

Englist.me



Vocabulary Builder Reference from...

Christoph Keplinger: The artificial muscles that will power robots of the future | TED Talk

[https://www.ted.com/talks/christoph_keplinger_the_artificial_muscles_that_will_power_robots_of_the_futur
e](https://www.ted.com/talks/christoph_keplinger_the_artificial_muscles_that_will_power_robots_of_the_future)

Advanced Words Only

IMPORTANT

This material is a commentary and does not contain any copyrighted material of the reference source. We strongly recommend accessing/buying the reference source at the same time.

Session 1: Word List

uneven

adj. not level or flat; not balanced or symmetrical
synonym: irregular, rough, bumpy

(1) **uneven** numbers, (2) **uneven** coating

The road was **uneven**, causing the car to bounce up and down as it drove.

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.

adaptable

adj. able or willing to modify or be modified to deal with new situations

synonym: flexible, adjustable, elastic

(1) **adaptable** enough for the environment, (2) an **adaptable** person

We seek a candidate who possesses **adaptable** fighting potential.

deform

v. to change or distort the shape or appearance of something; to become misshapen or distorted

synonym: distort, contort, mangle

(1) **deform** the shape, (2) **deform** his way of life

The heat from the fire **deformed** the plastic parts of the appliance.

agility

n. the ability to move quickly and easily, often in a way that is graceful and controlled

synonym: nimbleness, quickness, dexterity

(1) ninja-like **agility**, (2) **agility** training

The coach had the team run through the **agility** ladder to improve their coordination.

dexterity

n. skill and speed in performing physical tasks, especially with the hands; mental skill or adroitness in dealing with situations or problems

synonym: skillfulness, agility, expertise

(1) **dexterity** with the pen, (2) manual **dexterity**

The surgeon's **dexterity** was impressive during the delicate surgery.

astonishing

adj. surprising or shocking; difficult to believe

synonym: surprising, shocking, astounding

(1) **astonishing** achievement, (2) make **astonishing** gains

The news of her sudden death was **astonishing** to everyone who knew her.

neuron

n. a cell that is specialized to carry information within the brain and between the brain and other parts of the body

synonym: nerve cell

(1) excite the **neurons**, (2) **neuron** cell body

Our body transfers information along each **neuron** using an electrical impulse.

hummingbird

n. a small bird with a highly specialized beak and wings that allow it to hover in place, known for its rapid

wingbeats and ability to fly in any direction

(1) **hummingbird** feeder, (2) **hummingbird** nest

Watching a **hummingbird** at a flower is like observing a miniature ballet of nature.

octopus

n. a sea creature with a soft round body and eight long tentacles (= long parts like arms)

synonym: devilfish

(1) giant **octopus**, (2) venomous **octopus**

He experienced nausea after eating live **octopus**.

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.

rediscover

v. to discover or find again something that was previously known but lost

synonym: recover, get back, revive

(1) **rediscover** a value, (2) **rediscover** an old truth

The painting was **rediscovered** in an attic and turned out to be a long-lost masterpiece.

dielectric

adj. of or relating to a type of material that is a poor conductor of electricity, often used as an insulator in electronics; not allowing electric charges to flow easily through it

(1) **dielectric** substance, (2) **dielectric** constant

The engineer used **dielectric** insulation in the electrical wiring to prevent fires.

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.

germ

n. a very tiny living that causes the disease; a piece of something such as an organism, concept, etc., capable of growing into a new one or part of one

synonym: bacterium, microbe, pathogen

(1) antibiotic-resistant **germ**, (2) a **germ-free** environment

The **germ** of his idea came from watching birds flying in flocks.

physicist

n. a scientist who specializes in the field of physics

(1) talented **physicist**, (2) theoretical **physicist**

Einstein was an outstanding and famous **physicist** of the 20th century.

