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Vocabulary Builder Reference from...

Dennis Hong: 7 new species of robot that dance, jump - and walk on water | TED Talk https://www.ted.com/talks/dennis_hong_7_new_species_of_robot_that_dance_jump_and_walk_on_water



Advanced Words Only

IMPORTANT

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Session 1: Word List

stride

v. to walk with long steps in a particular direction; (noun) an important and positive progress

synonym: step, walk, march

(1) **stride** across a room, (2) **stride** down a slope She **strides** confidently across the stage to accept her award.

ameba

 a single-celled organism that typically has the shape of a small, round blob and moves by means of temporary projections called pseudopodia

synonym: protozoan, single-celled organism, unicellular organism

(1) ameba culture, (2) ameba movement

The pathogenetic **ameba** moved by extending and retracting its pseudopodia.

humanoid

 a machine or creature that has a body shape similar to that of a human

synonym: android, anthropomorphic

(1) humanoid hand, (2) humanoid design

The **humanoid** robot was able to mimic human movements and expressions.

torso

- n. the human trunk from the neck to the abdomensynonym: trunk, body, frame
- (1) torso injury, (2) a torso in bronzeHe was hit in the torso and was rushed to the hospital.

actuate

- v. to cause a machine or equipment to start to work synonym: motivate, spark, drive
- (1) **actuate** the circuits, (2) **actuate** a parking brake A desire for success **actuated** her.

nimble

- adj. quick and light in movement or action synonym: agile, quick, flexible
- (1) **nimble** handling, (2) **nimble-minded** person His **nimble** movements allowed him to navigate the crowded streets with ease.

sideways

- adv. towards or from the side; with one side forward or to the front; (adjective, of movement) at an anglesynonym: to the edge, obliquely, sidelong
- (1) fall **sideways**, (2) a **sideways** market
 She glanced **sideways** at the conversation of the boy she was interested in.

fencing

- n. the art or practice of fighting with swords, especially with foils, épées, or sabers, according to certain rules
- synonym: swordplay, duelling, sabreplay
- (1) fencing equipment, (2) fencing clubHe practiced his fencing techniques with a partner.

shin

- n. the front part of the leg below the kneesynonym: tibia, lower leg, front leg
- (1) **shin** guard, (2) **shin** injury

The pain in his **shin** made it hard for him to walk.

anthropomorphic

adj. describing or relating to the attribution of human characteristics to non-human entities

synonym:

human-like

(1) **anthropomorphic** agent, (2) **anthropomorphic** design The **anthropomorphic** robot was designed to have a human-like appearance.

biped

an animal with two feet

synonym: hominoid

(1) biped robot, (2) a featherless biped

Biped walking encouraged the further evolution of humankind.

fabricate

v. to make something, especially by assembling parts or constructing it from raw materials; to invent and present something false as true or real to deceive someone

synonym: manufacture, assemble, falsify

(1) fabricate a chemical, (2) fabricate an excuse

The detective discovered that the witness had **fabricated** her story about the crime.

springy

adj. resilient; elastic; (of movements) light and confidently active

synonym: elastic, resilient, bouncy

(1) a **springy** step, (2) **springy** floor

The **springy** mattress provided a comfortable night's sleep.

axisymmetric

adj. having symmetry around an axis

(1) axisymmetric shape, (2) axisymmetric object

The **axisymmetric** design of the turbine blade made it more efficient.

unstructured

adj. not having a clear organization or arrangementsynonym: unorganized, unarranged, formless

(1) **unstructured** text, (2) **unstructured** information

The **unstructured** data took a lot of work to analyze and interpret.

outdo

- v. to do better than someone; to surpass synonym: excel, surpass, outshine
- (1) **outdo** him in trickery, (2) **outdo** the competition He tried to **outdo** his rival by breaking the world record.

gallop

v. (of a horse) to run very quickly so that all four feet come off the ground together; to proceed very quickly

synonym: canter, race, bound

(1) **gallop** a horse, (2) **gallop** off at top speed The horse **galloped** across the field at a fast pace.

multimodal

adj. involving or using several ways of communication or expression

synonym: multiple-mode

(1) **multimodal** input device, (2) **multimodal** approach The **multimodal** transportation system included trains, buses, and bikes.

locomotion

- *n.* the action or ability to move from one place to another *synonym*: movement, travel, mobility
- (1) locomotion system, (2) locomotion controlThe locomotion of the robotic arm was smooth and precise.

electrify

v. to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something

synonym: wire, amaze, astonish

(1) **electrify** the audience, (2) **electrify** a manufacturing process

The product developed through years of research continues to **electrify** the market.

