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Vocabulary Builder Reference from...

Gian Giudice: Why our universe might exist on a knife-edge | TED Talk

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

Advanced Words Only

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Session 1: Word List

collide

v. to hit something violently when moving

synonym: clash, slam, contradict

(1) **collide** head-on, (2) **collide** in midair

The interests of the two countries **collide**.

boson

n. a type of subatomic particle that follows Bose-Einstein statistics, which determine how identical particles with integer spins behave

synonym: photon, gluon, particle

(1) weak **boson**, (2) Higgs **boson**

The search for new **boson** particles is one of the most exciting areas of modern physics.

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.

unsatisfactory

adj. not meeting the desired or expected standard or quality

synonym: inadequate, subpar, lacking

(1) **unsatisfactory** performance, (2) **unsatisfactory** on several counts

The service was **unsatisfactory**, and the customer demanded a refund.

unanswered

adj. not responded to or explained

synonym: ignored, unrequited, undecided

(1) **unanswered** love, (2) **unanswered** e-mail

Pardon me for leaving some of your questions **unanswered**.

proton

n. a very small particle with a positive charge equal to the negative charge of an electron that forms part of the nucleus of all atoms

(1) **proton** decay, (2) **proton** conductivity

The solar wind is composed almost entirely of electrons and **protons**.

spacetime

n. a four-dimensional continuum consisting of three dimensions of space and one dimension of time, used to describe the physical universe according to Einstein's theory of general relativity

(1) **spacetime** continuum, (2) quantum **spacetime**

The curvature of **spacetime** is affected by the presence of mass and energy.

conclusive

adj. serving to settle an issue or put an end to doubt or uncertainty; irrefutable and leaves no room for doubt

synonym: decisive, definitive, convincing

(1) **conclusive** information, (2) **conclusive** statement

The research provided **conclusive** evidence that the new treatment was effective.

nutshell

n. the hard, outer covering or protective casing that encloses the kernel or fruit of certain types of nuts, such as walnuts or acorns; a concise and condensed summary or explanation of something

synonym: summary, essence, covering

(1) move into a **nutshell**, (2) **nutshell** version

Can you explain your argument in a **nutshell**?

reappear

v. to show up again or return after not being heard of or seen for a period of time

synonym: come again, repeat, re-emerge

(1) **reappear** on the surface, (2) **reappear** throughout this book

Cancer has **reappeared** at the same site.

penetrating

adj. able to pierce or enter deeply into something; having a sharp, intense quality that cuts through superficiality or confusion

synonym: keen, piercing, sharp

(1) **penetrating** gaze, (2) **penetrating** analysis

The **penetrating** smell of freshly brewed coffee filled the room.

probabilistic

adj. characterized by the influence of chance or probability; involving the use of statistical models or methods to estimate likelihoods or risks

synonym: probable, statistical, likely

(1) **probabilistic** model, (2) **probabilistic** approach

In a **probabilistic** system, the outcome is uncertain and can vary based on chance.

penetrate

v. to pass into or through something, often by overcoming resistance

synonym: pierce, stab, go through

(1) **penetrate** a cell, (2) **penetrate** quickly into the skin

Western ideology slowly **penetrates** through the eastern countries.

diode

n. an electronic component that conducts current primarily in one direction and typically has two electrodes or terminals

synonym: rectifier, valve, semiconductor

(1) light-emitting **diode**, (2) semiconductor **diode**

The **diode** in the circuit prevented the current from flowing in the wrong direction.

invade

v. to enter aggressively into another's territory by military force for conquest and occupation

synonym: intrude, raid, overrun

(1) **invade** other tissues, (2) **invade** his privacy

I have no intention to **invade** your privacy.

intensify

v. to increase or make something increase in extent or strength

synonym: amplify, boost, strengthen

(1) **intensify** diplomatic efforts, (2) **intensify** a good relationship

Rebels have pledged to **intensify** the armed struggle against the dictatorship.

disintegrate

v. break or cause to break into small fragments

synonym: shatter, crumble, break down

(1) **disintegrate** in an explosion, (2) **disintegrate** over time

The vase **disintegrated** into pieces when it fell to the ground.

wobble

v. to move or shake unsteadily from side to side or up and down

synonym: sway, rock, totter

(1) **wobble** a few steps, (2) **wobble** chair

The table **wobbled** a little when I put my drink on it.

multiverse

n. a hypothetical space or realm consisting of multiple universes, of which our universe is just one of them

(1) the **multiverse** hypothesis, (2) the concept of the **multiverse**

The various universes within the **multiverse** are sometimes called parallel universes.

dun

adj. having a dull brownish-gray color, often used to describe the color of certain animals, such as a dun horse; (verb) to repeatedly and insistently demand payment of a debt or money owed

synonym: dark, gloomy, somber

(1) **dun** horse, (2) **dun** him for the unpaid bills
The spider was camouflaged on the **dun-colored** rock,
waiting for its next prey.

