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Level 6 – 19th June, 2021

World's first wooden satellite tested

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https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

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Please try Levels 4 and 5 (they are easier).

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THE ARTICLE

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

Cutting-edge technology is getting back to nature. A company has tested a new satellite that is predominantly made from plywood. The satellite is called Woodsat. It is the brainchild of engineer Jari Makinen, co-founder of a Finnish company called Arctic Astronautics. It is just 10cm cubed in size. He has already successfully tested his DIY, but high-tech, device in the stratosphere. He attached it to a weather balloon, which took it to an altitude of 30km above Earth - just before the endless expanse of space itself. The balloon exploded (as planned) and Woodsat safely parachuted back to Earth. Mr Makinen happily reported that all communications equipment survived the harsh conditions.

Makinen plans to launch Woodsat into space later this year. He said it was the realisation of a dream. He started a company to produce fully functional wooden replicas of orbit-ready miniature satellites called CubeSats. These are used for space research, education and hobby purposes. Makinen explained: "I've always enjoyed making model planes that involve a lot of wooden parts. Having worked in the space education field, this got me wondering why we don't fly any wooden materials into space." He came up with the idea for Woodsat in 2017 and "the project just snowballed". He said: "We found commercial backing, and secured a berth on an Electron launcher from Rocket Lab in New Zealand."

Sources: https://www.**cnet.com**/news/first-wooden-satellite-in-the-world-aims-to-prove-plywood-can-

survive-space/

https://scitechdaily.com/worlds-first-wooden-satellite-set-to-launch-can-plywood-survive-in-

space/

https://www.woodworkingnetwork.com/news/woodworking-industry-news/worlds-first-wooden-

satellite-passes-test-flight

https://www.wisaplywood.com/wisaWoodsat/

WARM-UPS

- **1. SATELLITES:** Students walk around the class and talk to other students about satellites. Change partners often and share your findings.
- **2. CHAT:** In pairs / groups, talk about these topics or words from the article. What will the article say about them? What can you say about these words and your life?

nature / satellite / plywood / brainchild / engineer / device / stratosphere / equipment plans / dream / replica / research / hobby / model planes / education / idea / space

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

- **3. SPACE:** Students A **strongly** believe we need to spend a lot more money on exploring space; Students B **strongly** believe the opposite. Change partners again and talk about your conversations.
- **4. WOOD:** What are the pros and cons of these things being made from wood? Complete this table with your partner(s). Change partners often and share what you wrote.

	Pros	Cons
Cars		
Smartphones		
Houses		
Shoes		
Pens		
Jewellery		

- **5. NATURE:** Spend one minute writing down all of the different words you associate with the word "nature". Share your words with your partner(s) and talk about them. Together, put the words into different categories.
- **6. CUTTING EDGE:** Rank these with your partner. Put the best things at the top. Change partners often and share your rankings.
 - Satellites
 - Smart watches
 - Fingerprint log-in
 - Smart fridges

- · Driverless cars
- Health apps
- Zoom
- Cashless stores

VOCABULARY MATCHING

Paragraph 1

- 1. cutting edge a. Increased by an amount to form a 3D (three-dimensional) shape.
- 2. predominantly b. The layer of the earth's atmosphere extending to about 50 km above the earth's surface.
- 3. brainchild c. The latest or most advanced stage in the development of something.
- 4. cubed d. Of a climate or conditions that are difficult to survive in.
- 5. stratosphere e. Mainly; for the most part.
- 6. expanse f. An idea or invention which is considered to be a particular person's creation.
- 7. harsh g. An area of something.

Paragraph 2

- 8. realisation h. A place on a ship, train, plane or other means of transport.
- 9. replica i. The fulfillment or achievement of something desired or hoped for.
- 10. miniature j. An exact copy or model of something, especially one on a smaller scale.
- 11. involve k. Increase quickly in size, intensity, or importance.
- 12. snowball Include something as a necessary part or result.
- 13. secured m. Of a much smaller size than normal; very small.
- 14. berth n. Succeeded in getting something, especially with difficulty.

