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#### Level 5

# Japan finds enough rare-earth metals to last 700 years 14th April, 2018

https://breakingnewsenglish.com/1804/180414-rare-earth-metals-5.html

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Please try Levels 4 and 6. They are (a little) harder.

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#### THE READING

From https://breakingnewsenglish.com/1804/180414-rare-earth-metals-5.html

Researchers have found enough reserves of rare-earth metals (REMs) to satisfy global demand for up to 700 years. Scientists surveyed the deep-sea mud on the Pacific Ocean floor about 2,000 kilometers southeast of Tokyo. They say their find, "has the potential to supply these metals on a semi-infinite basis to the world". Researchers from two universities in Tokyo estimate the area contains more than 16 million tons of rare-earth metals. They added there is "great potential...for some of the most critically important elements in modern society".

There are 17 rare-earth metals in the periodic table. These chemical elements have relatively unknown names, like europium and terbium. Their uses, applications, and demand have greatly increased with our need for high-tech products. REMs are widely used in electric motors for hybrid vehicles, wind turbines, hard disc drives, portable electronics, microphones, speakers and many other products. Around 90 per cent of REMs used to manufacture advanced electronics currently come from China. The new discovery near Japan could bring down prices.

Sources: https://**japantoday.com**/category/tech/japan-team-maps-%27semi-infinite%27-rare-earth-

reserves

https://mainichi.jp/english/articles/20180411/p2a/00m/0na/014000c

https://en.wikipedia.org/wiki/Rare-earth\_element

#### PHRASE MATCHING

From https://breakingnewsenglish.com/1804/180414-rare-earth-metals-5.html

#### **PARAGRAPH ONE:**

- 1. Researchers have found enough
- 2. satisfy global
- 3. Scientists surveyed the
- 4. on a semi-infinite
- 5. more than 16 million tons
- 6. there is great
- 7. some of the most critically
- 8. in modern

- a. potential
- b. deep-sea mud
- c. society
- d. reserves
- e. basis
- f. important elements
- q. demand
- h. of rare-earth metals

#### **PARAGRAPH TWO:**

- 1. 17 rare-earth metals in the
- 2. relatively unknown
- 3. Their uses, applications
- 4. widely
- 5. hybrid
- 6. used to manufacture
- 7. The new
- 8. bring down

- a. discovery
- b. and demand
- c. vehicles
- d. prices
- e. names
- f. periodic table
- g. used
- h. advanced electronics

## LISTEN AND FILL IN THE GAPS

From <a href="https://breakingnewsenglish.com/1804/180414-rare-earth-metals-5.html">https://breakingnewsenglish.com/1804/180414-rare-earth-metals-5.html</a>

Researchers have found (1)	rare-earth metals
(REMs) to (2)	for up to 700 years. Scientists
surveyed the deep-(3)	the Pacific Ocean floor about
2,000 kilometers southeast of Tokyo	. They say their find, "has the potential
to supply these metals on a (4) _	to the world".
Researchers from two universities in	Tokyo estimate the area contains more
than 16 (5)	rare-earth metals. They added there is
"great potentialfor some of (6)	important elements
in modern society".	
There are 17 rare-earth metals	in (7) These
chemical elements have relatively (8)	europium and
terbium. Their uses, app	lications, and demand have
(9) our need	for high-tech products. REMs are widely
used in electric motors for hybrid	(10), hard disc
drives, portable electronics,	microphones, speakers and
(11) Arou	nd 90 per cent of REMs used to
manufacture advanced electronics	currently come from China. The new
discovery near Japan could (12)	

## PUT A SLASH ( / )WHERE THE SPACES ARE

From https://breakingnewsenglish.com/1804/180414-rare-earth-metals-5.html

Researchershavefoundenoughreservesofrare-earthmetals(REMs)t osatisfyglobaldemandforupto700years.Scientistssurveyedthedeep -seamudonthePacificOceanfloorabout2,000kilometerssoutheasto fTokyo.Theysaytheirfind,"hasthepotentialtosupplythesemetalsonas emi-infinitebasistotheworld".ResearchersfromtwouniversitiesinTok yoestimatetheareacontainsmorethan16milliontonsofrare-earthm etals. They added there is "great potential... for some of the most critical leads to be a second of the control of the contro yimportantelementsinmodernsociety". Thereare 17 rare-earthmeta Isintheperiodictable. These chemical elements have relatively unknow nnames, like europium and terbium. Their uses, applications, and dema ndhavegreatlyincreasedwithourneedforhigh-techproducts.REMsar ewidelyusedinelectricmotorsforhybridvehicles, windturbines, harddi scdrives, portable electronics, microphones, speakers and many other products. Around 90 percent of REMsused to manufacture advancedele ctronicscurrentlycomefromChina.ThenewdiscoverynearJapancould bringdownprices.

#### **METALS SURVEY**

From <a href="https://breakingnewsenglish.com/1804/180414-rare-earth-metals-4.html">https://breakingnewsenglish.com/1804/180414-rare-earth-metals-4.html</a>

Write five GOOD questions about metals 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.

## WRITE QUESTIONS & ASK YOUR PARTNER(S)

Student A: Do not show these to your speaking partner(s).

Japan		arth metals to last sons at breakingne	700 years – 14th April	, 2018
	QUESTION not show these		YOUR PART ng partner(s).	NE
	_			NE

## **WRITING**

From <a href="https://breakingnewsenglish.com/1804/180414-rare-earth-metals-5.html">https://breakingnewsenglish.com/1804/180414-rare-earth-metals-5.html</a>

Write about <b>metals</b> for 3	10 minutes. Rea	d and talk about	your partner's paper	·.