excite

- v. to make someone feel suddenly enthusiastic or eager synonym: thrill, exhilarate, animate
- (1) **excite** the crowd, (2) **excite** rebellion The news of her promotion **excited** her.

taekwondo

- a Korean martial art that involves the use of the feet and hands for striking and blocking
- (1) **taekwondo** competition, (2) **taekwondo** training He has been practicing **taekwondo** for several years and now has a black belt.

hexapod

- n. an animal or machine with six legs
- synonym: six-legged, six-legged creature, six-legged animal
- hexapod animal, (2) hexapod mechanism
 hexapod robot was able to move in multiple directions.

tripod

- a three-legged stand, typically one with a platform for a camera or other equipment
- synonym: three-legged stand, three-legged base, three-legged support
- (1) tripod mic stand, (2) tripod mount

The photographer set up his camera on a **tripod** to take the shot.

demining

- n. the process of removing landmines from a given area synonym: mine clearance, mine sweeping, landmine removal
- (1) **demining** operation, (2) **demining** team

 The **demining** effort successfully removed most e

The **demining** effort successfully removed most explosive devices from the area, making them safe for civilian use.

landmine

 an explosive device hidden underground and designed to be detonated by the presence, proximity, or contact with a person or vehicle

synonym: mine, explosive device, antipersonnel mine

(1) destroy a landmine, (2) landmine removal

The antipersonnel **landmine** was a dangerous obstacle in the war-torn area.

brace

 a device, typically one of a pair, for holding something in position or for strengthening an object; (verb) to support or hold steady and make steadfast

synonym: support, clamp, (verb) strengthen

(1) **brace** for impact, (2) **brace** my energies

She wore a **brace** on her leg to support her injured ankle.

suction

the action of drawing something towards or into a vacuum or partial vacuum

synonym: vacuum, sucking

(1) suction aspiration, (2) suction device

The **suction** cup was able to lift the heavy object with ease.

blackboard

 a large board made of a smooth, usually dark-colored slate attached to a wall used by teachers in schools for writing on with chalk

synonym: chalkboard, slate

(1) chalk on a **blackboard**, (2) electronic **blackboard**. The teacher asked me to rub out the **blackboard**.

quadruped

n. an animal that has four feet

synonym: four-legged, four-legged creature, four-legged animal

(1) **quadruped** walking vehicle, (2) **quadruped** robot The **quadruped** animal was able to move quickly on four legs.

omnidirectional

adj. able to move or function in any direction; receiving signals from or sending in all directions

synonym: all-directional, all-around, 360-degree

(1) **omnidirectional** microphone, (2) **omnidirectional** mobile robot

The **omnidirectional** antenna was able to pick up signals from all directions.

glide

v. to move smoothly and effortlessly

synonym: slide, skim, coast

(1) **glide** through the water, (2) **glide** down the mountain The eagle gracefully **glided** on the thermals, soaring above the mountains.

sect

 a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream

synonym: group, faction, cult

(1) sect beliefs, (2) secret sect

The minority **sect** believed in a set of unconventional religious practices.

clap

v. to hit your hands together and make a short and loud noise, mainly to show your approval or praise

synonym: applaud, spat, acclaim

(1) **clap** my hands, (2) **clap** a book shut We **clapped** along with the singer's song.

buoyancy

- n. the ability or tendency of an object to float in a fluid synonym: flotation, levitation, airiness
- (1) **buoyancy** principle, (2) **buoyancy** compensator
 The object's **buoyancy** helped it float on the water's surface.

helium

 a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table

synonym: He, light gas, noble gas

(1) helium atom, (2) helium gas

The **helium-filled** balloons floated into the sky.

downstairs

adv. on or to a lower or ground floor of a building synonym: below

(1) creep **downstairs**, (2) escort him **downstairs** Please get the desk **downstairs**.

vortex

 a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind

synonym: whirlpool, whirlwind, maelstrom

(1) vortex formation, (2) blow in a vortex

The **vortex** of the tornado was massive and destructive.

cannon

 a large, heavy gun fired from a fixed position or mounted on a vehicle, used in warfare or hunting

synonym: artillery, gun, ordnance

(1) cannon salute, (2) cannon ball

The heavy **cannon** fired a loud shot that echoed across the battlefield.

tightrope

n. a rope or wire stretched tightly between two points, on which acrobats, tightrope walkers, etc., perform; a risky or precarious situation that requires one to balance carefully to avoid falling or failure

synonym: rope walk, high wire, funambulism

(1) tightrope performer, (2) tightrope act

The **tightrope** walker balanced precariously above the crowd.

robotic

adj. of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots

synonym: automated, mechanical, laborsaving

(1) **robotic** arm, (2) **robotic** guide operation

The surgeon removed the tumor using **robotic** video assistance.

