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Ready-to-Use English Lessons by Sean Banville

Level 3
Ants use the Sun to get from A to B

22nd January, 2017

http://www.breakingnewsenglish.com/1701/170122-ants.html

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Please try Levels 0, 1 and 2 (they are easier).

THE ARTICLE

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Ants are some of the most impressive creatures on this planet. There are so many things we do not know about them. Scientists have just discovered an amazing new fact about these tiny insects. It is about the way ants navigate – the way they get from A to B without getting lost. An international group of scientists say ants can go in a straight line along a compass route, whatever direction they are facing. The BBC said it is the same as, "trying to find your way home while walking backwards or even spinning round and round". Scientists say ants do this by using the position of the Sun, their past memories, and what they can see around them. Professor Barbara Webb said ants get around like a self-driving car.

The scientists studied desert ants near Seville, Spain. They published their report in the journal 'Current Biology'. They said: "Ants can navigate over long distances between their nest and food sites using visual [clues]." They did this even when the scientists put obstacles in their way and when they had to drag food while walking backwards. Professor Webb said: "Ants have a…tiny brain, less than the size of a pinhead. Yet they can navigate successfully under many difficult conditions, including going backwards." She said we can learn many things from ants: "Understanding their behaviour gives us new insights into brain function and has inspired us to build robot systems that mimic their functions."

Sources: http://www.**bbc.com**/news/science-environment-38665058
http://www.**popsci.com**/ants-find-way-walk-backwards-navigation
http://www.**cell.com**/current-biology/fulltext/S0960-9822(16)31466-X

WARM-UPS

1. ANTS: Students walk around the class and talk to other students about ants. 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?

impressive / creatures / scientists / insects / navigate / compass / direction / biology / nest / obstacles / backwards / successfully / difficult / behaviour / robot

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

3. INSECTS: Students A **strongly** believe ants are the best insects; Students B **strongly** believe they are not. Change partners again and talk about your conversations.

4. BUGS: How useful are these bugs? What can we learn from them? Complete this table with your partner(s). Change partners often and share what you wrote.

	How useful?	What we can learn from them
Ants		
Bees		
Flies		
Butterflies		
Spiders		
Cockroaches		

5. LOST: Spend one minute writing down all of the different words you associate with the word "lost". Share your words with your partner(s) and talk about them. Together, put the words into different categories.

6. CREATURES: Rank these with your partner. Put the best creatures at the top. Change partners often and share your rankings.

- ants
- worms
- spiders
- mosquitos
- butterflies
- bees
- snails
- cockroaches

BEFORE READING / LISTENING

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

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

a. The article says ants are the most impressive creatures on Earth. **T / F**
b. The article says we know almost everything about ants. **T / F**
c. Ants are good at using compasses. **T / F**
d. A professor likened ants to self-driving cars. **T / F**
e. The study was conducted in a desert in Spain. **T / F**
f. The professor said ants have fairly large brains. **T / F**
g. The professor said we can learn many things from ants. **T / F**
h. Understanding ants will help us to build robot systems. **T / F**

2. SYNONYM MATCH:

Match the following synonyms. The words in **bold** are from the news article.

1. creatures	a. hurdles
2. discovered	b. way
3. navigate	c. understanding
4. direction	d. found out
5. spinning	e. copy
6. journal	f. living things
7. obstacles	g. minute
8. tiny	h. steer
9. insights	i. turning
10. mimic	j. publication

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

1. some of the most impressive creatures	a. a straight line
2. There are so many things we	b. conditions
3. tiny	c. on this planet
4. go in	d. 'Current Biology'
5. using the position	e. in their way
6. They published their report in the journal	f. do not know
7. navigate over long	g. gives us new insights
8. put obstacles	h. of the Sun
9. under many difficult	i. distances
10. Understanding their behaviour	j. insects

