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Vocabulary Builder Reference from...

Scott Rickard: The beautiful math behind the world's ugliest music | TED Talk

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

All Words

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Session 1: Word List

musicology

n. the study of music as a scholarly discipline typically focuses on issues related to the history, theory, and cultural context of music

synonym: musical scholarship, music theory

(1) **musicology** professor, (2) **musicology** research

The **musicology** conference held last year brought together scholars from all around the world.

argue

v. to express differing opinions or points of view, often in a heated or contentious manner; to present a case or reasoning to persuade or convince others

synonym: debate, dispute, quarrel

(1) **argue** a case, (2) **argue** passionately

The couple began to **argue** over which restaurant to go to for dinner.

repetition

n. the act of doing or saying something many times

synonym: duplication, iteration, recurrence

(1) **repetition** of the word, (2) habitual **repetition**

Repetition is the mother of all learning.

aspect

n. one part or feature of a situation, problem, subject, etc.

synonym: characteristic, element, factor

(1) nontechnical **aspects** of the job, (2) **aspects** of social, political, and economic life

His professional experience includes all **aspects** of media production.

melody

n. a succession of musical tones forming part of a larger piece of music

synonym: tune, song, piece

(1) a simple **melody**, (2) the **melody** of a tune

This harmonious **melody** immortalized its composer.

motif

n. a recurring element in an artistic or literary work, typically a particular image or idea; a theme that is repeated or elaborated in a piece of music

synonym: theme, pattern, design

(1) animal **motif**, (2) the **motif** of a music piece

The repeating floral **motif** in the wallpaper added a touch of elegance to the room.

component

n. one of several parts that combines with others to form something bigger

synonym: element, part, factor

(1) key **component**, (2) spare **components** for cars

The researchers try to discover a common **component** in all types of successful organizations.

absence

n. the fact or condition of being away from a place where they are typically anticipated to be

synonym: dearth, scarcity, lack

(1) **absence** from work, (2) a leave of **absence**

Another critical factor of child poverty is the father's **absence**.

whatsoever

adv. not at all; no matter what

synonym: in any way, at all, in any respect

(1) **whatsoever** it be, (2) without impact **whatsoever**

He refused to do anything **whatsoever** to help her.

mathematics

n. the science dealing with the logic of quantities, shapes, spaces, and arrangement

synonym: arithmetic, calculation, calculus

(1) a good grounding in **mathematics**, (2) **mathematics** competition

He has a flair for **mathematics**.

random

adj. made, done, or happening without method, conscious decision, or any regular pattern

synonym: incidental, arbitrary, unanticipated

(1) a **random** choice, (2) bombs fell at **random**

To find drunk drivers, police conduct **random** tests.

extreme

adj. very great in amount or degree

synonym: farthestmost, outermost, fierce

(1) **extreme** sports, (2) **extreme** weather events

Solar gravity creates **extreme** pressures and temperatures.

hunt

v. to go after and try to catch wild animals to kill them for food, sport, or profit

synonym: chase, pursuit, quest

(1) **hunt** a job, (2) **hunt** after knowledge

Hounds **hunt** their prey by using their keen scent.

submarine

n. a type of underwater vehicle or vessel that can operate beneath the surface of the water; (adjective) beneath the surface of the sea

synonym: sub, underwater vessel, sea-craft

(1) a **submarine** volcano, (2) **submarine** cable

The military **submarine** disappeared without a trace.

develop

v. to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created

synonym: evolve, progress, advance

(1) **develop** a strategy, (2) **develop** a skill

We must **develop** a new system to streamline our workflow and increase efficiency.

ping

v. to make a high-pitched, ringing sound; to send a brief electronic message or signal to another computer or device to check its availability or connection status

synonym: knock, sound, ring

(1) **ping** me when you have arrived, (2) **ping** him with updates

I can **ping** my friend's computer to see if it's online.

writ

n. a written legal order or command

synonym: legal document, order, legal process

(1) a **writ** of summons, (2) issue a **writ**

He was served with a **writ** of eviction, giving him the notice to vacate the property.

topic

n. a subject that is being discussed or written about

synonym: subject, theme, issue

(1) a serious **topic**, (2) the **topic** of the book

The **topic** of the discussion was the current state of the economy.