deformity

n. a physical abnormality or distortion

synonym: abnormality, malformation, disfigurement

(1) **deformity** of character, (2) physical **deformity**

The **deformity** in the steel beam caused the bridge to collapse.

biceps

n. a muscle located in the upper arm that enables the arm to bend at the elbow

synonym: muscle, arm, flexor

(1) flexed **biceps**, (2) **biceps** curl

He injured his **biceps** during the game and had to sit out for the rest of the season.

boulder

n. a large, smooth rock, typically one that has been worn away from a cliff or mountain by erosion

synonym: rock, stone, clump

(1) **boulder** field, (2) lava **boulder**

The hikers had to climb over a **boulder** that was blocking their path.

raspberry

n. a sweet and tart edible fruit that grows on bushes, usually with a soft red or black color and a rough texture on the outside

synonym: blackberry, bramble, dewberry

(1) **raspberry** flavor, (2) **raspberry** tea

The **raspberry** cheesecake at that restaurant is out of this world.

submerge

v. to put something under water or to go under water; to bury or hide something deeply or completely

synonym: deluge, drench, dunk

(1) **submerge** in a liquid, (2) **submerge** my head completely

The ship was **submerged** in the ocean for many years before it was finally discovered.

contraction

n. the act or process of becoming smaller or shorter in size, volume, or amount

synonym: shrinking, compression, reduction

(1) **contraction** of a disease, (2) **contraction** in the industry

The **contraction** of the economy has led to job losses.

hydra

n. a freshwater polyp with a tubular body and several tentacles; (of mythology) a serpentine monster with many heads that regrow when cut off; a problem or a situation that is difficult to overcome because it multiplies or gets worse as soon as one aspect of it is solved or eliminated

synonym: monster, serpent

(1) **hydra-headed** problem, (2) antibacterial **hydra**

The new software system was a **hydra** of complications, with one problem leading to another.

amplify

v. to enhance something, particularly sound or brightness

synonym: intensify, boost, argument

(1) **amplify** a signal, (2) **amplify** the effect

You might need to **amplify** this point.

electrostatic

adj. relating to the static electric charge produced by friction or other means; describing the behavior of insulators and conductors in electrical systems

(1) **electrostatic** repulsion, (2) **electrostatic** discharge

The experiment showed a strong **electrostatic** charge between the two objects.

insulate

v. to protect something by interposing material that prevents heat, noise, electricity, etc.

synonym: isolate, protect, seclude

(1) **insulate** the room from sound, (2) **insulate** electricity

We had our bedroom **insulated** before winter came.

displace

v. to force someone or something to leave their home or place of origin, especially as a result of conflict, natural disaster, or manipulation

synonym: evict, exile, remove

(1) **displace** workers, (2) **displace** the explosive power

The construction of the new dam will **displace** hundreds of families living downstream.

sect

n. 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.

quadrant

n. a quarter of a circle or sphere or any of the four parts of an area divided by two intersecting lines or planes

synonym: section, division, sector

(1) Northeast **quadrant**, (2) **quadrant** chart

The map was divided into four **quadrants** to examine the geographical region closely.

superhuman

adj. possessing abilities or characteristics that exceed those of normal humans; beyond human capacity or capability

synonym : supernatural, inhuman, beyond human

(1) **superhuman** beings, (2) **superhuman** effort

The athlete's **superhuman** strength allowed him to lift twice his body weight.

drastic

adj. radical and extreme; likely to have a significant or far-reaching impact

synonym : extreme, fierce, radical

(1) **drastic** measures, (2) make **drastic** revision

The global community is undergoing **drastic** changes at present.

scorpion

n. a small creature similar to an insect with a segmented body, a pair of pincers, and a long, thin tail that ends in a venomous sting

synonym : arachnid, stinger

(1) **scorpion** fish, (2) poisonous **scorpion**

The **scorpion's** venom can be lethal to humans.