GAP FILL

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Ants are some of the most (1) _____ creatures on this planet. There are so many things we do not know about them. Scientists have just (2) _____ an amazing new fact about these tiny insects. It is about the way ants (3) _____ – the way they get from A to B without getting lost. An international group of scientists say ants can go in a (4) _____ line along a compass route, whatever direction they are facing. The BBC said it is the same as, "trying to find your way home (5) _____ walking backwards or even spinning round and round". Scientists say ants do this by using the (6) _____ of the Sun, their (7) _____ memories, and what they can see around them. Professor Barbara Webb said ants get (8) _____ like a self-driving car.

while

impressive

around

navigate

position

discovered

past

straight

The scientists studied desert ants (9) _____ Seville, Spain. They (10) _____ their report in the journal 'Current Biology'. They said: "Ants can navigate over long (11) _____ between their nest and food sites using visual [clues]." They did this even when the scientists put (12) _____ in their way and when they had to drag food while walking backwards. Professor Webb said: "Ants have a…tiny (13) _____, less than the size of a pinhead. Yet they can navigate successfully under many difficult (14) _____, including going backwards." She said we can learn many things from ants: "Understanding their behaviour gives us new (15) _____ into brain function and has inspired us to build (16) _____ systems that mimic their functions."

distances

robot

near

conditions

brain

published

insights

obstacles

LISTENING – Guess the answers. Listen to check.

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

1) Ants are some of the most impressive creatures _____
   a. on this planet
   b. on this plane
   c. on this planted
   d. on this plant
2) Scientists have just discovered an amazing new fact about these _____
   a. tinny insects
   b. tiny insects
   c. tie knee insects
   d. tied knee insects
3) scientists say ants can go in a straight line along a _____
   a. compass route
   b. compass root
   c. compass loot
   d. compass rout
4) Scientists say ants do this by using the _____ Sun
   a. position of a
   b. posting of the
   c. position off the
   d. position of the
5) Professor Barbara Webb said ants get around like a _____ car
   a. self-driver
   b. self-drive-in
   c. self-driving
   d. self-driven
6) They published their report in the journal '_____'
   a. Current Biology
   b. Currant Biology
   c. Currency Biology
   d. Concurrent Biology
7) navigate over long distances between their nest and _____
   a. food sights
   b. food sites
   c. food sates
   d. food sighs
8) when the scientists put obstacles in their way and when they had _____
   a. to drug food
   b. to drab food
   c. to drag food
   d. to brag food
9) Yet they can navigate successfully under many _____
   a. difficulty conditions
   b. difficult conditions
   c. difference conditions
   d. difficult conditioning
10) inspired us to build robot systems that mimic _____
   a. their functions
   b. them functions
   c. they functions
   d. they're functions

LISTENING – Listen and fill in the gaps

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Ants are (1) _____ impressive creatures on this planet. There are so many things we do not (2) _____. Scientists have just discovered an amazing new fact about these tiny insects. It is about the way ants navigate – the (3) _____ from A to B without getting lost. An international group of scientists say ants can go in a straight line along a compass route, (4) _____ they are facing. The BBC said it is the same as, "trying to find your way home while walking backwards or even spinning round and round". Scientists say ants do (5) _____ the position of the Sun, their past memories, and what they can see around them. Professor Barbara Webb said ants get (6) _____ self-driving car.

The scientists studied desert ants near Seville, Spain. They published their (7) _____ journal 'Current Biology'. They said: "Ants can navigate over long distances between their nest and food (8) _____ [clues]." They did this even when the scientists put obstacles in their way and when (9) _____ drag food while walking backwards. Professor Webb said: "Ants have a…tiny brain, less than (10) _____ pinhead. Yet they can navigate successfully under many difficult conditions, (11) _____ backwards." She said we can learn many things from ants: "Understanding their behaviour gives us new insights into brain function and has inspired us to build robot systems (12) _____ functions."

COMPREHENSION QUESTIONS

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

1. What did the article say we do not know about ants?

2. What did scientists find out about ants?

3. What kind of line did scientists say ants could travel in?

4. What do ants use the position of to navigate?

5. What did a professor liken ants to?

6. What kind of ants did researchers study?

7. What clues do ants use when they go between their nest and food sites?

8. What is an ant's brain the size of?

9. What did a professor say we can learn from ants?

10. What can an understanding of ants help us to build?

MULTIPLE CHOICE - QUIZ

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

1) What did the article say we do not know about ants?
a) about how they fall in love
b) three things
c) so many things
d) how they discover things

2) What did scientists find out about ants?
a) how they navigate
b) that they really have eight legs
c) there are A ants and B ants
d) they like sunbathing

3) What kind of line did scientists say ants could travel in?
a) the Central Line
b) a straight line
c) a wavy line
d) a long line

4) What do ants use the position of to navigate?
a) a compass
b) their antennae
c) directions
d) the Sun

5) What did a professor liken ants to?
a) her neighbours
b) memories
c) self-driving cars
d) the past

6) What kind of ants did researchers study?
a) desiccated ants
b) desert ants
c) deserted ants
d) dessert ants

7) What clues do ants use when they go between their nest and food sites?
a) easy clues
b) site clues
c) obstacles
d) visual clues

8) What is an ant's brain the size of?
a) a grain of rice
b) a pinhead
c) a raisin
d) 3 ½ atoms

9) What did a professor say we can learn from ants?
a) behaviour
b) many things
c) teamwork
d) directions

10) What can an understanding of ants help us to build?
a) robot systems
b) GPS satellites
c) mega-cities
d) friendships

ROLE PLAY

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Role A – Ants

You think ants are the most useful creatures. Tell the others three reasons why. Tell them what is wrong with their creatures. Also, tell the others which is the worst of these (and why): worms, bees or spiders.

Role B – Worms

You think worms the most useful creatures. Tell the others three reasons why. Tell them what is wrong with their creatures. Also, tell the others which is the worst of these (and why): ants, bees or spiders.

Role C – Bees

You think bees the most useful creatures. Tell the others three reasons why. Tell them what is wrong with their creatures. Also, tell the others which is the worst of these (and why): worms, ants or spiders.

Role D – Spiders

You think spiders the most useful creatures. Tell the others three reasons why. Tell them what is wrong with their creatures. Also, tell the others which is the worst of these (and why): worms, bees or ants.

AFTER READING / LISTENING

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

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

ant	**sun**

- 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:

• so • fact • without • line • even • past	• near • over • even • size • learn • build

ANTS SURVEY

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Write five GOOD questions about ants 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.

ANTS 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 'ant'?
3. What do you know about ants?
4. What are the most impressive things about ants?
5. What would happen to the world if all the ants disappeared?
6. What are your navigation skills like?
7. What experiences do you have of using a compass?
8. What do you do when you get lost?
9. What are your favourite insects, and why?
10. What would you like to know about ants?

Ants use the Sun to get from A to B – 22nd January, 2017
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ANTS 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 'insect'?
13. What do you think about what you read?
14. What experiences do you have of using a compass?
15. What do you do when obstacles are put in front of you?
16. Would you like to read the research on this?
17. How important are ants?
18. What can we learn from ants?
19. What could ant robots do for us?
20. What questions would you like to ask the researchers?

DISCUSSION (Write your own questions)

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

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

DISCUSSION (Write your own questions)

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

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

LANGUAGE - CLOZE

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Ants are (1) _____ of the most impressive creatures on this planet. There are so many things we do not know about them. Scientists have just discovered an amazing new (2) _____ about these tiny insects. It is about the way ants navigate – the way they get from A to B (3) _____ getting lost. An international group of scientists say ants can go (4) _____ a straight line along a compass route, whatever direction they are facing. The BBC said it is the same as, "trying to find your way home while walking backwards or (5) _____ spinning round and round". Scientists say ants do this by using the position of the Sun, their past memories, and what they can see around them. Professor Barbara Webb said ants (6) _____ around like a self-driving car.

The scientists studied desert ants (7) _____ Seville, Spain. They published their report in the journal 'Current Biology'. They said: "Ants can navigate (8) _____ long distances between their nest and food sites using visual [(9) _____]." They did this even when the scientists put obstacles in their way and when they had to (10) _____ food while walking backwards. Professor Webb said: "Ants have a…tiny brain, less than the size of a pinhead. Yet they can navigate successfully under many difficult conditions, (11) _____ going backwards." She said we can learn many things from ants: "Understanding their behaviour gives us new insights into brain function and has inspired (12) _____ to build robot systems that mimic their functions."

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

1.	(a)	some	(b)	sum	(c)	many	(d)	much
2.	(a)	factual	(b)	facts	(c)	fact	(d)	in fact
3.	(a)	missing	(b)	lacking	(c)	without	(d)	within
4.	(a)	at	(b)	by	(c)	on	(d)	in
5.	(a)	even	(b)	every	(c)	ever	(d)	event
6.	(a)	let	(b)	get	(c)	met	(d)	set
7.	(a)	nearly	(b)	nearish	(c)	neared	(d)	near
8.	(a)	bottom	(b)	over	(c)	top	(d)	under
9.	(a)	blues	(b)	glues	(c)	clues	(d)	flues
10.	(a)	flag	(b)	plug	(c)	drug	(d)	drag
11.	(a)	include	(b)	inclusive	(c)	includes	(d)	including
12.	(a)	we	(b)	us	(c)	them	(d)	they

SPELLING

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Paragraph 1

1. impressive reuetcsar
2. the way ants vitgneaa
3. a straight line along a asoscmp route
4. whatever iitondecr they are facing
5. walking bdwcakars
6. their past reoismme

Paragraph 2

7. the uonjlra 'Current Biology'
8. scientists put sltoaebcs in their way
9. difficult onniotidsc
10. Understanding their rhvibeoua (UK) / obaehvri (USA)
11. rinesipd us to build robot systems
12. mimic their sctoifnnu

PUT THE TEXT BACK TOGETHER

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Number these lines in the correct order.

( ) journal 'Current Biology'. They said: "Ants can navigate over long distances between their nest

( ) and food sites using visual [clues]." They did this even when the scientists put obstacles in their

( ) navigate – the way they get from A to B without getting lost. An international group of scientists say ants can go in a straight

( ) way and when they had to drag food while walking backwards. Professor Webb said: "Ants have a…tiny

( ) them. Scientists have just discovered an amazing new fact about these tiny insects. It is about the way ants

( ) The scientists studied desert ants near Seville, Spain. They published their report in the

( ) behaviour gives us new insights into brain function and has inspired us to build robot systems that mimic their functions."

(***1***) Ants are some of the most impressive creatures on this planet. There are so many things we do not know about

( ) conditions, including going backwards." She said we can learn many things from ants: "Understanding their

( ) brain, less than the size of a pinhead. Yet they can navigate successfully under many difficult

( ) line along a compass route, whatever direction they are facing. The BBC said it is the same as, "trying to find your way

( ) by using the position of the Sun, their past memories, and what they can see

( ) home while walking backwards or even spinning round and round". Scientists say ants do this

( ) around them. Professor Barbara Webb said ants get around like a self-driving car.

PUT THE WORDS IN THE RIGHT ORDER

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

1. on the this most planet impressive Some creatures of .

2. do know so about many them things There not are we .

3. an discovered just have Scientists fact new amazing .

4. line along a compass route Ants can go in a straight .

5. the do using of Ants by position Sun this the .

6. in obstacles put scientists the When way their .

7. than brain have a the , a pinhead size less tiny Ants of .

8. under successfully Navigate conditions difficult many .

9. new Understanding behaviour us insights their gives .

10. that their Build systems mimic functions robot .

CIRCLE THE CORRECT WORD (20 PAIRS)

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Ants are *some / many* of the most impressive creatures on this planet. There are so *many / much* things we do not know about them. Scientists have just discovered an *amazing / amazed* new fact about these tiny insects. It is about the *weigh / way* ants navigate – the way they get from A to B without getting *lost / losing*. An international group of scientists say ants can go in a straight line *long / along* a compass route, whatever direction they are facing. The BBC said it is the *similar / same* as, "trying to find your way home while walking backwards or *ever / even* spinning round and round". Scientists say ants do *these / this* by using the position of the Sun, their past memories, and what they can see around them. Professor Barbara Webb said ants get around *like / in* a self-driving car.

The scientists studied *desert / dessert* ants near Seville, Spain. They published their report in the *journal / journey* 'Current Biology'. They said: "Ants can navigate *under / over* long distances between their nest and food *sites / sights* using visual [clues]." They did this even when the scientists put obstacles in their way and when they had to *drug / drag* food while walking backwards. Professor Webb said: "Ants have a…tiny brain, *less / fewer* than *the /a* size of a pinhead. Yet they can navigate successfully under many difficult *conditions / condition*, including going backwards." She said we can learn many things *from / by* ants: "Understanding their behaviour gives us new insights into brain function and has inspired us to build robot systems that mimic *them / their* functions."

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 http://www.BreakingNewsEnglish.com/1701/170122-ants.html

_nts _r_ s_m_ _f th_ m_st _mpr_ss_v_ cr__t_r_s _n th_s pl_n_t. Th_r_ _r_ s_ m_ny th_ngs w_ d_ n_t kn_w _b__t th_m. Sc__nt_sts h_v_ j_st d_sc_v_r_d _n _m_z_ng n_w f_ct _b__t th_s_ t_ny _ns_cts. _t _s _b__t th_ w_y _nts n_v_g_t_ – th_ w_y th_y g_t fr_m _ t_ B w_th__t g_tt_ng l_st. _n _nt_rn_t__n_l gr__p _f sc__nt_sts s_y _nts c_n g_ _n _ str__ght l_n_ _l_ng _ c_mp_ss r__t_, wh_t_v_r d_r_ct__n th_y _r_ f_c_ng. Th_ BBC s__d _t _s th_ s_m_ _s, "try_ng t_ f_nd y__r w_y h_m_ wh_l_ w_lk_ng b_ckw_rds _r _v_n sp_nn_ng r__nd _nd r__nd". Sc__nt_sts s_y _nts d_ th_s by _s_ng th_ p_s_t__n _f th_ S_n, th__r p_st m_m_r__s, _nd wh_t th_y c_n s__ _r__nd th_m. Pr_f_ss_r B_rb_r_ W_bb s__d _nts g_t _r__nd l_k_ _ s_lf-dr_v_ng c_r.

Th_ sc__nt_sts st_d__d d_s_rt _nts n__r S_v_ll_, Sp__n. Th_y p_bl_sh_d th__r r_p_rt _n th_ j__rn_l 'C_rr_nt B__l_gy'. Th_y s__d: "_nts c_n n_v_g_t_ _v_r l_ng d_st_nc_s b_tw__n th__r n_st _nd f__d s_t_s _s_ng v_s__l [cl__s]." Th_y d_d th_s _v_n wh_n th_ sc__nt_sts p_t _bst_cl_s _n th__r w_y _nd wh_n th_y h_d t_ dr_g f__d wh_l_ w_lk_ng b_ckw_rds. Pr_f_ss_r W_bb s__d: "_nts h_v_ _…t_ny br__n, l_ss th_n th_ s_z_ _f _ p_nh__d. Y_t th_y c_n n_v_g_t_ s_cc_ssf_lly _nd_r m_ny d_ff_c_lt c_nd_t__ns, _ncl_d_ng g__ng b_ckw_rds." Sh_ s__d w_ c_n l__rn m_ny th_ngs fr_m _nts: "_nd_rst_nd_ng th__r b_h_v___r g_v_s _s n_w _ns_ghts _nt_ br__n f_nct__n _nd h_s _nsp_r_d _s t_ b__ld r_b_t syst_ms th_t m_m_c th__r f_nct__ns."

PUNCTUATE THE TEXT AND ADD CAPITALS

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

ants are some of the most impressive creatures on this planet there are so many things we do not know about them scientists have just discovered an amazing new fact about these tiny insects it is about the way ants navigate – the way they get from a to b without getting lost an international group of scientists say ants can go in a straight line along a compass route whatever direction they are facing the bbc said it is the same as "trying to find your way home while walking backwards or even spinning round and round" scientists say ants do this by using the position of the sun their past memories and what they can see around them professor barbara webb said ants get around like a self-driving car

the scientists studied desert ants near seville spain they published their report in the journal 'current biology' they said "ants can navigate over long distances between their nest and food sites using visual [clues]" they did this even when the scientists put obstacles in their way and when they had to drag food while walking backwards professor webb said "ants have a…tiny brain less than the size of a pinhead yet they can navigate successfully under many difficult conditions including going backwards" she said we can learn many things from ants "understanding their behaviour gives us new insights into brain function and has inspired us to build robot systems that mimic their functions"

PUT A SLASH (/) WHERE THE SPACES ARE

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Antsaresomeofthemostimpressivecreaturesonthisplanet.Thereares omanythingswedonotknowaboutthem.Scientistshavejustdiscovere danamazingnewfactaboutthesetinyinsects.Itisaboutthewayantsnav igate–thewaytheygetfromAtoBwithoutgettinglost.Aninternationa lgroupofscientistssayantscangoinastraightlinealongacompassroute ,whateverdirectiontheyarefacing.TheBBCsaiditisthesameas,"trying tofindyourwayhomewhilewalkingbackwardsorevenspinningrounda ndround".ScientistssayantsdothisbyusingthepositionoftheSun,their pastmemories,andwhattheycanseearoundthem.ProfessorBarbara Webbsaidantsgetaroundlikeaself-drivingcar.Thescientistsstudiedde sertantsnearSeville,Spain.Theypublishedtheirreportinthejournal'C urrentBiology'.Theysaid:"Antscannavigateoverlongdistancesbetwe entheirnestandfoodsitesusingvisual[clues]."Theydidthisevenwhent hescientistsputobstaclesintheirwayandwhentheyhadtodragfoodwhi lewalkingbackwards.ProfessorWebbsaid:"Antshavea…tinybrain,les sthanthesizeofapinhead.Yettheycannavigatesuccessfullyunderman ydifficultconditions,includinggoingbackwards."Shesaidwecanlearn manythingsfromants:"Understandingtheirbehaviourgivesusnewinsi ghtsintobrainfunctionandhasinspiredustobuildrobotsystemsthatmi mictheirfunctions."

FREE WRITING

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Write about **ants** for 10 minutes. Comment on your partner's paper.

ACADEMIC WRITING

From http://www.BreakingNewsEnglish.com/1701/170122-ants.html

Ants are the most amazing creatures on Earth. Discuss.

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. Share what you discover with your partner(s) in the next lesson.

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

4. ROBOT ANTS: Write a magazine article about robot ants and how they can help us. Include imaginary interviews with scientists and engineers who will make the robots.

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 ants. Ask him/her three questions about them. Give him/her three of your ideas on what we can learn from them. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

TRUE / FALSE (p.4)

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

SYNONYM MATCH (p.4)

1.	**creatures**	a.	living things
2.	**discovered**	b.	found out
3.	**navigate**	c.	steer
4.	**direction**	d.	way
5.	**spinning**	e.	turning
6.	**journal**	f.	publication
7.	**obstacles**	g.	hurdles
8.	**tiny**	h.	minute
9.	**insights**	i.	understanding
10.	**mimic**	j.	copy

COMPREHENSION QUESTIONS (p.8)

1. So many things
2. How they navigate
3. A straight line
4. The Sun
5. Self-driving cars
6. Desert ants
7. Visual clues
8. A pinhead
9. Many things
10. Robot systems

MULTIPLE CHOICE - QUIZ (p.9)

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

ALL OTHER EXERCISES

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