recall

v. to remember something

synonym: remember, retrieve, recollect

(1) **recall** the incident, (2) **recall** his name

She vividly **recalls** getting laid off several years ago.

echo

n. a sound heard after being reflected off a surface, such as a wall or a cliff

synonym: reverberate, repeat, reflection

(1) the **echo** of a person's footsteps, (2) sound **echo**

A thunderous boom **echoed** throughout the valley.

pitch

n. the property of sound that varies with variation in the frequency of vibration; the degree of a slope, especially of a roof; short presentation for selling or sharing something

synonym : angle, gradient, slope

(1) make a **pitch** for a new product, (2) a low- **pitched** sound

Her voice gradually increased in **pitch**.

moving

adj. causing strong emotions or feelings, especially sadness or sympathy

synonym : emotional, poignant, touching

(1) **moving** experience, (2) **moving** ceremony

His **moving** speech about his struggles with addiction brought tears to the audience's eyes.

naval

adj. of or relating to ships, sailors, or the navy

synonym : marine, seafaring, maritime

(1) **naval** battles, (2) **naval** base

The **naval** officer was responsible for the safety and well-being of the crew on his ship.

inappropriate

adj. not suitable or proper for a particular occasion, purpose, or person

synonym : improper, unsuitable, unacceptable

(1) **inappropriate** behavior, (2) **inappropriate** language

It was highly **inappropriate** to make jokes during a serious business meeting.

chirp

n. a short, sharp sound that is made by birds or insects or by electronic devices such as alarms or beepers

synonym : tweet, chirrup, peep

(1) the **chirp** of a bird, (2) the **chirp** of a cricket

The sound of the **chirp** woke me up early in the morning.

shift

n. a slight transition in position, direction, or trend

synonym : transition, change, modification

(1) Doppler **shift**, (2) major paradigm **shift**
Could you help me **shift** some furniture?

relation

n. the way two persons or groups of people feel and act toward one another

synonym : association, linkage, connection

(1) **relation** between cause and effect, (2) **relation** of inclusion

The industrial **relations** laws were passed with little to no alteration.

forth

adv. forward, outward, or onward in location, direction, or progress; into view or consideration; with confidence, boldness, or in the open

synonym : forward, onwards, ahead

(1) bring **forth** a beautiful vase, (2) call **forth** demand
I pushed **forth** with my new project, even though it would take much hard work.

dot

n. a very small circular mark, especially one that is printed

synonym : drop, dab, fleck

(1) connecting the **dots**, (2) **dot** blot method

The wallpaper had a pattern of pink **dots** on a white surface.

distinct

adj. noticeable from something else of a similar type

synonym : different, special, characteristic

(1) **distinct** difference, (2) **distinct** from each other

It is essential to keep these two issues **distinct**.

invention

n. the creation of a new device or process resulting from study and experimentation; the act of inventing

synonym : creation, design, innovation

(1) the **invention** of new techniques, (2) common **invention**

Necessity is the mother of **invention**.

engineer

n. a person whose job is designing, building, or maintaining something such as machines, structures, or software

synonym : architect, creator, builder

(1) a civil **engineer**, (2) **engineer** shortage

The **engineer** will repair my telephone tomorrow morning.

discrete

adj. separate and distinct; not continuous; individually distinguishable

synonym : separate, distinct, individual

(1) **discrete** metric space, (2) **discrete** variable

The company divided the tasks into **discrete** segments to increase efficiency.

refer

v. to direct someone's attention, thoughts, or questions to another source or person; to mention, cite, or allude to something as evidence or support

synonym : cite, allude, mention

(1) **refer** to a book, (2) **refer** to a map

Please **refer** to the instruction manual for further assistance.

structure

n. the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts

synonym : construction, architecture, establishment

(1) the **structure** of a machine, (2) **structure** and function of the brain

The organizational **structure** of start-ups is often flat and straightforward.

rely

v. to require a specific thing or the assistance and support of someone or something to continue, run properly, or succeed.

synonym : depend, count, lean

(1) **rely** on convenience stores, (2) **rely** entirely on him

Babies heavily **rely** on others for food.

