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Vocabulary Builder Reference from...

Vijay Kumar: Robots that fly ... and cooperate | TED Talk

https://www.ted.com/talks/vijay_kumar_robots_that_fly_and_cooperate

Advanced Words Only

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Session 1: Word List

agile

adj. able to move quickly and easily, often in a way that is graceful and controlled

synonym : nimble, quick, flexible

(1) an **agile** mind, (2) **agile** in his movements

The **agile** development process allowed the team to make changes quickly.

opportune

adj. suitable or happening at a time that is suitable or convenient for a particular purpose

synonym : suitable, timely, practical

(1) **opportune** occasion, (2) an **opportune** remark

The phone rang at the most **opportune** time.

rot

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**.

retrofit

v. to put a new component or accessory into a machine that did not initially have it when manufactured

synonym : backfit, reconstruct, recycle

(1) **retrofit** an electronic system, (2) **retrofit** applications

A **retrofit** may involve putting in new door jambs.

hover

v. to stay in one place in the air

synonym : hang, float over, drift

(1) **hover** between life and death, (2) **hover** around the table

Two birds were **hovering** overhead.

yaw

v. to turn or deviate from a straight course, especially as a result of wind or current; to swerve or veer off course to one side; (noun) a rotation or deviation of an object, usually an aircraft, boat, or vehicle, around its vertical axis

synonym : swerve, veer, deviate

(1) **yaw** off course, (2) **yaw** movement

The pilot needed to **yaw** the plane slightly to avoid colliding with another aircraft.

onboard

v. to become or make part of a team, group, or system; to install, activate, or begin using a piece of equipment or software; (adjective) included or integrated into a particular system, machine, or device

synonym : embark, aboard, on-load

(1) **onboard** the new employees, (2) **onboard** computer

The passengers were instructed to **onboard** the aircraft as quickly as possible so that the flight could depart on time.

inertia

n. the quality or state of being inactive, sluggish, or slow to move or act

synonym : sluggishness, lethargy, idleness

(1) **inertia** resistance, (2) Newton's law of **inertia**

The object's **inertia** kept it moving in a straight line until acted upon by an outside force.

accelerometer

n. a device that measures acceleration or changes in motion, typically used in aerospace, automotive, and other engineering applications to monitor and control

movement or to measure things like speed or vibration

synonym : sensor, g-sensor, gravimeter

(1) **accelerometer** reading, (2) high-precision **accelerometer**

The phone's **accelerometer** measures its movement and orientation in three-dimensional space.

stabilize

v. to become or cause to become steady or unlikely to give way

synonym : brace, steady, secure

(1) **stabilize** prices, (2) **stabilize** blood sugar levels

The raising of interest rates **stabilizes** the inflation rate.

intruder

n. someone who enters a place or situation without permission or invitation; someone who interrupts or interferes in something

synonym : trespasser, intruder, interloper

(1) illegal **intruder**, (2) infrared **intruder** system

The homeowner called the police when they spotted an **intruder** in their backyard.

biochemical

adj. relating to the chemical processes and substances that occur within living organisms

synonym : molecular, biological

(1) **biochemical** reaction, (2) complex **biochemical**

Biochemical research is essential to understanding the complex chemical reactions in living organisms.

trajectory

n. the curved path followed by an object moving through space

synonym : course, curve, orbit

(1) career **trajectory**, (2) a **trajectory** missile

The company has shown an excellent growth **trajectory** over the years.

whir

- v.* to make a low, continuous, and often rhythmic sound, similar to the sound of a machine or a motor rotating at high speed; (noun) a low, continuous sound that is produced by something rotating quickly or moving rapidly through the air

synonym: whizz, buzz, hum

- (1) **whir** up and down, (2) machines **whirring**

The sound of the engine **whirred** as the plane took off.

hoop

- n.* a circular band or ring, often made of metal or wood, used as a toy, a part of the equipment, or a decoration

synonym: ring, circle, band

- (1) **hoop** earring, (2) basketball **hoop**

The circus clown jumped through a fiery **hoop** as the audience gasped in amazement.

