been seen in 10,000 years. In the near future Europe could see 'a cold snap' forming more often; (6)\_\_\_ cold air coming in from Russia and the Arctic.

History suggests (7)\_\_\_ periods of unusual "solar lull" coincide with bitterly cold winters. During the 17<sup>th</sup> century, the sun went through a similar (8)\_\_\_ phase, a period called 'Maunder Minimum'.

**that / more / such / with / where / which / that / should**

During this time Europe experienced some bitterly cold winters. Snow covered the continent. The Baltic Sea iced over. (1)\_\_\_ London people enjoyed frost fairs on the river Thames after (2)\_\_\_ froze over. Some people describe this period (3)\_\_\_ 'a mini ice age'.

Considering all the talk you hear of 'global warming' makes you wonder quite what is going on? What would be the consequences for earth today (4)\_\_\_ (5)\_\_\_ do get another mini ice age? Perhaps it would help cool it down? It may stabilize climate change. In today's world do electronics heat it up?

The consequences (7)\_\_\_ a quietening sun are still not fully understood by scientists. It is still unpredictable. (8)\_\_\_ the end of the day the sun remains a complex beast.

**it / at / we / it / in / as / of / if**

## GAP FILL: LISTENING

### Is the sun going to sleep?

Is the \_\_\_\_\_? It's an interesting question. Scientists have said that the sun is in a phase of a "solar lull" – meaning it has fallen asleep.

\_\_\_\_\_ as right now the sun is actually at its solar maximum – the point where it is at a peak of its 11-year cycle. The giant ball of plasma should be spewing out more flares and sunspots than normal. Instead \_\_\_\_\_.

Analyses of ice-cores, which hold a long-term record of solar activity, suggest the \_\_\_\_\_ is the fastest that has been seen in 10,000 years. In the near future Europe could see 'a cold snap' forming more often; with cold air coming in from Russia and the Arctic.

History suggests that periods of unusual "solar lull" coincide with bitterly cold winters. During the 17<sup>th</sup> century, \_\_\_\_\_ a similar such phase, a period called 'Maunder Minimum'.

During this time \_\_\_\_\_ some bitterly cold winters. Snow covered the continent. The Baltic Sea iced over. In London people enjoyed frost fairs on the river Thames after it froze over. Some people describe this period as '\_\_\_\_\_'.  
\_\_\_\_\_

Considering all the talk you hear of 'global warming' makes you wonder quite what is going on? What would be the consequences for earth today if we do get \_\_\_\_\_? Perhaps it would help cool it down? It may stabilize climate change. In today's world do electronics heat it up?  
\_\_\_\_\_

\_\_\_\_\_ quietening sun are still not fully understood by scientists. It is still unpredictable. At the end of the day the sun remains \_\_\_\_\_.

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## WRITING/SPELLING

### WRITING / SPEAKING

**1) On the board** - *In pairs, as a class* - write down 20 things you know about **the sun**. Talk about them! *5 mins*.

**2) Sentence starters** - Finish these sentence starters. Correct your mistakes. Compare what other people have written.

- 1) The sun \_\_\_\_\_
- 2) Climate change \_\_\_\_\_
- 3) Scientists \_\_\_\_\_

**3) Homework** - Write and send a 200 word email to your teacher about: **Is the sun going to sleep?** Your email can be read out in class.

### GAP FILL READING

- 1) lull
- 2) actually
- 3) cycle
- 4) plasma
- 5) decline
- 6) snap
- 7) unusual
- 8) phase

### SPELLING

The teacher will ask the class individually to spell the following words that are in the article. Afterwards check your answers.

- 1) question
- 2) plasma
- 3) scientists
- 4) lull
- 5) maximum
- 6) instead
- 7) relatively
- 8) quiet
- 9) analyses
- 10) activity

### ANSWERS

- 1) frost fairs
- 2) froze
- 3) perhaps
- 4) stabilize
- 5) consequences
- 6) unpredictable
- 7) sun
- 8) beast

### SPELLING

Use the following ratings:

**Pass = 12**

**Good = 15**

**Very good = 18**

**Excellent = 20**

- 11) unusual
- 12) often
- 13) similar
- 14) through
- 15) coincide
- 16) consequences
- 17) actually
- 18) still
- 19) complex
- 20) snap

Is the sun going to sleep? - *25<sup>th</sup> January 2014*