gentle

adj. having or showing a kindly or tender nature; soft and mild

synonym : mild, delicate, soft

(1) in a **gentle** voice, (2) **gentle** downward slope

Her **gentle** manner relaxed everyone there.

branch

n. a division of a tree or woody shrub that grows out from the trunk or a main stem; a division of some larger or more complex organization

synonym : limb, twig, bough

(1) **branch** office, (2) a **branch** pipe

The **branch** of the tree had fallen and blocked the road.

prime

adj. main or most important; basic; (prime number, noun) a natural number greater than 1 that cannot be formed by multiplying two smaller natural numbers (e.g., 2, 3, 5, 7, 11 and 13)

synonym : excellent, exceptional, premium

(1) **prime** number, (2) deputy **prime** minister

After a thorough investigation, she has been named as the **prime** suspect.

numb

adj. unable to feel physical sensation and movement; not showing human feeling or sensitivity

synonym : dazed, insensitive, emotionless

(1) **numb** with cold, (2) a **numb** mind

My left arm became **numb**.

honor

n. high regard or great respect for someone; the quality of having and doing based on a keen sense of morality; (verb) to show respect towards someone

synonym : integrity, virtue, acclaim

(1) womanly **honor**, (2) **honor** our ancestors

I claim on my **honor** that it is true.

duel

n. formal, one-on-one combat between two people, typically with deadly weapons, often as a means of

settling a dispute or seeking revenge

synonym : contest, fight, competition

(1) sword **duel**, (2) **duel** for honor

The **duel** between the two rival knights was a spectacle to see.

eventually

adv. finally, particularly after a long time or a lot of struggle, complications, and so on

synonym : finally, someday, ultimately

(1) **eventually** become obsolete, (2) **eventually** succeed

The corporation **eventually** dominated the entire tobacco business.

communicate

v. to share or exchange information with others by speaking, writing, moving your body, or using other signals

synonym : convey, share, transmit

(1) **communicate** his anxieties to the psychiatrist,

(2) **communicate** well with my advisor

Dolphins use sound to **communicate** with each other.

legacy

n. something that is handed down from an earlier generation or time, often something that has had a significant impact on subsequent generations; a bequest made by a person in their will, often money or property

synonym : inheritance, bequest, estate

(1) financial **legacy**, (2) cultural **legacy**

Her **legacy** as a philanthropist will live on for generations to come.

anticipate

v. to expect or predict that something will happen; to tell in advance

synonym : forecast, predict, expect

(1) **anticipate** your kind cooperation, (2) **anticipate** a black future

We **anticipate** heavy snowfall tomorrow.

generate

v. to produce or create something; to make offspring by reproduction

synonym: create, yield, produce

(1) **generate** more electricity, (2) **generate** \$100 a month
The economic stimulation program would **generate** a lot of new jobs.

array

n. a large group or collection of things or people, especially one that is impressive or attractive

synonym: collection, display, batch

(1) a two-dimensional **array**, (2) an **array** of troops
The customer on the Internet has to choose one from a formidable **array** of products.

elementary

adj. relating to the first principles or fundamental parts of a subject; fundamental or basic, often used to refer to a school or level of education that covers the fundamental principles of various subjects

synonym: fundamental, basic, primary

(1) **elementary** math, (2) **elementary** level
Elementary school students must learn basic math and reading skills.

sufficient

adj. adequate; enough for a particular purpose or requirement

synonym: acceptable, ample, satisfactory

(1) **sufficient** time, (2) self- **sufficient** economy
That candidate does not have **sufficient** means to win an election with certainty.

repeatedly

adv. again and again; many times

synonym: frequently, over and over, constantly

(1) use cell phone **repeatedly**, (2) **repeatedly** nod
He claims that his legitimate requests were **repeatedly** ignored.

multiply

v. to add a number to itself a specified number of times; to increase or cause to increase very much in number or quantity

synonym : boost, amplify, reproduce

(1) **multiply** 5 and 6, (2) **multiply** about hundredfold

Multiply a number by itself twice.

grid

n. a pattern of regularly spaced horizontal and vertical lines; a system of high tension cables by which electrical power is distributed throughout a region

synonym : gridiron, battery grid, power system

(1) a **grid** design, (2) a wire **grid**

Grid pattern roads often appear in urban areas.