reprogram

- v.* to modify or recreate a program

synonym: recreate, modify, revamp

- (1) **reprogram** a device, (2) **reprogram** a database

He **reprogrammed** the computer's operating system to remove the safeguard.

diver

- n.* a person who dives, especially one who does so professionally or as a sport; a bird that dives into the water to catch fish or other prey

synonym: plunger, frogman, loon

- (1) professional **diver**, (2) deep-sea **diver**

The search and rescue team sent a team of **divers** to search for the missing plane wreckage.

springboard

- n.* a board or device used for jumping or diving into the water or for launching oneself into the air for gymnastics or other acrobatic movements

synonym: diving board, launching pad, jumping-off point

- (1) **springboard** dive, (2) **springboard** launch

The project's success became a **springboard** for the team to pursue bigger and more ambitious goals.

pirouette

n. a rapid spin of the body on the toes or the front part of the foot, especially performed by a ballet dancer

synonym : gyration, whirl, gyration

(1) perform a **pirouette**, (2) moves into a **pirouette**

She turned a triple **pirouette** on the ice.

somersault

n. a complete forward or backward roll of the body, typically performed by tucking in the head and reaching out with the hands and feet

synonym : flip, tumble, cartwheel

(1) **somersault** flip, (2) backward **somersault**

The gymnast performed a perfect **somersault** during her routine.

decentralize

v. to move the power, control, or authority of an organization, government, or system from a single place to several smaller ones

synonym : deconcentrate, disperse, distribute

(1) **decentralize** authority, (2) **decentralize** organizational structure

We need to **decentralize** our data to recover quickly from a disaster.

agnostic

n. a person who believes that it is impossible to know whether there is a god

synonym : skeptic, doubter, unbeliever

(1) **agnostic** world-view, (2) **agnostic** position

Her scientific background led her to be **agnostic** about the existence of a higher power.

anonymity

n. the condition of being anonymous or unidentified; the state of not revealing one's name, identity, or other personal information

synonym : obscurity, secrecy, namelessness

(1) comment with **anonymity**, (2) protect **anonymity**

The use of pseudonyms allows individuals to maintain their **anonymity** online.

aerodynamics

n. the study of the motion of air, particularly its interaction with solid objects moving through it, such as aircraft or cars

synonym : aeromechanics, aeronautics, airflow

(1) **aerodynamics** research, (2) **aerodynamics** design

The **aerodynamics** of the car allowed it to glide smoothly through the air.

propeller

n. a device with rotating blades or vanes used for propulsion or creating lift, typically used on boats or aircraft

synonym : prop, rotor, fan

(1) **propeller** design, (2) **propeller** aircraft

The boat's **propeller** stopped working in the middle of the lake.

quadruple

v. to consist of four items or people; to become four times as great or many

(1) **quadruple** the amount, (2) **quadruple** the price of gold
His stock earnings **quadrupled**.

truss

v. to support, brace, or strengthen a structure or object with a framework, typically made of wood or metal; to bind or tie something together, usually tightly; (noun) a framework or structure composed of beams, bars, or other elements that are designed to support or strengthen a roof, bridge, or other construction

synonym : support, brace, reinforce

(1) **truss** a chicken, (2) bridge **truss**

The construction workers had to **truss** up the beams to support the weight of the building.

blueprint

n. a photographic print of an early plan for a building or machine

synonym : draft, prototype, sketch

(1) **blueprint** for economic reform, (2) architect's **blueprint**

A business plan is a **blueprint** for your success.

doorway

n. an opening in a wall for a door to fit into

synonym: entrance, portal, gateway

(1) a wide **doorway**, (2) **doorway** to success

He leaned against the **doorway**, waiting for her to come home.