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.

lifelike

adj. resembling or appearing similar to something alive or real, often realistically or vividly; convincing or authentic in appearance or behavior

synonym : realistic, naturalistic, vivid

(1) **lifelike** painting, (2) **lifelike** animation

The artist created a **lifelike** sculpture of a famous politician for the town square.

prosthetic

adj. of or relating to an artificial part of the body, such as a limb, a heart, or a breast implant

(1) have **prosthetic** arms, (2) **prosthetic** limbs

New **prosthetic** joints are less prone to metal poisoning.

grandparent

n. a parent of one's father or mother

(1) great- **grandparent**, (2) person of **grandparent** age

She was close to her paternal **grandparents** and often spent summers with them.

Session 2: Spelling

1. hy__a-headed problem
n. a freshwater polyp with a tubular body and several tentacles; (of mythology) a serpentine monster with many heads that regrow when cut off; a problem or a situation that is difficult to overcome because it multiplies or gets worse as soon as one aspect of it is solved or eliminated
2. Northeast qu____nt
n. a quarter of a circle or sphere or any of the four parts of an area divided by two intersecting lines or planes
3. antibiotic-resistant g__m
n. a very tiny living that causes the disease; a piece of something such as an organism, concept, etc., capable of growing into a new one or part of one
4. die_____ic substance
adj. of or relating to a type of material that is a poor conductor of electricity, often used as an insulator in electronics; not allowing electric charges to flow easily through it
5. hum_____rd nest
n. a small bird with a highly specialized beak and wings that allow it to hover in place, known for its rapid wingbeats and ability to fly in any direction
6. flexed bi___s
n. a muscle located in the upper arm that enables the arm to bend at the elbow
7. s__t beliefs
n. a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream

ANSWERS: 1. hydra, 2. quadrant, 3. germ, 4. dielectric, 5. hummingbird, 6. biceps, 7. sect

- | | |
|-----------------------------------|---|
| 8. un___n numbers | <i>adj.</i> not level or flat; not balanced or symmetrical |
| 9. secret s__t | <i>n.</i> a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream |
| 10. make ast_____ng gains | <i>adj.</i> surprising or shocking; difficult to believe |
| 11. make dr_____c revision | <i>adj.</i> radical and extreme; likely to have a significant or far-reaching impact |
| 12. sup_____an beings | <i>adj.</i> possessing abilities or characteristics that exceed those of normal humans; beyond human capacity or capability |
| 13. de___m the shape | <i>v.</i> to change or distort the shape or appearance of something; to become misshapen or distorted |
| 14. di_____ce workers | <i>v.</i> to force someone or something to leave their home or place of origin, especially as a result of conflict, natural disaster, or manipulation |
| 15. dr_____c measures | <i>adj.</i> radical and extreme; likely to have a significant or far-reaching impact |
| 16. di_____ce the explosive power | <i>v.</i> to force someone or something to leave their home or place of origin, especially as a result of conflict, natural disaster, or manipulation |
| 17. ninja-like ag_____y | <i>n.</i> the ability to move quickly and easily, often in a way that is graceful and controlled |

ANSWERS: 8. uneven, 9. sect, 10. astonishing, 11. drastic, 12. superhuman, 13. deform, 14. displace, 15. drastic, 16. displace, 17. agility

18. die_____ic constant *adj.* of or relating to a type of material that is a poor conductor of electricity, often used as an insulator in electronics; not allowing electric charges to flow easily through it
19. bi___s curl *n.* a muscle located in the upper arm that enables the arm to bend at the elbow
20. el_____fy the audience *v.* to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something
21. ele_____tic discharge *adj.* relating to the static electric charge produced by friction or other means; describing the behavior of insulators and conductors in electrical systems
22. ag_____y training *n.* the ability to move quickly and easily, often in a way that is graceful and controlled
23. ac_____e a parking brake *v.* to cause a machine or equipment to start to work
24. li_____ke animation *adj.* resembling or appearing similar to something alive or real, often realistically or vividly; convincing or authentic in appearance or behavior
25. am_____y a signal *v.* to enhance something, particularly sound or brightness
26. ac_____e the circuits *v.* to cause a machine or equipment to start to work
27. a g__m-free environment *n.* a very tiny living that causes the disease; a piece of something such as an organism, concept, etc., capable of growing into a new one or part of one

ANSWERS: 18. dielectric, 19. biceps, 20. electrify, 21. electrostatic, 22. agility, 23. actuate, 24. lifelike, 25. amplify, 26. actuate, 27. germ

28. ex___e the crowd *v.* to make someone feel suddenly enthusiastic or eager
29. ex___e rebellion *v.* to make someone feel suddenly enthusiastic or eager
30. ra_____ry tea *n.* a sweet and tart edible fruit that grows on bushes, usually with a soft red or black color and a rough texture on the outside
31. ro_____c guide operation *adj.* of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots
32. in_____te electricity *v.* to protect something by interposing material that prevents heat, noise, electricity, etc.
33. theoretical ph_____st *n.* a scientist who specializes in the field of physics
34. pro_____ic limbs *adj.* of or relating to an artificial part of the body, such as a limb, a heart, or a breast implant
35. giant oc_____s *n.* a sea creature with a soft round body and eight long tentacles (= long parts like arms)
36. physical de_____ty *n.* a physical abnormality or distortion
37. de___m his way of life *v.* to change or distort the shape or appearance of something; to become misshapen or distorted
38. great-gra_____nt *n.* a parent of one's father or mother

ANSWERS: 28. excite, 29. excite, 30. raspberry, 31. robotic, 32. insulate, 33. physicist, 34. prosthetic, 35. octopus, 36. deformity, 37. deform, 38. grandparent

39. excite the ne___ns *n.* a cell that is specialized to carry information within the brain and between the brain and other parts of the body
40. de_____ty of character *n.* a physical abnormality or distortion
41. con_____on of a disease *n.* the act or process of becoming smaller or shorter in size, volume, or amount
42. talented ph_____st *n.* a scientist who specializes in the field of physics
43. ra_____ry flavor *n.* a sweet and tart edible fruit that grows on bushes, usually with a soft red or black color and a rough texture on the outside
44. poisonous sc_____on *n.* a small creature similar to an insect with a segmented body, a pair of pincers, and a long, thin tail that ends in a venomous sting
45. an ad_____le person *adj.* able or willing to modify or be modified to deal with new situations
46. ne___n cell body *n.* a cell that is specialized to carry information within the brain and between the brain and other parts of the body
47. de_____ty with the pen *n.* skill and speed in performing physical tasks, especially with the hands; mental skill or adroitness in dealing with situations or problems
48. red_____er a value *v.* to discover or find again something that was previously known but lost

ANSWERS: 39. neuron, 40. deformity, 41. contraction, 42. physicist, 43. raspberry, 44. scorpion, 45. adaptable, 46. neuron, 47. dexterity, 48. rediscover

49. ad_____le enough for the environment *adj.* able or willing to modify or be modified to deal with new situations
50. qu_____nt chart *n.* a quarter of a circle or sphere or any of the four parts of an area divided by two intersecting lines or planes
51. su_____ge my head completely *v.* to put something under water or to go under water; to bury or hide something deeply or completely
52. manual de_____ty *n.* skill and speed in performing physical tasks, especially with the hands; mental skill or adroitness in dealing with situations or problems
53. el_____fy a manufacturing process *v.* to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something
54. venomous oc_____s *n.* a sea creature with a soft round body and eight long tentacles (= long parts like arms)
55. person of gra_____nt age *n.* a parent of one's father or mother
56. con_____on in the industry *n.* the act or process of becoming smaller or shorter in size, volume, or amount
57. li_____ke painting *adj.* resembling or appearing similar to something alive or real, often realistically or vividly; convincing or authentic in appearance or behavior
58. am_____y the effect *v.* to enhance something, particularly sound or brightness

ANSWERS: 49. adaptable, 50. quadrant, 51. submerge, 52. dexterity, 53. electrify, 54. octopus, 55. grandparent, 56. contraction, 57. lifelike, 58. amplify

59. 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
60. hum_____rd feeder *n.* a small bird with a highly specialized beak and wings that allow it to hover in place, known for its rapid wingbeats and ability to fly in any direction
61. sup_____an effort *adj.* possessing abilities or characteristics that exceed those of normal humans; beyond human capacity or capability
62. su_____ge in a liquid *v.* to put something under water or to go under water; to bury or hide something deeply or completely
63. have pro_____ic arms *adj.* of or relating to an artificial part of the body, such as a limb, a heart, or a breast implant
64. sc_____on fish *n.* a small creature similar to an insect with a segmented body, a pair of pincers, and a long, thin tail that ends in a venomous sting
65. ele_____tic repulsion *adj.* relating to the static electric charge produced by friction or other means; describing the behavior of insulators and conductors in electrical systems
66. red_____er an old truth *v.* to discover or find again something that was previously known but lost
67. in_____te the room from sound *v.* to protect something by interposing material that prevents heat, noise, electricity, etc.

ANSWERS: 59. robotic, 60. hummingbird, 61. superhuman, 62. submerge, 63. prosthetic, 64. scorpion, 65. electrostatic, 66. rediscover, 67. insulate

68. bo____r field *n.* a large, smooth rock, typically one that has been worn away from a cliff or mountain by erosion
69. ast_____ng achievement *adj.* surprising or shocking; difficult to believe
70. un___n coating *adj.* not level or flat; not balanced or symmetrical
71. antibacterial hy__a *n.* a freshwater polyp with a tubular body and several tentacles; (of mythology) a serpentine monster with many heads that regrow when cut off; a problem or a situation that is difficult to overcome because it multiplies or gets worse as soon as one aspect of it is solved or eliminated
72. lava bo____r *n.* a large, smooth rock, typically one that has been worn away from a cliff or mountain by erosion

ANSWERS: 68. boulder, 69. astonishing, 70. uneven, 71. hydra, 72. boulder

Session 3: Fill in the Blanks

1. We seek a candidate who possesses _____ fighting potential.
adj. able or willing to modify or be modified to deal with new situations
2. The athlete's _____ strength allowed him to lift twice his body weight.
adj. possessing abilities or characteristics that exceed those of normal humans; beyond human capacity or capability
3. The global community is undergoing _____ changes at present.
adj. radical and extreme; likely to have a significant or far-reaching impact
4. The _____ venom can be lethal to humans.
n. a small creature similar to an insect with a segmented body, a pair of pincers, and a long, thin tail that ends in a venomous sting
5. The heat from the fire _____ the plastic parts of the appliance.
v. to change or distort the shape or appearance of something; to become misshapen or distorted
6. The artist created a _____ sculpture of a famous politician for the town square.
adj. resembling or appearing similar to something alive or real, often realistically or vividly; convincing or authentic in appearance or behavior
7. The engineer used _____ insulation in the electrical wiring to prevent fires.
adj. of or relating to a type of material that is a poor conductor of electricity, often used as an insulator in electronics; not allowing electric charges to flow easily through it

ANSWERS: 1. adaptable, 2. superhuman, 3. drastic, 4. scorpion's, 5. deformed, 6. lifelike, 7. dielectric

8. The _____ cheesecake at that restaurant is out of this world.
n. a sweet and tart edible fruit that grows on bushes, usually with a soft red or black color and a rough texture on the outside
9. The news of her sudden death was _____ to everyone who knew her.
adj. surprising or shocking; difficult to believe
10. He injured his _____ during the game and had to sit out for the rest of the season.
n. a muscle located in the upper arm that enables the arm to bend at the elbow
11. The hikers had to climb over a _____ that was blocking their path.
n. a large, smooth rock, typically one that has been worn away from a cliff or mountain by erosion
12. The road was _____ causing the car to bounce up and down as it drove.
adj. not level or flat; not balanced or symmetrical
13. The painting was _____ in an attic and turned out to be a long-lost masterpiece.
v. to discover or find again something that was previously known but lost
14. Our body transfers information along each _____ using an electrical impulse.
n. a cell that is specialized to carry information within the brain and between the brain and other parts of the body
15. New _____ joints are less prone to metal poisoning.
adj. of or relating to an artificial part of the body, such as a limb, a heart, or a breast implant

ANSWERS: 8. raspberry, 9. astonishing, 10. biceps, 11. boulder, 12. uneven, 13. rediscovered, 14. neuron, 15. prosthetic

16. The minority _____ believed in a set of unconventional religious practices.
n. a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream
17. You might need to _____ this point.
v. to enhance something, particularly sound or brightness
18. The _____ of his idea came from watching birds flying in flocks.
n. a very tiny living that causes the disease; a piece of something such as an organism, concept, etc., capable of growing into a new one or part of one
19. The news of her promotion _____ her.
v. to make someone feel suddenly enthusiastic or eager
20. The construction of the new dam will _____ hundreds of families living downstream.
v. to force someone or something to leave their home or place of origin, especially as a result of conflict, natural disaster, or manipulation
21. The map was divided into four _____ to examine the geographical region closely.
n. a quarter of a circle or sphere or any of the four parts of an area divided by two intersecting lines or planes
22. The surgeon's _____ was impressive during the delicate surgery.
n. skill and speed in performing physical tasks, especially with the hands; mental skill or adroitness in dealing with situations or problems
23. She was close to her paternal _____ and often spent summers with them.
n. a parent of one's father or mother

ANSWERS: 16. sect, 17. amplify, 18. germ, 19. excited, 20. displace, 21. quadrants, 22. dexterity, 23. grandparents

24. Einstein was an outstanding and famous _____ of the 20th century.
n. a scientist who specializes in the field of physics
25. The _____ of the economy has led to job losses.
n. the act or process of becoming smaller or shorter in size, volume, or amount
26. The coach had the team run through the _____ ladder to improve their coordination.
n. the ability to move quickly and easily, often in a way that is graceful and controlled
27. We had our bedroom _____ before winter came.
v. to protect something by interposing material that prevents heat, noise, electricity, etc.
28. The new software system was a _____ of complications, with one problem leading to another.
n. a freshwater polyp with a tubular body and several tentacles; (of mythology) a serpentine monster with many heads that regrow when cut off; a problem or a situation that is difficult to overcome because it multiplies or gets worse as soon as one aspect of it is solved or eliminated
29. The _____ in the steel beam caused the bridge to collapse.
n. a physical abnormality or distortion
30. Watching a _____ at a flower is like observing a miniature ballet of nature.
n. a small bird with a highly specialized beak and wings that allow it to hover in place, known for its rapid wingbeats and ability to fly in any direction

ANSWERS: 24. physicist, 25. contraction, 26. agility, 27. insulated, 28. hydra, 29. deformity, 30. hummingbird

31. The ship was _____ in the ocean for many years before it was finally discovered.

- v.* to put something under water or to go under water; to bury or hide something deeply or completely

32. The surgeon removed the tumor using _____ video assistance.

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

33. He experienced nausea after eating live _____.

- n.* a sea creature with a soft round body and eight long tentacles (= long parts like arms)

34. The experiment showed a strong _____ charge between the two objects.

- adj.* relating to the static electric charge produced by friction or other means; describing the behavior of insulators and conductors in electrical systems

35. A desire for success _____ her.

- v.* to cause a machine or equipment to start to work

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

ANSWERS: 31. submerged, 32. robotic, 33. octopus, 34. electrostatic, 35. actuated, 36. electrify