premiere

n. the first public performance of a play, film, or piece of music, or the opening of a show or exhibition

synonym : debut, first showing, opening night

(1) the world **premiere**, (2) **premiere** of the theater

The **premiere** of the new movie was held at the city's main theater.

sonata

n. a piece of music for solo instruments, typically a piano or violin

synonym : composition, piece, work

(1) play a **sonata**, (2) third **sonata**

He's been practicing a new **sonata** for weeks.

symphony

n. a long musical composition in Western classical music for orchestra, usually with three or four main parts called movements

synonym : orchestra, harmony, concert

(1) a **symphony** orchestra, (2) a beautiful **symphony**

The frequent performances of the **symphony** prove its popularity.

movement

n. a group of people working together to achieve a shared goal, especially a political, social, or artistic one; the

process of moving or being moved, physically or figuratively

synonym: motion, progression, action

(1) a circular **movement**, (2) **movement** of troops

The **movement** of the dancers on stage was graceful and elegant.

compose

v. to write music, poetry, or formal writing; to constitute or make up a whole, or a specified part of it

synonym: compile, constitute, build

(1) **compose** an essay, (2) **compose** my thoughts

The structure is **composed** of three main components.

emancipation

n. the act or process of setting someone free from control or influence

synonym: liberation, freedom, release

(1) self- **emancipation**, (2) history of **emancipation**

His **emancipation** from his parents was a defining moment and gave him newfound freedom.

dissonance

n. a lack of harmony or agreement between people or things; a harsh or discordant combination of sounds

synonym: conflict, disharmony, disagreement

(1) cognitive **dissonance**, (2) musical **dissonance**

The **dissonance** between the two melodies created a sense of tension in the music.

row

n. an arrangement of objects or people side by side in a line; (verb) to propel a boat through the water using oars

synonym: line, sequence, layer

(1) criminal on death **row**, (2) a **row** of cherry trees

He was the leader of the demonstrators and spoke out against the war in the front **row**.

unfortunately

adv. by bad luck; unluckily

synonym: regrettably, unluckily, alas

(1) **unfortunately** caught in a shower, (2) even more **unfortunately**

The treatments were done but, **unfortunately**, were unsuccessful.

ruling

n. a decision, judgment, or decree made by a judge, court, or other authority; a set of guiding principles or regulations that dictate behavior or procedures; (adjective) dominant or authoritative in a particular situation

synonym: judgment, decision, verdict

(1) legal **ruling**, (2) supreme court **ruling**

The judge's **ruling** was in favor of the defendant.

rhythm

n. a strong regular repeated pattern of sounds, words, or musical notes that are used in music, poetry, and dancing

synonym: beat, cadence, tempo

(1) in samba **rhythm**, (2) irregular heart **rhythm**

He beat out a jazz **rhythm** on the cajones.

computation

n. the act or process of calculating something, especially an answer or amount, by using a machine or calculator

synonym: calculation, estimation, arithmetic

(1) parallel **computation**, (2) theory of **computation**

The researcher demonstrated the superiority of quantum **computation** in several mathematical tasks.

construct

v. to build or create something; to assemble or combine different parts to form something whole

synonym: build, assemble, create

(1) **construct** a 3D image, (2) **construct** a dam

He **constructs** hypotheses that no mathematician has ever imagined before.

suppose

v. to think that something is likely to be actual or possible

synonym: guess, assume, presume

(1) **suppose** you're right, (2) **suppose** beforehand
What do you **suppose** the culprit's motive was?

ugly

adj. unattractive in appearance; unpleasant to look at
synonym: unattractive, unsightly, repulsive

(1) an **ugly** sound, (2) **ugly** building

The **ugly** truth was that he had been lying to her for months.

implore

v. to beg earnestly or desperately; to plead urgently for assistance or mercy

synonym: beg, beseech, plead

(1) **implore** forgiveness, (2) **implore** assistance

I **implore** you to reconsider your decision before it's too late.

revelry

n. lively and noisy festivities, typically involving drinking, dancing, and general merrymaking; a celebration marked by indulgence and enjoyment

synonym: festivity, merrymaking, celebration

(1) **revelry** in the streets, (2) festival **revelry**

The street was filled with **revelry** on New Year's Eve.