Session 2: Spelling

1. weak bo__n *n.* a type of subatomic particle that follows Bose-Einstein statistics, which determine how identical particles with integer spins behave
2. pe_____te a cell *v.* to pass into or through something, often by overcoming resistance
3. semiconductor di__e *n.* an electronic component that conducts current primarily in one direction and typically has two electrodes or terminals
4. wo___e a few steps *v.* to move or shake unsteadily from side to side or up and down
5. una_____ed e-mail *adj.* not responded to or explained
6. move into a nu_____ll *n.* the hard, outer covering or protective casing that encloses the kernel or fruit of certain types of nuts, such as walnuts or acorns; a concise and condensed summary or explanation of something
7. light-emitting di__e *n.* an electronic component that conducts current primarily in one direction and typically has two electrodes or terminals
8. nu_____ll version *n.* the hard, outer covering or protective casing that encloses the kernel or fruit of certain types of nuts, such as walnuts or acorns; a concise and condensed summary or explanation of something
9. in___e other tissues *v.* to enter aggressively into another's territory by military force for conquest and occupation

ANSWERS: 1. boson, 2. penetrate, 3. diode, 4. wobble, 5. unanswered, 6. nutshell, 7. diode, 8. nutshell, 9. invade

10. in___e his privacy *v.* to enter aggressively into another's territory by military force for conquest and occupation
11. co_____e head-on *v.* to hit something violently when moving
12. d_n horse *adj.* having a dull brownish-gray color, often used to describe the color of certain animals, such as a dun horse; (verb) to repeatedly and insistently demand payment of a debt or money owed
13. quantum sp_____me *n.* a four-dimensional continuum consisting of three dimensions of space and one dimension of time, used to describe the physical universe according to Einstein's theory of general relativity
14. in_____fy diplomatic efforts *v.* to increase or make something increase in extent or strength
15. re_____ar throughout this book *v.* to show up again or return after not being heard of or seen for a period of time
16. Higgs bo__n *n.* a type of subatomic particle that follows Bose-Einstein statistics, which determine how identical particles with integer spins behave
17. pe_____te quickly into the skin *v.* to pass into or through something, often by overcoming resistance
18. d_n him for the unpaid bills *adj.* having a dull brownish-gray color, often used to describe the color of certain animals, such as a dun horse; (verb) to repeatedly and insistently demand payment of a debt or money owed

ANSWERS: 10. invade, 11. collide, 12. dun, 13. spacetime, 14. intensify, 15. reappear, 16. boson, 17. penetrate, 18. dun

19. sp_____me continuum *n.* a four-dimensional continuum consisting of three dimensions of space and one dimension of time, used to describe the physical universe according to Einstein's theory of general relativity
20. in_____fy a good relationship *v.* to increase or make something increase in extent or strength
21. co_____e in midair *v.* to hit something violently when moving
22. una_____ed love *adj.* not responded to or explained
23. pr____n conductivity *n.* a very small particle with a positive charge equal to the negative charge of an electron that forms part of the nucleus of all atoms
24. con_____ve statement *adj.* serving to settle an issue or put an end to doubt or uncertainty; irrefutable and leaves no room for doubt
25. the mul_____se hypothesis *n.* a hypothetical space or realm consisting of multiple universes, of which our universe is just one of them
26. dis_____ate in an explosion *v.* break or cause to break into small fragments
27. uns_____ory performance *adj.* not meeting the desired or expected standard or quality
28. con_____ve information *adj.* serving to settle an issue or put an end to doubt or uncertainty; irrefutable and leaves no room for doubt
29. wo____e chair *v.* to move or shake unsteadily from side to side or up and down

ANSWERS: 19. spacetime, 20. intensify, 21. collide, 22. unanswered, 23. proton, 24. conclusive, 25. multiverse, 26. disintegrate, 27. unsatisfactory, 28. conclusive, 29. wobble

30. pro_____tic model *adj.* characterized by the influence of chance or probability; involving the use of statistical models or methods to estimate likelihoods or risks
31. pen_____ng analysis *adj.* able to pierce or enter deeply into something; having a sharp, intense quality that cuts through superficiality or confusion
32. re_____ar on the surface *v.* to show up again or return after not being heard of or seen for a period of time
33. pro_____tic approach *adj.* characterized by the influence of chance or probability; involving the use of statistical models or methods to estimate likelihoods or risks
34. dis_____ate over time *v.* break or cause to break into small fragments
35. pen_____ng gaze *adj.* able to pierce or enter deeply into something; having a sharp, intense quality that cuts through superficiality or confusion
36. theoretical ph_____st *n.* a scientist who specializes in the field of physics
37. pr____n decay *n.* a very small particle with a positive charge equal to the negative charge of an electron that forms part of the nucleus of all atoms
38. talented ph_____st *n.* a scientist who specializes in the field of physics

ANSWERS: 30. probabilistic, 31. penetrating, 32. reappear, 33. probabilistic, 34. disintegrate, 35. penetrating, 36. physicist, 37. proton, 38. physicist

39. the concept of the mul_____se *n.* a hypothetical space or realm consisting of multiple universes, of which our universe is just one of them
40. uns_____ory on several counts *adj.* not meeting the desired or expected standard or quality

ANSWERS: 39. multiverse, 40. unsatisfactory

Session 3: Fill in the Blanks

1. Can you explain your argument in a _____
 - n.* the hard, outer covering or protective casing that encloses the kernel or fruit of certain types of nuts, such as walnuts or acorns; a concise and condensed summary or explanation of something

2. The service was _____ and the customer demanded a refund.
 - adj.* not meeting the desired or expected standard or quality

3. The spider was camouflaged on the _____ rock, waiting for its next prey.
 - adj.* having a dull brownish-gray color, often used to describe the color of certain animals, such as a dun horse; (verb) to repeatedly and insistently demand payment of a debt or money owed

4. The various universes within the _____ are sometimes called parallel universes.
 - n.* a hypothetical space or realm consisting of multiple universes, of which our universe is just one of them

5. Cancer has _____ at the same site.
 - v.* to show up again or return after not being heard of or seen for a period of time

6. The _____ in the circuit prevented the current from flowing in the wrong direction.
 - n.* an electronic component that conducts current primarily in one direction and typically has two electrodes or terminals

7. I have no intention to _____ your privacy.
 - v.* to enter aggressively into another's territory by military force for conquest and occupation

ANSWERS: 1. nutshell?, 2. unsatisfactory, 3. dun-colored, 4. multiverse, 5. reappeared, 6. diode, 7. invade

8. Einstein was an outstanding and famous _____ of the 20th century.
n. a scientist who specializes in the field of physics
9. The solar wind is composed almost entirely of electrons and _____.
n. a very small particle with a positive charge equal to the negative charge of an electron that forms part of the nucleus of all atoms
10. The research provided _____ evidence that the new treatment was effective.
adj. serving to settle an issue or put an end to doubt or uncertainty; irrefutable and leaves no room for doubt
11. The curvature of _____ is affected by the presence of mass and energy.
n. a four-dimensional continuum consisting of three dimensions of space and one dimension of time, used to describe the physical universe according to Einstein's theory of general relativity
12. The _____ smell of freshly brewed coffee filled the room.
adj. able to pierce or enter deeply into something; having a sharp, intense quality that cuts through superficiality or confusion
13. The interests of the two countries _____.
v. to hit something violently when moving
14. The vase _____ into pieces when it fell to the ground.
v. break or cause to break into small fragments
15. Western ideology slowly _____ through the eastern countries.
v. to pass into or through something, often by overcoming resistance

ANSWERS: 8. physicist, 9. protons, 10. conclusive, 11. spacetime, 12. penetrating, 13. collide, 14. disintegrated, 15. penetrates

16. Pardon me for leaving some of your questions _____.
adj. not responded to or explained
17. Rebels have pledged to _____ the armed struggle against the dictatorship.
v. to increase or make something increase in extent or strength
18. The table _____ a little when I put my drink on it.
v. to move or shake unsteadily from side to side or up and down
19. In a _____ system, the outcome is uncertain and can vary based on chance.
adj. characterized by the influence of chance or probability; involving the use of statistical models or methods to estimate likelihoods or risks
20. The search for new _____ particles is one of the most exciting areas of modern physics.
n. a type of subatomic particle that follows Bose-Einstein statistics, which determine how identical particles with integer spins behave

ANSWERS: 16. unanswered, 17. intensify, 18. wobbled, 19. probabilistic, 20. boson