sneak

v. to go somewhere, or take someone or something somewhere secretly or stealthily; to steal or do something secretly or stealthily

synonym: creep, tiptoe, smuggle

(1) **sneak** a cigarette, (2) **sneak** out of danger

The children tried to **sneak** out and eat the candy.

peek

 a quick or furtive look; (verb) to take a quick and secret look at something

synonym: glimpse, look, glance

(1) sneak **peek**, (2) **peek** at others' misfortune

She took a quick **peek** inside the box before closing it again.

creditor

- n. a person, company, etc. to whom a debtor owes money
- (1) the **creditor's** claims, (2) bankrupt **creditor** I asked the lawyer to initiate **creditor** negotiations for voluntary liquidation.

hardworking

- adj. tending to work with a lot of effort and care synonym: diligent, dedicated, conscientious
- (1) **hardworking** student, (2) retire from **hardworking** life They sought candidates with **hardworking** and good-natured.

nab

 to catch someone in the act of doing something wrong or illegal

synonym: catch, apprehend, arrest

- nab traffic offender, (2) nab the opportunity
 The police were able to nab the thief before he could escape.
- v. to decay, or cause something to decay, naturally and gradually

synonym: perish, decay, corrode

(1) begin to **rot**, (2) **rot** with age

Please refrigerate the meat, or it will rot.

rot

Session 2: Spelling

8.

1.	fa	te a chemical	ν. to make something, especially by
			assembling parts or constructing it f
			raw materials; to invent and present

something false as true or real to deceive someone

2. to go somewhere, or take someone or sn k out of danger ν. something somewhere secretly or stealthily; to steal or do something

secretly or stealthily

axi____ric shape adj. having symmetry around an axis 3.

gl e through the water to move smoothly and effortlessly 4.

omn_____nal mobile robot 5. adj. able to move or function in any direction; receiving signals from or

sending in all directions

6. ro___c arm adj. of or relating to mechanical robots;

> (robotics) the interdisciplinary branch of computer science and engineering with

the practical use of robots

(of a horse) to run very quickly so that 7. ga___p a horse ν. all four feet come off the ground

together; to proceed very quickly

adv. on or to a lower or ground floor of a creep dow____rs

building

ta do competition a Korean martial art that involves the 9. n.

use of the feet and hands for striking

and blocking

ANSWERS: 1. fabricate, 2. sneak, 3. axisymmetric, 4. glide, 5. omnidirectional, 6. robotic, 7. gallop, 8. downstairs, 9. taekwondo

Page 10 / 24

an animal or machine with six legs n.

adj. quick and light in movement or action

to make someone feel suddenly ν. enthusiastic or eager

to decay, or cause something to decay, naturally and gradually

a Korean martial art that involves the n. use of the feet and hands for striking and blocking

ANSWERS: 10. anthropomorphic, 11. humanoid, 12. nab, 13. clap, 14. nab, 15. quadruped, 16. helium, 17. stride, 18. hexapod, 19. nimble, 20. excite, 21. rot, 22. taekwondo

19. ni e handling

21. r t with age

20. ex e the crowd

22. ta do training

ANSWERS: 23. tightrope, 24. torso, 25. shin, 26. ameba, 27. anthropomorphic, 28. brace, 29. rot, 30. suction, 31. sideways

34. uns____red text adj. not having a clear organization or arrangement

> the action or ability to move from one place to another

to hit your hands together and make a short and loud noise, mainly to show your approval or praise

the action of drawing something towards or into a vacuum or partial vacuum

the ability or tendency of an object to float in a fluid

adv. towards or from the side; with one side forward or to the front; (adjective, of movement) at an angle

a quick or furtive look; (verb) to take a n. quick and secret look at something

a person, company, etc. to whom a debtor owes money

a large, heavy gun fired from a fixed position or mounted on a vehicle, used in warfare or hunting

an animal with two feet n.

35. loc on system

36. c__p my hands

37. su___n device

38. bu____cy principle

39. fall si____ys

40. sneak p k

41. bankrupt cr___or

42. ca n salute

43. a featherless bi d

ANSWERS: 32. unstructured, 33. ameba, 34. unstructured, 35. locomotion, 36. clap, 37. suction, 38. buoyancy, 39. sideways, 40. peek, 41. creditor, 42. cannon, 43. biped

ANSWERS: 44. excite, 45. blackboard, 46. torso, 47. hardworking, 48. nimble, 49. tightrope, 50. peek, 51. locomotion, 52. tripod, 53. axisymmetric, 54. downstairs, 55. outdo

ANSWERS: 56. hardworking, 57. demining, 58. creditor, 59. hexapod, 60. springy, 61. fencing, 62. helium, 63. demining, 64. fabricate, 65. sneak, 66. actuate