ado

n. an action, fuss, or commotion, often over a trivial or unimportant matter; unnecessary activity or effort

synonym: commotion, fuss, bother

(1) much **ado**, (2) kick up **ado**

We need to resolve this issue without any further **ado**.

dean

n. a person in charge of a college, faculty, or other academic departments, tasked with overseeing its operations, policies, and staff; a senior member of a profession or organization who is highly respected for their knowledge and experience

synonym: head, director, chancellor

(1) **dean's** list, (2) **dean** of faculty

The university's **dean** was responsible for overseeing the academic programs and policies.

chamber

n. a large room used for a formal, public, or particular purpose; one of the parts of a parliament

synonym: association, cabin, legislature

(1) a gas **chamber**, (2) the lower **chamber**

The surgeon made an incision in the **chambers** of the patient's heart.

offscreen

adj. not appearing or happening on the screen in a film, play, or television program; pertaining to events or actions that occur outside of the viewer's or audience's direct view

(1) **offscreen** presence, (2) **offscreen** action

The **offscreen** chemistry between the two actors added depth to their onscreen romance.

Session 2: Spelling

1. mus_____gy research
n. the study of music as a scholarly discipline typically focuses on issues related to the history, theory, and cultural context of music
2. mo___g ceremony
adj. causing strong emotions or feelings, especially sadness or sympathy
3. a circular mo_____nt
n. a group of people working together to achieve a shared goal, especially a political, social, or artistic one; the process of moving or being moved, physically or figuratively
4. kick up a_o
n. an action, fuss, or commotion, often over a trivial or unimportant matter; unnecessary activity or effort
5. re_____on of inclusion
n. the way two persons or groups of people feel and act toward one another
6. a r_w of cherry trees
n. an arrangement of objects or people side by side in a line; (verb) to propel a boat through the water using oars
7. the to__c of the book
n. a subject that is being discussed or written about
8. r__y entirely on him
v. to require a specific thing or the assistance and support of someone or something to continue, run properly, or succeed.
9. ge___e downward slope
adj. having or showing a kindly or tender nature; soft and mild

ANSWERS: 1. musicology, 2. moving, 3. movement, 4. ado, 5. relation, 6. row, 7. topic, 8. rely, 9. gentle

10. re____y in the streets *n.* lively and noisy festivities, typically involving drinking, dancing, and general merrymaking; a celebration marked by indulgence and enjoyment
11. r__y on convenience stores *v.* to require a specific thing or the assistance and support of someone or something to continue, run properly, or succeed.
12. mo___g experience *adj.* causing strong emotions or feelings, especially sadness or sympathy
13. self-ema_____ion *n.* the act or process of setting someone free from control or influence
14. pr_____re of the theater *n.* the first public performance of a play, film, or piece of music, or the opening of a show or exhibition
15. eve_____ly succeed *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
16. ab_____e from work *n.* the fact or condition of being away from a place where they are typically anticipated to be
17. in a ge___e voice *adj.* having or showing a kindly or tender nature; soft and mild
18. history of ema_____ion *n.* the act or process of setting someone free from control or influence
19. co_____e my thoughts *v.* to write music, poetry, or formal writing; to constitute or make up a whole, or a specified part of it
20. mu_____ly about hundredfold *v.* to add a number to itself a specified number of times; to increase or cause to increase very much in number or quantity

ANSWERS: 10. revelry, 11. rely, 12. moving, 13. emancipation, 14. premiere, 15. eventually, 16. absence, 17. gentle, 18. emancipation, 19. compose, 20. multiply

21. d__n's list *n.* a person in charge of a college, faculty, or other academic departments, tasked with overseeing its operations, policies, and staff; a senior member of a profession or organization who is highly respected for their knowledge and experience
22. di____te variable *adj.* separate and distinct; not continuous; individually distinguishable
23. third so___a *n.* a piece of music for solo instruments, typically a piano or violin
24. bombs fell at ra___m *adj.* made, done, or happening without method, conscious decision, or any regular pattern
25. sound e__o *n.* a sound heard after being reflected off a surface, such as a wall or a cliff
26. a n__b mind *adj.* unable to feel physical sensation and movement; not showing human feeling or sensitivity
27. deputy pr__e minister *adj.* main or most important; basic; (prime number, noun) a natural number greater than 1 that cannot be formed by multiplying two smaller natural numbers (e.g., 2, 3, 5, 7, 11 and 13)
28. a two-dimensional ar__y *n.* a large group or collection of things or people, especially one that is impressive or attractive
29. use cell phone rep____ly *adv.* again and again; many times
30. na__l battles *adj.* of or relating to ships, sailors, or the navy