Session 2: Spelling

1. acc_____ter reading *n.* a device that measures acceleration or changes in motion, typically used in aerospace, automotive, and other engineering applications to monitor and control movement or to measure things like speed or vibration
2. protect an_____ty *n.* the condition of being anonymous or unidentified; the state of not revealing one's name, identity, or other personal information
3. do_____y to success *n.* an opening in a wall for a door to fit into
4. professional di__r *n.* a person who dives, especially one who does so professionally or as a sport; a bird that dives into the water to catch fish or other prey
5. re_____am a database *v.* to modify or recreate a program
6. re_____it applications *v.* to put a new component or accessory into a machine that did not initially have it when manufactured
7. moves into a pi_____te *n.* a rapid spin of the body on the toes or the front part of the foot, especially performed by a ballet dancer
8. Newton's law of in_____a *n.* the quality or state of being inactive, sluggish, or slow to move or act
9. spr_____rd launch *n.* a board or device used for jumping or diving into the water or for launching oneself into the air for gymnastics or other acrobatic movements

ANSWERS: 1. accelerometer, 2. anonymity, 3. doorway, 4. diver, 5. reprogram, 6. retrofit, 7. pirouette, 8. inertia, 9. springboard

10. an ag__e mind *adj.* able to move quickly and easily, often in a way that is graceful and controlled
11. high-precision acc_____ter *n.* a device that measures acceleration or changes in motion, typically used in aerospace, automotive, and other engineering applications to monitor and control movement or to measure things like speed or vibration
12. on_____d the new employees *v.* to become or make part of a team, group, or system; to install, activate, or begin using a piece of equipment or software; (adjective) included or integrated into a particular system, machine, or device
13. backward som_____lt *n.* a complete forward or backward roll of the body, typically performed by tucking in the head and reaching out with the hands and feet
14. r_t with age *v.* to decay, or cause something to decay, naturally and gradually
15. qu_____le the amount *v.* to consist of four items or people; to become four times as great or many
16. spr_____rd dive *n.* a board or device used for jumping or diving into the water or for launching oneself into the air for gymnastics or other acrobatic movements
17. a tra_____ry missile *n.* the curved path followed by an object moving through space
18. pr_____er aircraft *n.* a device with rotating blades or vanes used for propulsion or creating lift, typically used on boats or aircraft

ANSWERS: 10. agile, 11. accelerometer, 12. onboard, 13. somersault, 14. rot, 15. quadruple, 16. springboard, 17. trajectory, 18. propeller

19. ag____ic world-view *n.* a person who believes that it is impossible to know whether there is a god
20. op_____ne occasion *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
21. perform a pi_____te *n.* a rapid spin of the body on the toes or the front part of the foot, especially performed by a ballet dancer
22. career tra_____ry *n.* the curved path followed by an object moving through space
23. deep-sea di__r *n.* a person who dives, especially one who does so professionally or as a sport; a bird that dives into the water to catch fish or other prey
24. re_____am a device *v.* to modify or recreate a program
25. in_____a resistance *n.* the quality or state of being inactive, sluggish, or slow to move or act
26. an op_____ne remark *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
27. bio_____al reaction *adj.* relating to the chemical processes and substances that occur within living organisms
28. aer_____ics research *n.* the study of the motion of air, particularly its interaction with solid objects moving through it, such as aircraft or cars
29. ag__e in his movements *adj.* able to move quickly and easily, often in a way that is graceful and controlled

ANSWERS: 19. agnostic, 20. opportune, 21. pirouette, 22. trajectory, 23. diver, 24. reprogram, 25. inertia, 26. opportune, 27. biochemical, 28. aerodynamics, 29. agile

30. bl_____nt for economic reform *n.* a photographic print of an early plan for a building or machine
31. ho__r around the table *v.* to stay in one place in the air
32. tr__s a chicken *v.* to support, brace, or strengthen a structure or object with a framework, typically made of wood or metal; to bind or tie something together, usually tightly; (noun) a framework or structure composed of beams, bars, or other elements that are designed to support or strengthen a roof, bridge, or other construction
33. st_____ze prices *v.* to become or cause to become steady or unlikely to give way
34. a wide do_____y *n.* an opening in a wall for a door to fit into
35. infrared in_____er system *n.* someone who enters a place or situation without permission or invitation; someone who interrupts or interferes in something
36. st_____ze blood sugar levels *v.* to become or cause to become steady or unlikely to give way
37. on_____d computer *v.* to become or make part of a team, group, or system; to install, activate, or begin using a piece of equipment or software; (adjective) included or integrated into a particular system, machine, or device
38. complex bio_____al *adj.* relating to the chemical processes and substances that occur within living organisms