75. bi__d robot

76. ca n ball

77. mul____al input device

78. ga p off at top speed

a three-legged stand, typically one with

detonated by the presence, proximity, or contact with a person or vehicle

an animal with two feet n.

a large, heavy gun fired from a fixed n. position or mounted on a vehicle, used in warfare or hunting

adj. involving or using several ways of communication or expression

(of a horse) to run very quickly so that ν. all four feet come off the ground together; to proceed very quickly

ANSWERS: 67. outdo, 68. quadruped, 69. buoyancy, 70. tripod, 71. omnidirectional, 72. multimodal, 73. fencing, 74. landmine, 75. biped, 76. cannon, 77. multimodal, 78. gallop

ANSWERS: 79. shin, 80. vortex, 81. sect, 82. springy, 83. humanoid, 84. glide, 85. sect, 86. robotic, 87. landmine, 88. electrify

89. vo x formation a mass of whirling air, water, dust, or n. smoke, especially a whirlpool or whirlwind to walk with long steps in a particular 90. st___e down a slope ν. direction; (noun) an important and positive progress 91. br_e for impact a device, typically one of a pair, for n. holding something in position or for strengthening an object; (verb) to support or hold steady and make steadfast to cause a machine or equipment to 92. ac___e the circuits ν. start to work a large board made of a smooth, 93. chalk on a bla rd n. usually dark-colored slate attached to a wall used by teachers in schools for writing on with chalk 94. el fy a manufacturing process to make a machine or system work by ν. using electricity; to make someone extremely enthusiastic about or interested in something

ANSWERS: 89. vortex, 90. stride, 91. brace, 92. actuate, 93. blackboard, 94. electrify

Session 3: Fill in the Blanks

1.	The effort successfully removed most explosive devices from the area, making them safe for civilian use.
n.	the process of removing landmines from a given area
2. n.	The balloons floated into the sky. a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the
	noble gas series in the periodic table
3.	The data took a lot of work to analyze and interpret.
adj	not having a clear organization or arrangement
4.	She glanced at the conversation of the boy she was interested in.
ad	 towards or from the side; with one side forward or to the front; (adjective, of movement) at an angle
5.	The antipersonnel was a dangerous obstacle in the war-torn area.
n.	an explosive device hidden underground and designed to be detonated by the presence, proximity, or contact with a person or vehicle
6.	A desire for success her.
<i>v</i> .	to cause a machine or equipment to start to work
7.	The pain in his made it hard for him to walk.
n.	the front part of the leg below the knee
8.	The robot was able to move in multiple directions.
n.	an animal or machine with six legs
	SWERS: 1. demining, 2. helium-filled, 3. unstructured, 4. sideways, 5. landmine, 6. uated, 7. shin, 8. hexapod

Page 21 / 24

	The robot was designed to have a human-like appearance. describing or relating to the attribution of human characteristics to non-human entities			
36.	The product developed through years of research continues to the market.			
v.	to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something			
37.	The animal was able to move quickly on four legs. an animal that has four feet			
38.	The teacher asked me to rub out the			
n.	a large board made of a smooth, usually dark-colored slate attached to a wall used by teachers in schools for writing on with chalk			
39.	She wore a on her leg to support her injured ankle.			
n.	a device, typically one of a pair, for holding something in position or for strengthening an object; (verb) to support or hold steady and make steadfast			
40.	The pathogenetic moved by extending and retracting its pseudopodia.			
n.	a single-celled organism that typically has the shape of a small, round blob and moves by means of temporary projections called pseudopodia			
41.	The news of her promotion her.			
v.	to make someone feel suddenly enthusiastic or eager			
42.	The robot was able to mimic human movements and expressions.			
n.	a machine or creature that has a body shape similar to that of a human			
ANSWERS: 35. anthropomorphic, 36. electrify, 37. quadruped, 38. blackboard, 39. brace, 40. ameba, 41. excited, 42. humanoid				

43. n.	He has been practicing for several years and now has a black belt. a Korean martial art that involves the use of the feet and hands for striking and blocking
44.	She confidently across the stage to accept her award.
v.	to walk with long steps in a particular direction; (noun) an important and positive progress
45.	The children tried to out and eat the candy.
ν.	to go somewhere, or take someone or something somewhere secretly or stealthily; to steal or do something secretly or stealthily
46.	He was hit in the and was rushed to the hospital.
n.	the human trunk from the neck to the abdomen
	His movements allowed him to navigate the crowded streets with ease. quick and light in movement or action
AN	SWERS: 43. taekwondo, 44. strides, 45. sneak, 46. torso, 47. nimble