ANSWERS: 21. dean, 22. discrete, 23. sonata, 24. random, 25. echo, 26. numb, 27. prime, 28. array, 29. repeatedly, 30. naval

31. the me___y of a tune *n.* a succession of musical tones forming part of a larger piece of music
32. bring fo__h a beautiful vase *adv.* forward, outward, or onward in location, direction, or progress; into view or consideration; with confidence, boldness, or in the open
33. mat_____cs competition *n.* the science dealing with the logic of quantities, shapes, spaces, and arrangement
34. de_____p a skill *v.* to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created
35. su_____ne cable *n.* a type of underwater vehicle or vessel that can operate beneath the surface of the water; (adjective) beneath the surface of the sea
36. im_____e assistance *v.* to beg earnestly or desperately; to plead urgently for assistance or mercy
37. criminal on death r_w *n.* an arrangement of objects or people side by side in a line; (verb) to propel a boat through the water using oars
38. financial le___y *n.* something that is handed down from an earlier generation or time, often something that has had a significant impact on subsequent generations; a bequest made by a person in their will, often money or property

ANSWERS: 31. melody, 32. forth, 33. mathematics, 34. develop, 35. submarine, 36. implore, 37. row, 38. legacy

39. a sy____ny orchestra *n.* a long musical composition in Western classical music for orchestra, usually with three or four main parts called movements
40. of_____en presence *adj.* not appearing or happening on the screen in a film, play, or television program; pertaining to events or actions that occur outside of the viewer's or audience's direct view
41. com_____te his anxieties to the psychiatrist *v.* to share or exchange information with others by speaking, writing, moving your body, or using other signals
42. the ch__p of a bird *n.* a short, sharp sound that is made by birds or insects or by electronic devices such as alarms or beepers
43. a wire g__d *n.* a pattern of regularly spaced horizontal and vertical lines; a system of high tension cables by which electrical power is distributed throughout a region
44. ex_____e weather events *adj.* very great in amount or degree
45. re_____on between cause and effect *n.* the way two persons or groups of people feel and act toward one another
46. d_t blot method *n.* a very small circular mark, especially one that is printed
47. ge_____te \$100 a month *v.* to produce or create something; to make offspring by reproduction
48. ele_____ry level *adj.* relating to the first principles or fundamental parts of a subject; fundamental or basic, often used to refer to a school or level of education that covers the fundamental principles of various subjects

ANSWERS: 39. symphony, 40. offscreen, 41. communicate, 42. chirp, 43. grid, 44. extreme, 45. relation, 46. dot, 47. generate, 48. elementary

49. br___h office *n.* a division of a tree or woody shrub that grows out from the trunk or a main stem; a division of some larger or more complex organization
50. ant_____te a black future *v.* to expect or predict that something will happen; to tell in advance
51. re___l his name *v.* to remember something
52. a beautiful sy_____ny *n.* a long musical composition in Western classical music for orchestra, usually with three or four main parts called movements
53. h__t a job *v.* to go after and try to catch wild animals to kill them for food, sport, or profit
54. the in_____on of new techniques *n.* the creation of a new device or process resulting from study and experimentation; the act of inventing
55. u__y building *adj.* unattractive in appearance; unpleasant to look at
56. di_____ct difference *adj.* noticeable from something else of a similar type
57. na__l base *adj.* of or relating to ships, sailors, or the navy
58. connecting the d_ts *n.* a very small circular mark, especially one that is printed
59. Doppler sh__t *n.* a slight transition in position, direction, or trend
60. re__r to a book *v.* to direct someone's attention, thoughts, or questions to another source or person; to mention, cite, or allude to something as evidence or support

ANSWERS: 49. branch, 50. anticipate, 51. recall, 52. symphony, 53. hunt, 54. invention, 55. ugly, 56. distinct, 57. naval, 58. dot, 59. shift, 60. refer