ANSWERS: 30. blueprint, 31. hover, 32. truss, 33. stabilize, 34. doorway, 35. intruder, 36. stabilize, 37. onboard, 38. biochemical

39. machines w__ring v. to make a low, continuous, and often rhythmic sound, similar to the sound of a machine or a motor rotating at high speed; (noun) a low, continuous sound that is produced by something rotating quickly or moving rapidly through the air
40. aer_____ics design n. the study of the motion of air, particularly its interaction with solid objects moving through it, such as aircraft or cars
41. pr_____er design n. a device with rotating blades or vanes used for propulsion or creating lift, typically used on boats or aircraft
42. dec_____ize authority v. to move the power, control, or authority of an organization, government, or system from a single place to several smaller ones
43. re_____it an electronic system v. to put a new component or accessory into a machine that did not initially have it when manufactured
44. comment with an_____ty n. the condition of being anonymous or unidentified; the state of not revealing one's name, identity, or other personal information
45. y_w off course v. to turn or deviate from a straight course, especially as a result of wind or current; to swerve or veer off course to one side; (noun) a rotation or deviation of an object, usually an aircraft, boat, or vehicle, around its vertical axis

ANSWERS: 39. whir, 40. aerodynamics, 41. propeller, 42. decentralize, 43. retrofit, 44. anonymity, 45. yaw

46. ag____ic position *n.* a person who believes that it is impossible to know whether there is a god
47. dec_____ize organizational structure *v.* to move the power, control, or authority of an organization, government, or system from a single place to several smaller ones
48. qu_____le the price of gold *v.* to consist of four items or people; to become four times as great or many
49. h__p earring *n.* a circular band or ring, often made of metal or wood, used as a toy, a part of the equipment, or a decoration
50. bridge tr__s *v.* to support, brace, or strengthen a structure or object with a framework, typically made of wood or metal; to bind or tie something together, usually tightly; (noun) a framework or structure composed of beams, bars, or other elements that are designed to support or strengthen a roof, bridge, or other construction
51. w__r up and down *v.* to make a low, continuous, and often rhythmic sound, similar to the sound of a machine or a motor rotating at high speed; (noun) a low, continuous sound that is produced by something rotating quickly or moving rapidly through the air
52. illegal in_____er *n.* someone who enters a place or situation without permission or invitation; someone who interrupts or interferes in something

ANSWERS: 46. agnostic, 47. decentralize, 48. quadruple, 49. hoop, 50. truss, 51. whirl, 52. intruder

53. y_w movement v. to turn or deviate from a straight course, especially as a result of wind or current; to swerve or veer off course to one side; (noun) a rotation or deviation of an object, usually an aircraft, boat, or vehicle, around its vertical axis
54. basketball h__p n. a circular band or ring, often made of metal or wood, used as a toy, a part of the equipment, or a decoration
55. ho__r between life and death v. to stay in one place in the air
56. architect's bl_____nt n. a photographic print of an early plan for a building or machine
57. begin to r_t v. to decay, or cause something to decay, naturally and gradually
58. som_____lt flip n. a complete forward or backward roll of the body, typically performed by tucking in the head and reaching out with the hands and feet

ANSWERS: 53. yaw, 54. hoop, 55. hover, 56. blueprint, 57. rot, 58. somersault

Session 3: Fill in the Blanks

1. She turned a triple _____ on the ice.
n. a rapid spin of the body on the toes or the front part of the foot, especially performed by a ballet dancer
2. The circus clown jumped through a fiery _____ as the audience gasped in amazement.
n. a circular band or ring, often made of metal or wood, used as a toy, a part of the equipment, or a decoration
3. The use of pseudonyms allows individuals to maintain their _____ online.
n. the condition of being anonymous or unidentified; the state of not revealing one's name, identity, or other personal information
4. _____ research is essential to understanding the complex chemical reactions in living organisms.
adj. relating to the chemical processes and substances that occur within living organisms
5. The object's _____ kept it moving in a straight line until acted upon by an outside force.
n. the quality or state of being inactive, sluggish, or slow to move or act
6. The raising of interest rates _____ the inflation rate.
v. to become or cause to become steady or unlikely to give way
7. He leaned against the _____ waiting for her to come home.
n. an opening in a wall for a door to fit into