BEFORE READING / LISTENING

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

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

- 1. The article says nature is becoming cutting edge. **T/F**
- 2. A new satellite is made entirely from wood. **T/F**
- 3. The satellite is one metre in width, depth and length. T / F
- 4. The balloon that took the satellite to the stratosphere exploded. **T / F**
- 5. The satellite's creator will launch it into space for the first time in 2023. **T / F**
- 6. The satellite's creator used to make model airplanes. **T / F**
- 7. The satellite's creator got the idea for the satellite from a snowball. **T / F**
- 8. The creator found a place on a rocket launcher in New Zealand. **T / F**

2. SYNONYM MATCH: (The words in **bold** are from the news article.)

- 1. cutting edge
- 2. tested
- 3. brainchild
- 4. altitude
- 5. exploded
- 6. realisation
- 7. replicas
- 8. wondering
- 9. snowballed
- 10. berth

- a. escalated
- b. height
- c. blew up
- d. copies
- e. trialled
- f. pondering
- g. advanced
- h. place
- i. idea
- i. fulfillment

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

- 1. Cutting-edge technology is getting
- 2. a new satellite that is predominantly
- 3. an altitude of
- 4. safely parachuted
- 5. all communications equipment survived
- 6. He said it was the realisation
- 7. produce fully functional
- 8. this got me wondering
- 9. the project just
- 10. We found commercial

- a. snowballed
- b. the harsh conditions
- c. of a dream
- d. made from plywood
- e. backing
- f. why
- g. back to nature
- h. wooden replicas
- i. back to Earth
- j. 30km above Earth

GAP FILL

 $\textbf{From} \quad \underline{\text{https://breakingnewsenglish.com/2016/210619-wooden-satellite.html}}$

Cutting-edge technology is getting back to	predominantly
(1) A company has tested a new satellite	cubed
that is (2) made from plywood. The satellite	parachuted
is called Woodsat. It is the ${}_{(3)}$ of engineer	paracriuteu
Jari Makinen, co-founder of a Finnish company called Arctic	brainchild
Astronautics. It is just 10cm (4) in size. He	expanse
has already successfully tested his DIY, but high-tech, device in	harsh
the ${\scriptstyle (5)}$ He attached it to a weather balloon,	
which took it to an altitude of 30km above Earth - just before	nature
the endless (6) of space itself. The balloon	stratosphere
exploded (as planned) and Woodsat safely	
(7) back to Earth. Mr Makinen happily	
reported that all communications equipment survived the	
(8) conditions.	
Makinen plans to launch Woodsat into space later this year. He	miniature
said it was the (9) of a dream. He started a	berth
company to produce fully functional wooden	involve
(10) of orbit-ready (11)	
satellites called CubeSats. These are used for space research,	realisation
education and hobby (12) Makinen	purposes
explained: "I've always enjoyed making model planes that	snowballed
(13) a lot of wooden parts. Having worked in	ranlicae
the space education field, this got me (14)	replicas
why we don't fly any wooden materials into space." He came up	wondering
with the idea for Woodsat in 2017 and "the project just	
(15)". He said: "We found commercial	
backing, and secured a (16) on an Electron	
launcher from Rocket Lab in New Zealand."	

LISTENING – Guess the answers. Listen to check.

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

1)	Cutting-edge technology is getting a. back to nurture
	b. back to nature
	c. back to natural
21	d. back to neigh chair
2)	A company has tested a new satellite that is predominantly a. made from fly wood
	o. made from plywood
	c. made from play wood
	d. made from pry wood
3)	He has already successfully tested his DIY, but high-tech, device
	a. in this atmosphere
	o. in these rats fear c. in that's rat of sphere
	d. in the stratosphere
4)	The balloon exploded (as planned) and Woodsat
	a. safely parachute it
	o. safety parachutes
	c. safely parachuted d. safety parachuted
5)	Makinen happily reported that all communications equipment survived
٥,	a. the hushed conditions
	o. the harsh conditions
	the hearts conditions
٥,	d. the arch conditions
6)	He started a company to produce fully functional a. wooden replicas
	o. wooden replicates
	c. wooden reply case
	d. wooden replicate
7)	These are used for space research, education
	a. and hobby porpoises
	o. and hobby purr poses c. and hobby purpose is
	d. and hobby purposes
8)	've always enjoyed making model planes that involve a lot
	a. of wood den parts
	o. of wooded parts
	c. of wooden parts d. of woo den parts
9)	He came up with the idea for Woodsat in 2017 and the
٥,	a. project just now balled
	p. project adjust no balled
	c. project just ennobled
	d. project just snowballed
10)	We found commercial backing, and
	a. secured a birth b. secured a berth
	c. secured a bath
	d. secured dab Earth

LISTENING – Listen and fill in the gaps

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

Cutting-edge technology is getting (1)	A company
has tested a new satellite that (2)	from plywood.
The satellite is called Woodsat. It is the (3)	Jari
Makinen, co-founder of a Finnish company called Arctic Ast	ronautics. It is
just 10cm (4) He has already succ	cessfully tested
his DIY, but high-tech, device in the stratosphere. He at	tached it to a
weather balloon, which took it to (5)	30km above
Earth - just before the endless expanse of space itself. The ba	alloon exploded
(as planned) and Woodsat safely parachuted back to Eart	:h. Mr Makinen
happily reported that all communications equipm	nent survived
(6)	
Makinen plans to launch Woodsat into space later this year.	He said it was
(7) a dream. He started a company	to produce fully
functional (8) orbit-ready miniature	satellites called
CubeSats. These are used for space research, education	on and hobby
purposes. Makinen explained: "I've always enjoyed making	j model planes
that (9) of wooden parts. Having	worked in the
(10), this got me wondering why w	e don't fly any
wooden materials into space." He came up with the idea	for Woodsat in
2017 and "the (11)". He said	d: "We found
commercial backing, and (12) o	n an Electron
launcher from Rocket Lab in New Zealand."	

COMPREHENSION QUESTIONS

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

1.	What does the article say cutting-edge technology is getting back to?
2.	What kind of wood is the satellite made from?
3.	How big is the satellite?
4.	How high up did the satellite go?
5.	What happened to the balloon that the satellite was attached to?
6.	When does the engineer hope to launch the satellite into space?
7.	What are CubeSats used for besides education and hobbies?
8.	What did the engineer used to enjoy making?
9.	When did the engineer come up with the idea for Woodsat?
10.	Where has the engineer secured a berth for launching his satellite?

MULTIPLE CHOICE - QUIZ

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

- 1) What does the article say cutting-edge technology is getting back to?
- a) basics
- b) nature
- c) brass tacks
- d) the beginning of time
- 2) What kind of wood is the satellite made from?
- a) mahogany
- b) pine
- c) cedar
- d) plywood
- 3) How big is the satellite?
- a) 10cm cubed
- b) huge
- c) 10 metres across
- d) just one metre
- 4) How high up did the satellite go?
- a) 15km
- b) 20km
- c) 30km
- d) 8km
- 5) What happened to the balloon that the satellite was attached to?
- a) it vaporised
- b) it exploded
- c) it burnt up upon re-entry
- d) it disappeared into space

- 6) When does the engineer hope to launch the satellite into space?
- a) later this year
- b) very soon
- c) in 2023
- d) when it's finished
- 7) What are CubeSats used for besides education and hobbies?
- a) GPS
- b) trigonometry
- c) space research
- d) hobbyists
- 8) What did the engineer used to enjoy making?
- a) model planes
- b) cakes
- c) paper planes
- d) space rockets
- 9) When did the engineer come up with the idea for Woodsat?
- a) 2017
- b) 2016
- c) 2018
- d) 2020
- 10) Where has the engineer secured a berth for launching his satellite?
- a) Florida
- b) Patagonia
- c) Siberia
- d) New Zealand

ROLE PLAY

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

Role A - Satellites

You think satellites are the best examples of cutting-edge technology. Tell the others three reasons why. Tell them why their things aren't as good. Also, tell the others which is the least useful of these (and why): smart fridges, driverless cars or Zoom.

Role B - Smart Fridges

You think smart fridges are the best examples of cutting-edge technology. Tell the others three reasons why. Tell them why their things aren't as good. Also, tell the others which is the least useful of these (and why): satellites, driverless cars or Zoom.

Role C - Driverless Cars

You think driverless cars are the best examples of cutting-edge technology. Tell the others three reasons why. Tell them why their things aren't as good. Also, tell the others which is the least useful of these (and why): smart fridges, satellites or Zoom.

Role D - Zoom

You think Zoom is the best example of cutting-edge technology. Tell the others three reasons why. Tell them why their things aren't as good. Also, tell the others which is the least useful of these (and why): smart fridges, driverless cars or satellites.

AFTER READING / LISTENING

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

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

wood	satellite

- 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:

nature	launch
 plywood 	• fully
• cubed	• hobby
 altitude 	• involve
• back	• idea
harsh	commercial

SATELLITES SURVEY

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

Write five GOOD questions about satellites 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.

SATELLITES DISCUSSION

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

- 1. What did you think when you read the headline?
- 2. What images are in your mind when you hear the word 'wood'?
- 3. What do you think of cutting-edge technology?
- 4. What do you know about satellites?
- 5. What do you think of wooden satellites?
- 6. What do you know about the stratosphere?
- 7. What could the wooden satellite be used for?
- 8. How might wood change space technology?
- 9. Should more, everyday things be made from wood?
- 10. Was the world better before satellites and going into space?

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SATELLITES DISCUSSION

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

- 11. Did you like reading this article? Why/not?
- 12. What do you think of when you hear the word 'satellite'?
- 13. What do you think about what you read?
- 14. What are your dreams?
- 15. What do we need to research about space?
- 16. What things do you enjoy making?
- 17. Would you like to go into space?
- 18. Should we protect trees from being used for satellites?
- 19. What will technology look like in 100 years from now?
- 20. What questions would you like to ask the designer?

DISCUSSION (Write your own questions)

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

1.	
2.	
3.	
ŀ.	
5.	
DIS	SCUSSION (Write your own questions) ENT B's QUESTIONS (Do not show these to student A)
DIS	SCUSSION (Write your own questions)
DIS STUD	SCUSSION (Write your own questions)
DIS STUD 1. 2.	SCUSSION (Write your own questions)
DIS	
DIS STUD 1. 2.	SCUSSION (Write your own questions)

LANGUAGE - CLOZE

 $From \ \ \, \underline{https://breakingnewsenglish.com/2016/210619-wooden-satellite.html}$

Cutting-edge technology is getting back to (1) A company has tested a new satellite that is predominantly made from plywood. The satellite is called Woodsat. It is the (2) of engineer Jari Makinen, co-founder of a Finnish company called Arctic Astronautics. It is just 10cm (3) in size. He has already successfully tested his DIY, but high-tech, device in the stratosphere. He attached it to a weather balloon, which took it to an (4) of 30km above Earth - just before the endless (5) of space itself. The balloon exploded (as planned) and Woodsat safely parachuted back to Earth. Mr Makinen happily reported that all communications equipment survived the (6) conditions.								
Makiı	nen p	lans to launch	Wood	dsat into space	e late	er this year. H	le sa	id it was the
realis	ation	(7) a dre	am.	He started a	comp	pany to produ	ce fu	lly functional
		plicas of orbit-(
		pace research, e				•	•	•
	_	oyed making mo	-					_
		the space educ aterials into spa		_				-
		project just (11)		· , —				
		(12) on an l						_
Put the correct words from the table below in the above article.								
1.	(a)	maturity	(b)	nurture	(c)	nature	(d)	mature
2.	(a)	brainchild	(b)	lovechild	(c)	moonchild	(d)	grandchild
3.	(a)	cubed	(b)	cabled	(c)	camped	(d)	combed
4.	(a)	altitude	(b)	amplitude	(c)	attitude	(d)	astute
5.	(a)	rollout	(b)	envision	(c)	zone	(d)	expanse
6.	(a)	border	(b)	edgy	(c)	airy	(d)	harsh
7.	(a)	of	(b)	to	(c)	on	(d)	in
8.	(a)	steady	(b)	reality	(c)	really	(d)	ready
9.	(a)	that	(b)	what	(c)	so	(d)	who
10.	(a)	over	(b)	up	(c)	down	(d)	across
11.	(a)	blizzard	(b)	snowballed	(c)	froze	(d)	iced
12.	(a)	berth	(b)	planet	(c)	gravity	(d)	orbit

SPELLING

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

Paragraph 1

- 1. It is just 10cm cdebu in size
- 2. in the reattporsehs
- 3. the endless spacexn of space
- 4. safely tarduacpeh back to Earth
- 5. all communications mntgeeipu
- 6. survived the hhsra conditions

Paragraph 2

- 7. the etrlanasoii of a dream
- 8. fully functional wooden eicarlps
- 9. orbit-ready <u>uanmtriie</u> satellites
- 10. planes that <u>noilevv</u> a lot of wooden parts
- 11. macocrlemi backing
- 12. secured a ebhrt

PUT THE TEXT BACK TOGETHER

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

Number these lines in the correct order.

()	balloon, which took it to an altitude of 30km above Earth - just before the endless
()	ready miniature satellites called CubeSats. These are used for space research, education and hobby
()	back to Earth. Mr Makinen happily reported that all communications equipment survived the harsh conditions.
()	expanse of space itself. The balloon exploded (as planned) and Woodsat safely parachuted
()	purposes. Makinen explained: "I've always enjoyed making model planes that involve a lot of wooden
()	backing, and secured a berth on an Electron launcher from Rocket Lab in New Zealand."
()	made from plywood. The satellite is called Woodsat. It is the brainchild of engineer Jari Makinen, co-
()	size. He has already successfully tested his DIY, but high-tech, device in the stratosphere. He attached it to a weather
()	up with the idea for Woodsat in 2017 and "the project just snowballed". He said: "We found commercial
(1)	Cutting-edge technology is getting back to nature. A company has tested a new satellite that is predominantly
()	founder of a Finnish company called Arctic Astronautics. It is just 10cm cubed in
()	dream. He started a company to produce fully functional wooden replicas of orbit-
()	parts. Having worked in the space education field, this got me wondering why we don't fly any wooden materials into space." He came
()	Makinen plans to launch Woodsat into space later this year. He said it was the realisation of a

PUT THE WORDS IN THE RIGHT ORDER

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

- 1. is to nature . technology getting back Cutting-edge
- 2. made from that plywood . is satellite predominantly A
- 3. in cubed is It size . 10cm just
- 4. before of expanse the space endless itself . Just
- 5. harsh communications All conditions . survived equipment the
- 6. space launch Makinen Woodsat into to plans later .
- 7. replicas . A wooden fully functional to produce company
- 8. wooden a involve parts . of that Planes lot
- 9. space . We any materials don't fly wooden into
- 10. up came the with He Woodsat . for idea

CIRCLE THE CORRECT WORD (20 PAIRS)

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

Cutting-edge technology is getting back to *nurture / nature*. A company has tested a new satellite that is *preeminently / predominantly* made from plywood. The satellite is called Woodsat. It is the *brainchild / brainy* of engineer Jari Makinen, co-founder of a *finish / Finnish* company called Arctic Astronautics. It is just 10cm *cubed / coped* in size. He has already successfully tested his DIY, but high-tech, device *on / in* the stratosphere. He attached it to a weather balloon, which took it to an *attitude / altitude* of 30km above Earth - just before the endless *expanse / spouse* of space itself. The balloon exploded (as planned) and Woodsat safely *paralleled / parachuted* back to Earth. Mr Makinen happily reported that all communications equipment survived the *hushed / harsh* conditions.

Makinen plans to launch Woodsat *into / onto* space later this year. He said it was the realisation of a dream. He started a company to produce *fluffy / fully* functional wooden replicas of orbit-ready *nomenclature / miniature* satellites called CubeSats. These are used for space research, education and hobby *porpoises / purposes*. Makinen explained: "I've always enjoyed making model planes that *involve / revolve* a lot of wooden parts. Having worked in the space education *patch / field*, this got me *wondering / wandering* why we don't fly any wooden materials into space." He came *down / up* with the idea for Woodsat in 2017 and "the project just *froze / snowballed*". He said: "We found commercial backing, and secured a *bunch / berth* on an Electron launcher from Rocket Lab in New Zealand."

Talk about the connection between each pair of words in italics, and why the correct word is correct.

INSERT THE VOWELS (a, e, i, o, u)

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

C_tt_ng-_dg_ t_chn_l_gy _s g_tt_ng b_ck t_ n_t_r_. _ $pr_d_m_n_tly m_d_fr_m plyw_d. Th_s_t_ll_t_s$ c_II_d W__ds_t. _t _s th_ br__nch_Id _f _ng_n__r J_r_ $\label{eq:mknnn} \textbf{M}_\textbf{k}_\textbf{n}_\textbf{n}, \quad \textbf{c}_-\textbf{f}_\textbf{n}\textbf{d}_\textbf{r} \quad _\textbf{f} \quad _\textbf{F}_\textbf{n}\textbf{n}_\textbf{s}\textbf{h} \quad \textbf{c}_\textbf{m}\textbf{p}_\textbf{n}\textbf{y} \quad \textbf{c}_\textbf{I}\textbf{I}_\textbf{d}$ _rct_c _str_n__t_cs. _t _s j_st 10cm c_b_d _n s_z_. H_ h_s _lr__dy s_cc_ssf_lly t_st_d h_s D_Y, b_t h_ght_ch, d_v_c_ _n th_ str_t_sph_r_. H_ _tt_ch_d _t t_ _ $w_{thr} b_{ll}, w_{ch} t_{k} t t_{n} lt_{d} f$ $30\,km$ $_bv_$ $_rth$ - $_jst$ $_bf_r$ $_th$ $_ndl_ss$ $_xp_ns_$ _f sp_c_ _ts_lf. Th_ b_ll__n _xpl_d_d (_s pl_nn_d) _nd $W_ds_t s_f_ly p_r_ch_t_d b_ck t_r_th$. Mr $M_k_n_n$ h_pp_ly r_p_rt_d th_t _ll c_mm_n_c_t__ns _q__pm_nt s_rv_v_d th_ h_rsh c_nd_t__ns. Mknn plns t I nch W ds t nt sp c I tr $th_s \quad y__r. \quad H_\quad s__d \quad _t \quad w_s \quad th_\quad r__l_s_t__n$ __f dr__m. H_ st_rt_d _ c_mp_ny t_ pr_d_c_ f_lly $f_nct_nl w_dn r_pl_cs _f _rb_t-r_dy m_n_t_r$ $s_t_{ll_t_s} c_{ll_d} C_b_s_{ts}$. Th_s_ _r_ _s_d f_r sp_c_ $r_s_rch, \quad _d_c_t_n \quad _nd \quad h_bby \quad p_rp_s_s. \quad M_k_n_n \\$ _xpl__n_d: "_'v_ _lw_ys _nj_y_d m_k_ng m_d_l pl_n_s th_t _nv_lv_ _ l_t _f w__d_n p_rts. H_v_ng w_rk_d _n th_ sp_c_ _d_c_t__n f__ld, th_s g_t m_ w_nd_r_ng why w_ d_n't fly _ny w__d_n m_t_r__ls _nt_ sp_c_." H_ c_m_ _p w_th th_ _d__ f_r W__ds_t _n 2017 _nd "th_ $pr_j_ct j_st sn_wb_ll_d"$. H_ s__d: "W_ f__nd c_mm_rc__l b_ck_ng, _nd s_c_r_d _ b_rth _n _n _l_ctr_n l__nch_r fr_m R_ck_t L_b _n N_w Z__l_nd."

PUNCTUATE THE TEXT AND ADD CAPITALS

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

cuttingedge technology is getting back to nature a company has tested a new satellite that is predominantly made from plywood the satellite is called woodsat it is the brainchild of engineer jari makinen cofounder of a finnish company called arctic astronautics it is just 10cm cubed in size he has already successfully tested his div but hightech device in the stratosphere he attached it to a weather balloon which took it to an altitude of 30km above earth just before the endless expanse of space itself the balloon exploded as planned and woodsat safely parachuted back to earth mr makinen happily reported that all communications equipment survived the harsh conditions makinen plans to launch woodsat into space later this year he said it was the realisation of a dream he started a company to produce fully functional wooden replicas of orbitready miniature satellites called cubesats these are used for space research education and hobby purposes makinen explained ive always enjoyed making model planes that involve a lot of wooden parts having worked in the space education field this got me wondering why we dont fly any wooden materials into space he came up with the idea for woodsat in 2017 and the project just snowballed he said we found commercial backing and secured a berth on an electron launcher from rocket lab in new zealand