61. re___l the incident *v.* to remember something
62. ho__r our ancestors *n.* high regard or great respect for someone; the quality of having and doing based on a keen sense of morality; (verb) to show respect towards someone
63. mo_____nt of troops *n.* a group of people working together to achieve a shared goal, especially a political, social, or artistic one; the process of moving or being moved, physically or figuratively
64. womanly ho__r *n.* high regard or great respect for someone; the quality of having and doing based on a keen sense of morality; (verb) to show respect towards someone
65. su_____e beforehand *v.* to think that something is likely to be actual or possible
66. pr__e number *adj.* main or most important; basic; (prime number, noun) a natural number greater than 1 that cannot be formed by multiplying two smaller natural numbers (e.g., 2, 3, 5, 7, 11 and 13)
67. di_____ct from each other *adj.* noticeable from something else of a similar type
68. com_____te well with my advisor *v.* to share or exchange information with others by speaking, writing, moving your body, or using other signals
69. im_____e forgiveness *v.* to beg earnestly or desperately; to plead urgently for assistance or mercy

ANSWERS: 61. recall, 62. honor, 63. movement, 64. honor, 65. suppose, 66. prime, 67. distinct, 68. communicate, 69. implore

70. ele_____ry math *adj.* relating to the first principles or fundamental parts of a subject; fundamental or basic, often used to refer to a school or level of education that covers the fundamental principles of various subjects
71. a serious to__c *n.* a subject that is being discussed or written about
72. make a pi__h for a new product *n.* the property of sound that varies with variation in the frequency of vibration; the degree of a slope, especially of a roof; short presentation for selling or sharing something
73. p__g me when you have arrived *v.* to make a high-pitched, ringing sound; to send a brief electronic message or signal to another computer or device to check its availability or connection status
74. co_____ct a 3D image *v.* to build or create something; to assemble or combine different parts to form something whole
75. ge_____te more electricity *v.* to produce or create something; to make offspring by reproduction
76. d__l for honor *n.* formal, one-on-one combat between two people, typically with deadly weapons, often as a means of settling a dispute or seeking revenge
77. a g__d design *n.* a pattern of regularly spaced horizontal and vertical lines; a system of high tension cables by which electrical power is distributed throughout a region

ANSWERS: 70. elementary, 71. topic, 72. pitch, 73. ping, 74. construct, 75. generate, 76. duel, 77. grid

78. a w__t of summons *n.* a written legal order or command
79. re__r to a map *v.* to direct someone's attention, thoughts, or questions to another source or person; to mention, cite, or allude to something as evidence or support
80. di____te metric space *adj.* separate and distinct; not continuous; individually distinguishable
81. co_____ct a dam *v.* to build or create something; to assemble or combine different parts to form something whole
82. a su_____ne volcano *n.* a type of underwater vehicle or vessel that can operate beneath the surface of the water; (adjective) beneath the surface of the sea
83. nontechnical as__ts of the job *n.* one part or feature of a situation, problem, subject, etc.
84. major paradigm sh__t *n.* a slight transition in position, direction, or trend
85. a ra___m choice *adj.* made, done, or happening without method, conscious decision, or any regular pattern
86. rep_____ly nod *adv.* again and again; many times
87. legal ru___g *n.* a decision, judgment, or decree made by a judge, court, or other authority; a set of guiding principles or regulations that dictate behavior or procedures; (adjective) dominant or authoritative in a particular situation

ANSWERS: 78. writ, 79. refer, 80. discrete, 81. construct, 82. submarine, 83. aspect, 84. shift, 85. random, 86. repeatedly, 87. ruling

88. an ar__y of troops *n.* a large group or collection of things or people, especially one that is impressive or attractive
89. mu_____ly 5 and 6 *v.* to add a number to itself a specified number of times; to increase or cause to increase very much in number or quantity
90. en_____er shortage *n.* a person whose job is designing, building, or maintaining something such as machines, structures, or software
91. a leave of ab_____e *n.* the fact or condition of being away from a place where they are typically anticipated to be
92. the lower ch_____r *n.* a large room used for a formal, public, or particular purpose; one of the parts of a parliament
93. a low-pi__hed sound *n.* the property of sound that varies with variation in the frequency of vibration; the degree of a slope, especially of a roof; short presentation for selling or sharing something
94. the e__o of a person's footsteps *n.* a sound heard after being reflected off a surface, such as a wall or a cliff
95. ar__e passionately *v.* to express differing opinions or points of view, often in a heated or contentious manner; to present a case or reasoning to persuade or convince others
96. theory of com_____on *n.* the act or process of calculating something, especially an answer or amount, by using a machine or calculator