ANSWERS: 1. pirouette, 2. hoop, 3. anonymity, 4. Biochemical, 5. inertia, 6. stabilizes, 7. doorway,

8. The project's success became a _____ for the team to pursue bigger and more ambitious goals.
- n.* a board or device used for jumping or diving into the water or for launching oneself into the air for gymnastics or other acrobatic movements
9. The construction workers had to _____ up the beams to support the weight of the building.
- v.* to support, brace, or strengthen a structure or object with a framework, typically made of wood or metal; to bind or tie something together, usually tightly; (noun) a framework or structure composed of beams, bars, or other elements that are designed to support or strengthen a roof, bridge, or other construction
10. Her scientific background led her to be _____ about the existence of a higher power.
- n.* a person who believes that it is impossible to know whether there is a god
11. The sound of the engine _____ as the plane took off.
- v.* to make a low, continuous, and often rhythmic sound, similar to the sound of a machine or a motor rotating at high speed; (noun) a low, continuous sound that is produced by something rotating quickly or moving rapidly through the air
12. The passengers were instructed to _____ the aircraft as quickly as possible so that the flight could depart on time.
- v.* to become or make part of a team, group, or system; to install, activate, or begin using a piece of equipment or software; (adjective) included or integrated into a particular system, machine, or device
13. The pilot needed to _____ the plane slightly to avoid colliding with another aircraft.
- v.* to turn or deviate from a straight course, especially as a result of wind or current; to swerve or veer off course to one side; (noun) a rotation or deviation of an object, usually an aircraft, boat, or vehicle, around its vertical axis

ANSWERS: 8. springboard, 9. truss, 10. agnostic, 11. whirred, 12. onboard, 13. yaw

14. Two birds were _____ overhead.

v. to stay in one place in the air

15. Please refrigerate the meat, or it will _____.

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

16. The phone rang at the most _____ time.

adj. suitable or happening at a time that is suitable or convenient for a particular purpose

17. We need to _____ our data to recover quickly from a disaster.

v. to move the power, control, or authority of an organization, government, or system from a single place to several smaller ones

18. The gymnast performed a perfect _____ during her routine.

n. a complete forward or backward roll of the body, typically performed by tucking in the head and reaching out with the hands and feet

19. The homeowner called the police when they spotted an _____ in their backyard.

n. someone who enters a place or situation without permission or invitation; someone who interrupts or interferes in something

20. The company has shown an excellent growth _____ over the years.

n. the curved path followed by an object moving through space

21. The search and rescue team sent a team of _____ to search for the missing plane wreckage.

n. a person who dives, especially one who does so professionally or as a sport; a bird that dives into the water to catch fish or other prey

ANSWERS: 14. hovering, 15. rot, 16. opportune, 17. decentralize, 18. somersault, 19. intruder, 20. trajectory, 21. divers

22. The _____ of the car allowed it to glide smoothly through the air.
n. the study of the motion of air, particularly its interaction with solid objects moving through it, such as aircraft or cars
23. The phone's _____ measures its movement and orientation in three-dimensional space.
n. a device that measures acceleration or changes in motion, typically used in aerospace, automotive, and other engineering applications to monitor and control movement or to measure things like speed or vibration
24. He _____ the computer's operating system to remove the safeguard.
v. to modify or recreate a program
25. His stock earnings _____.
v. to consist of four items or people; to become four times as great or many
26. A business plan is a _____ for your success.
n. a photographic print of an early plan for a building or machine
27. The _____ development process allowed the team to make changes quickly.
adj. able to move quickly and easily, often in a way that is graceful and controlled
28. The boat's _____ stopped working in the middle of the lake.
n. a device with rotating blades or vanes used for propulsion or creating lift, typically used on boats or aircraft
29. A _____ may involve putting in new door jambs.
v. to put a new component or accessory into a machine that did not initially have it when manufactured

ANSWERS: 22. aerodynamics, 23. accelerometer, 24. reprogrammed, 25. quadrupled, 26. blueprint, 27. agile, 28. propeller, 29. retrofit

ANSWERS: