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Second explosion at Japan nuclear plant

http://www.breakingnewsenglish.com/1103/110314-japan_nuclear_crisis.html

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14th March, 2011

THE ARTICLE

From http://www.BreakingNewsEnglish.com/1103/110314-japan_nuclear_crisis.html

A second explosion has occurred at the nuclear power plant that was damaged in Friday's catastrophic earthquake and tsunami. Nuclear reactor 3 from the Fukushima plant suffered a similar explosion to that which hit reactor 1 on Saturday. Officials say the blast did not damage the casing which houses the uranium fuel rods in the reactor's core. Experts believe the latest explosion was caused by a build-up of hydrogen in the building that covers the core. Japan's prime minister Naoto Kan has told people there is no danger of a radioactive leak, but warned the situation to cool the reactors is still critical. He described recent events as "the biggest crisis Japan has encountered in the 65 years since the end of World War II".

Japan is beginning to understand more details of its tragedies. The death toll is slowly rising. Police found over 2,000 bodies on the coastline of Miyagi prefecture on Monday and at least ten thousand people are missing in the port town of Minamisanriku. Tens of thousands of people have been evacuated from a 20-km radius of the Fukushima nuclear power plants – many fear they will never see their homes again. More than 22 Fukushima residents are being treated for the effects of exposure to radiation. The whole of Japan is extremely concerned about the ongoing crisis at the power plants. Experts say a disaster on the scale of Chernobyl is highly unlikely. Nevertheless, the quiet fear and panic experienced by the Japanese raise questions about nuclear safety.

WARM-UPS

1. NUCLEAR POWER PLANTS: Walk around the class and talk to other students about nuclear power plants. Change partners often. Sit with your first partner(s) and share your findings.

2. CHAT: In pairs / groups, decide which of these topics or words from the article are most interesting and which are most boring.

explosions / catastrophic / earthquakes / tsunami / hydrogen / radioactive / crisis / tragedies / coastline / missing people / residents / radiation / disaster / fear / panic

Have a chat about the topics you liked. Change topics and partners frequently.

3. POWER: What are the pros and cons of these? Complete this table with your partner(s). Change partners and share what you wrote. Change and share again.

	Pros	Cons
Nuclear		
Petrol		
Solar		
Wind		
Coal / wood		
Bio-fuels		

4. NUCLEAR POWER: Students A **strongly** believe nuclear power is safe enough; Students B **strongly** believe it isn't. Change partners again and talk about your conversations.

5. DISASTERS: Which are the scariest? Rank these and share your rankings with your partner. Put the scariest at the top. Change partners and share your rankings again.

- nuclear disaster
- tsunami
- hurricane/typhoon
- avalanche
- famine
- earthquake
- war
- wildfires

6. EARTHQUAKE: Spend one minute writing down all of the different words you associate with the word 'earthquake'. Share your words with your partner(s) and talk about them. Together, put the words into different categories.

BEFORE READING / LISTENING

From http://www.BreakingNewsEnglish.com/1103/110314-japan_nuclear_crisis.html

1. TRUE / FALSE: Read the headline. Guess if a-h below are true (T) or false (F).

- a. There have now been two explosions at the Fukushima nuclear plant. T / F
- b. The blast was totally different from one that happened earlier. T / F
- c. The explosion occurred because of a build-up of uranium. T / F
- d. Japan's leader said the country was facing its biggest ever crisis. T / F
- e. The death toll is expected to be just under 10,000. T / F
- f. Some evacuees from Fukushima will never see their homes again. T / F
- g. 22 people are being treated for exposure to radiation. T / F
- h. Nuclear experts say there is little chance of a Chernobyl style accident. T / F

2. SYNONYM MATCH: Match the following synonyms from the article.

- | | |
|--------------|-----------------|
| 1. explosion | a. accommodates |
| 2. tsunami | b. continuing |
| 3. casing | c. tidal wave |
| 4. houses | d. increasing |
| 5. leak | e. bring up |
| 6. tragedy | f. blast |
| 7. rising | g. seepage |
| 8. exposure | h. housing |
| 9. ongoing | i. contact |
| 10. raise | j. disaster |

3. PHRASE MATCH: (Sometimes more than one choice is possible.)

- | | |
|-------------------------------------|--------------------------|
| 1. damaged in Friday's catastrophic | a. the uranium fuel |
| 2. a similar explosion to that | b. ongoing crisis |
| 3. damage the casing which houses | c. the reactors |
| 4. caused by a build- | d. toll is slowly rising |
| 5. the situation to cool | e. earthquake |
| 6. The death | f. exposure to radiation |
| 7. thousands of people have | g. which hit reactor 1 |
| 8. treated for the effects of | h. scale of Chernobyl |
| 9. concerned about the | i. up of hydrogen |
| 10. a disaster on the | j. been evacuated |

WHILE READING / LISTENING

From http://www.BreakingNewsEnglish.com/1103/110314-japan_nuclear_crisis.html

GAP FILL: Put the words into the gaps in the text.

A second explosion has (1) _____ at the nuclear power plant that was (2) _____ in Friday's catastrophic earthquake and tsunami. Nuclear reactor 3 from the Fukushima plant suffered a (3) _____ explosion to that which hit reactor 1 on Saturday. Officials say the blast did not (4) _____ the casing which houses the uranium fuel rods in the reactor's core. Experts (5) _____ the latest explosion was caused by a (6) _____ -up of hydrogen in the building that covers the core. Japan's prime minister Naoto Kan has told people there is no (7) _____ of a radioactive leak, but warned the situation to cool the reactors is still critical. He described recent events as "the biggest crisis Japan has (8) _____ in the 65 years since the end of World War II".

believe
similar
danger
encountered
occurred
damaged
build
damage

Japan is beginning to understand more (9) _____ of its tragedies. The death toll is slowly rising. Police found over 2,000 bodies on the (10) _____ of Miyagi prefecture on Monday and at least ten thousand people are (11) _____ in the port town of Minamisanriku. Tens of thousands of people have been (12) _____ from a 20-km radius of the Fukushima nuclear power plants – many fear they will never see their homes again. More than 22 Fukushima residents are being (13) _____ for the effects of exposure to radiation. The whole of Japan is (14) _____ concerned about the ongoing crisis at the power plants. Experts say a disaster on the scale of Chernobyl is (15) _____ unlikely. Nevertheless, the quiet fear and panic experienced by the Japanese (16) _____ questions about nuclear safety.

extremely
coastline
missing
highly
details
raise
evacuated
treated

LISTENING – Listen and fill in the gaps

From http://www.BreakingNewsEnglish.com/1103/110314-japan_nuclear_crisis.html

A second _____ at the nuclear power plant that was damaged in Friday's catastrophic earthquake and tsunami. Nuclear reactor 3 from the Fukushima _____ explosion to that which hit reactor 1 on Saturday. Officials say the blast did not damage _____ the uranium fuel rods in the reactor's core. Experts believe the latest explosion was _____ of hydrogen in the building that covers the core. Japan's prime minister Naoto Kan has told people there is no _____ leak, but warned the situation to cool the reactors is still critical. He described recent events as "the biggest crisis Japan _____ 65 years since the end of World War II".

Japan is beginning to understand more _____. The death _____. Police found over 2,000 bodies _____ Miyagi prefecture on Monday and at least ten thousand people are missing in the port town of Minamisanriku. Tens of thousands of people have _____ a 20-km radius of the Fukushima nuclear power plants – many fear they will never see their homes again. More than 22 Fukushima residents are being treated for the _____ radiation. The whole of Japan is extremely concerned about the ongoing crisis at the power plants. Experts say a _____ Chernobyl is highly unlikely. Nevertheless, the quiet fear and panic experienced by the Japanese raise questions about nuclear safety.

AFTER READING / LISTENING

From http://www.BreakingNewsEnglish.com/1103/110314-japan_nuclear_crisis.html

1. WORD SEARCH: Look in your dictionary / computer to find collocates, other meanings, information, synonyms ... for the words 'nuclear' and 'crisis'.

nuclear	crisis
----------------	---------------

- Share your findings with your partners.
- Make questions using the words you found.
- Ask your partner / group your questions.

2. ARTICLE QUESTIONS: Look back at the article and write down some questions you would like to ask the class about the text.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

3. GAP FILL: In pairs / groups, compare your answers to this exercise. Check your answers. Talk about the words from the activity. Were they new, interesting, worth learning...?

4. VOCABULARY: Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

5. TEST EACH OTHER: Look at the words below. With your partner, try to recall how they were used in the text:

<ul style="list-style-type: none">• second• 3• blast• experts• no• since	<ul style="list-style-type: none">• details• slowly• tens• never• ongoing• raise
---	---

STUDENT NUCLEAR POWER PLANTS SURVEY

From http://www.BreakingNewsEnglish.com/1103/110314-japan_nuclear_crisis.html

Write five GOOD questions about nuclear power plants in the table. Do this in pairs. Each student must write the questions on his / her own paper. When you have finished, interview other students. Write down their answers.

	STUDENT 1 _____	STUDENT 2 _____	STUDENT 3 _____
Q.1.			
Q.2.			
Q.3.			
Q.4.			
Q.5.			

- Now return to your original partner and share and talk about what you found out. Change partners often.
- Make mini-presentations to other groups on your findings.

NUCLEAR POWER PLANTS DISCUSSION

STUDENT A's QUESTIONS (Do not show these to student B)

- a) What did you think when you read the headline?
- b) What springs to mind when you hear the term 'nuclear power'?
- c) What do you think of what's happening at the Fukushima power plants?
- d) What do you think will happen?
- e) Do you think all nuclear power stations should be banned?
- f) Should the power station have been built in an earthquake zone on the coast?
- g) What do you know about what has gone wrong?
- h) Do you think Japan prime minister Naoto Kan is doing a good job?
- i) How long do you think it'll take for Japan to recover?
- j) What's the biggest natural disaster your country has experienced?

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NUCLEAR POWER PLANTS DISCUSSION

STUDENT B's QUESTIONS (Do not show these to student A)

- a) Did you like reading this article?
- b) What images of the disaster stick in your mind most?
- c) How do you think people go about rebuilding their lives?
- d) Would you live near a nuclear power station?
- e) Why do people live so close to nuclear power stations?
- f) What could be the worst case scenario for Japan?
- g) What message would you give to the people of Japan?
- h) Do you believe claims that there won't be a Chernobyl-level disaster?
- i) What do you think about the way ordinary Japanese people are coping with this catastrophe?
- j) What questions would you like to ask Japan's prime minister Naoto Kan?

LANGUAGE – MULTIPLE CHOICE

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A second explosion has (1) _____ at the nuclear power plant that was damaged in Friday's catastrophic earthquake and tsunami. Nuclear reactor 3 from the Fukushima plant suffered a (2) _____ explosion to that which hit reactor 1 on Saturday. Officials say the blast did not damage the casing which houses the uranium fuel rods in the reactor's (3) _____. Experts believe the latest explosion was caused by a build-(4) _____ of hydrogen in the building that covers the core. Japan's prime minister Naoto Kan has told people there is no danger of a radioactive (5) _____, but warned the situation to cool the reactors is still critical. He described recent events as "the biggest crisis Japan has (6) _____ in the 65 years since the end of World War II".

Japan is beginning to understand more details of its tragedies. The death (7) _____ is slowly rising. Police found over 2,000 bodies on the (8) _____ of Miyagi prefecture on Monday and at least ten thousand people are missing in the port town of Minamisanriku. Tens of thousands of people have been (9) _____ from a 20-km radius of the Fukushima nuclear power plants – many fear they will never see their homes again. More than 22 Fukushima (10) _____ are being treated for the effects of exposure to radiation. The whole of Japan is extremely concerned about the ongoing crisis at the power plants. Experts say a disaster on the scale of Chernobyl is highly unlikely. Nevertheless, the quiet fear and panic experienced by the Japanese raise questions about nuclear safety.

Put the correct words from the table below in the above article.

- | | | | | |
|-----|----------------|-----------------|----------------|---------------|
| 1. | (a) occurrence | (b) occurs | (c) occurring | (d) occurred |
| 2. | (a) similar | (b) alike | (c) identical | (d) same |
| 3. | (a) bore | (b) core | (c) lore | (d) pore |
| 4. | (a) in | (b) out | (c) up | (d) down |
| 5. | (a) leaky | (b) leaks | (c) leak | (d) leaking |
| 6. | (a) recoiled | (b) encountered | (c) dispirited | (d) undaunted |
| 7. | (a) doll | (b) poll | (c) moll | (d) toll |
| 8. | (a) coastline | (b) fault line | (c) beeline | (d) inline |
| 9. | (a) excavated | (b) evacuated | (c) elevated | (d) estimated |
| 10. | (a) residence | (b) resides | (c) residency | (d) residents |
| 11. | (a) affects | (b) affective | (c) effects | (d) effective |
| 12. | (a) scale | (b) limit | (c) grade | (d) ratio |

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WRITING

From http://www.BreakingNewsEnglish.com/1103/110314-japan_nuclear_crisis.html

Write about **nuclear power plants** for 10 minutes. Correct your partner's paper.

HOMework

1. VOCABULARY EXTENSION: Choose several of the words from the text. Use a dictionary or Google's search field (or another search engine) to build up more associations / collocations of each word.

2. INTERNET: Search the Internet and find out more about nuclear power plants. Share what you discover with your partner(s) in the next lesson.

3. REACTORS: Make a poster about nuclear reactors. Show your work to your classmates in the next lesson. Did you all have similar things?

4. JAPAN'S CRISIS: Write a magazine article about Japan's nuclear crisis. Include imaginary interviews with people who are for and against nuclear power.

Read what you wrote to your classmates in the next lesson. Write down any new words and expressions you hear from your partner(s).

5. LETTER: Write a letter to a nuclear expert. Ask him/her three questions about nuclear power plants. Give him/her three of your opinions on them. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

TRUE / FALSE:

a. T b. F c. F d. F e. F f. F g. T h. T

SYNONYM MATCH:

- | | |
|--------------|-----------------|
| 1. explosion | a. blast |
| 2. tsunami | b. tidal wave |
| 3. casing | c. housing |
| 4. houses | d. accommodates |
| 5. leak | e. seepage |
| 6. tragedy | f. disaster |
| 7. rising | g. increasing |
| 8. exposure | h. contact |
| 9. ongoing | i. continuing |
| 10. raise | j. bring up |

PHRASE MATCH:

- | | |
|-------------------------------------|--------------------------|
| 1. damaged in Friday's catastrophic | a. earthquake |
| 2. a similar explosion to that | b. which hit reactor 1 |
| 3. damage the casing which houses | c. the uranium fuel |
| 4. caused by a build- | d. up of hydrogen |
| 5. the situation to cool | e. the reactors |
| 6. The death | f. toll is slowly rising |
| 7. thousands of people have | g. been evacuated |
| 8. treated for the effects of | h. exposure to radiation |
| 9. concerned about the | i. ongoing crisis |
| 10. a disaster on the | j. scale of Chernobyl |

GAP FILL:

Second explosion at Japan nuclear plant

A second explosion has (1) **occurred** at the nuclear power plant that was (2) **damaged** in Friday's catastrophic earthquake and tsunami. Nuclear reactor 3 from the Fukushima plant suffered a (3) **similar** explosion to that which hit reactor 1 on Saturday. Officials say the blast did not (4) **damage** the casing which houses the uranium fuel rods in the reactor's core. Experts (5) **believe** the latest explosion was caused by a (6) **build-up** of hydrogen in the building that covers the core. Japan's prime minister Naoto Kan has told people there is no (7) **danger** of a radioactive leak, but warned the situation to cool the reactors is still critical. He described recent events as "the biggest crisis Japan has (8) **encountered** in the 65 years since the end of World War II".

Japan is beginning to understand more (9) **details** of its tragedies. The death toll is slowly rising. Police found over 2,000 bodies on the (10) **coastline** of Miyagi prefecture on Monday and at least ten thousand people are (11) **missing** in the port town of Minamisanriku. Tens of thousands of people have been (12) **evacuated** from a 20-km radius of the Fukushima nuclear power plants – many fear they will never see their homes again. More than 22 Fukushima residents are being (13) **treated** for the effects of exposure to radiation. The whole of Japan is (14) **extremely** concerned about the ongoing crisis at the power plants. Experts say a disaster on the scale of Chernobyl is (15) **highly** unlikely. Nevertheless, the quiet fear and panic experienced by the Japanese (16) **raise** questions about nuclear safety.

LANGUAGE WORK

1 - d 2 - a 3 - b 4 - c 5 - c 6 - b 7 - d 8 - a 9 - b 10 - d 11 - c 12 - a

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