PUT A SLASH (/) WHERE THE SPACES ARE

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

Cutting-edgetechnologyisgettingbacktonature. Acompanyhasteste danewsatellitethatispredominantlymadefromplywood. The satellitei scalledWoodsat.ItisthebrainchildofengineerJariMakinen,co-founde rofaFinnishcompanycalledArcticAstronautics.Itisjust10cmcubedinsi ze.HehasalreadysuccessfullytestedhisDIY,buthigh-tech,deviceinth estratosphere. Heattachedittoaweatherballoon, which tookittoanaltit udeof30kmaboveEarth-justbeforetheendlessexpanseofspaceitself .Theballoonexploded(asplanned)andWoodsatsafelyparachutedbac ktoEarth.MrMakinenhappilyreportedthatallcommunicationsequipm entsurvivedtheharshconditions. Makinenplanstolaunch Woodsatinto spacelaterthisyear. Hesaiditwastherealisation of a dream. Hestarteda companytoproducefullyfunctionalwoodenreplicasoforbit-readymi niaturesatellitescalledCubeSats.Theseareusedforspaceresearch,ed ucationandhobbypurposes.Makinenexplained:"I'vealwaysenjoyed makingmodelplanesthatinvolvealotofwoodenparts. Havingworkedin thespaceeducationfield, this got mew on dering why we don't fly any woo denmaterialsintospace."HecameupwiththeideaforWoodsatin2017a nd"theprojectjustsnowballed". Hesaid: "Wefoundcommercialbackin g, and secured aberthon an Electron launcher from Rocket Labin New Zea land."

FREE WRITING

 $From \ \ \, \underline{https://breakingnewsenglish.com/2016/210619-wooden-satellite.html}$

Write about satellites for 10 minut	es. Comment on your partner's paper.

ACADEMIC WRITING

From https://breakingnewsenglish.com/2016/210619-wooden-satellite.html

Cars, 7	ΓVs a	nd	satell	ites	shoul	d be	made	fron	ı sus	taina	ble v	vood	sourc	es.	Discu	ISS.

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 this news story. Share what you discover with your partner(s) in the next lesson.
- **3. SATELLITES:** Make a poster about satellites. Show your work to your classmates in the next lesson. Did you all have similar things?
- **4. WOOD:** Write a magazine article about using sustainable wood sources to replace plastics and metals in the things we use every day. Include imaginary interviews with people who are for and against this.

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. WHAT HAPPENED NEXT?** Write a newspaper article about the next stage in this news story. Read what you wrote to your classmates in the next lesson. Give each other feedback on your articles.
- **6. LETTER:** Write a letter to an expert on satellites. Ask him/her three questions about them. Give him/her three of your ideas on how we can use wood more. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

VOCABULARY (p.4)

1. С 2. е 3. f 4. а 5. b 6. 7. d 8. i 9. 11. l 12. j 10. m k 13. n 14. h

TRUE / FALSE (p.5)

1 F 2 F 3 F 4 T 5 F 6 T 7 F 8 T

SYNONYM MATCH (p.5)

1.	g	2.	е	3.	i	4.	b	5.	С
6.	j	7.	d	8.	f	9.	а	10.	h

COMPREHENSION QUESTIONS (p.9)

WORDS IN THE RIGHT ORDER (p.19)

10. He came up with the idea for Woodsat.

1.	Nature	1.	Cutting-edge technology is getting back to nature.
2.	Plywood	2.	A satellite that is predominantly made from plywood.
3.	10cm cubed	3.	It is just 10cm cubed in size.
4.	30km	4.	Just before the endless expanse of space itself.
5.	It exploded	5.	All communications equipment survived the harsh conditions.
6.	Later this year	6.	Makinen plans to launch Woodsat into space later.
7.	Space research	7.	A company to produce fully functional wooden replicas.
8.	Model planes	8.	Planes that involve a lot of wooden parts.
9.	2017	9.	We don't fly any wooden materials into space.

MULTIPLE CHOICE - QUIZ (p.10)

1. b 2. d 3. a 4. c 5. b 6. a 7. c 8. a 9. a 10. d

ALL OTHER EXERCISES

10. New Zealand

Please check for yourself by looking at the Article on page 2. (It's good for your English ;-)