ANSWERS: 88. array, 89. multiply, 90. engineer, 91. absence, 92. chamber, 93. pitch, 94. echo, 95. argue, 96. computation

97. without impact wha_____er *adv.* not at all; no matter what
98. ina_____ate language *adj.* not suitable or proper for a particular occasion, purpose, or person
99. call fo__h demand *adv.* forward, outward, or onward in location, direction, or progress; into view or consideration; with confidence, boldness, or in the open
100. n__b with cold *adj.* unable to feel physical sensation and movement; not showing human feeling or sensitivity
101. unf_____ely caught in a shower *adv.* by bad luck; unluckily
102. co_____e an essay *v.* to write music, poetry, or formal writing; to constitute or make up a whole, or a specified part of it
103. ina_____ate behavior *adj.* not suitable or proper for a particular occasion, purpose, or person
104. h__t after knowledge *v.* to go after and try to catch wild animals to kill them for food, sport, or profit
105. a gas ch_____r *n.* a large room used for a formal, public, or particular purpose; one of the parts of a parliament
106. key co_____nt *n.* one of several parts that combines with others to form something bigger
107. mus_____gy professor *n.* the study of music as a scholarly discipline typically focuses on issues related to the history, theory, and cultural context of music
108. st_____re and function of the brain *n.* the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts

ANSWERS: 97. whatsoever, 98. inappropriate, 99. forth, 100. numb, 101. unfortunately, 102. compose, 103. inappropriate, 104. hunt, 105. chamber, 106. component, 107. musicology, 108. structure

109. of_____en action *adj.* not appearing or happening on the screen in a film, play, or television program; pertaining to events or actions that occur outside of the viewer's or audience's direct view
110. spare co_____nts for cars *n.* one of several parts that combines with others to form something bigger
111. much a_o *n.* an action, fuss, or commotion, often over a trivial or unimportant matter; unnecessary activity or effort
112. festival re_____y *n.* lively and noisy festivities, typically involving drinking, dancing, and general merrymaking; a celebration marked by indulgence and enjoyment
113. ex_____e sports *adj.* very great in amount or degree
114. play a so____a *n.* a piece of music for solo instruments, typically a piano or violin
115. a civil en_____er *n.* a person whose job is designing, building, or maintaining something such as machines, structures, or software
116. common in_____on *n.* the creation of a new device or process resulting from study and experimentation; the act of inventing
117. supreme court ru____g *n.* a decision, judgment, or decree made by a judge, court, or other authority; a set of guiding principles or regulations that dictate behavior or procedures; (adjective) dominant or authoritative in a particular situation

ANSWERS: 109. offscreen, 110. component, 111. ado, 112. revelry, 113. extreme, 114. sonata, 115. engineer, 116. invention, 117. ruling

118. a good grounding in mat_____cs *n.* the science dealing with the logic of quantities, shapes, spaces, and arrangement
119. de_____p a strategy *v.* to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created
120. musical dis_____ce *n.* a lack of harmony or agreement between people or things; a harsh or discordant combination of sounds
121. the world pr_____re *n.* the first public performance of a play, film, or piece of music, or the opening of a show or exhibition
122. ar___e a case *v.* to express differing opinions or points of view, often in a heated or contentious manner; to present a case or reasoning to persuade or convince others
123. wha_____er it be *adv.* not at all; no matter what
124. the ch___p of a cricket *n.* a short, sharp sound that is made by birds or insects or by electronic devices such as alarms or beepers
125. a simple me___y *n.* a succession of musical tones forming part of a larger piece of music
126. irregular heart rh___m *n.* a strong regular repeated pattern of sounds, words, or musical notes that are used in music, poetry, and dancing
127. eve_____ly become obsolete *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on

ANSWERS: 118. mathematics, 119. develop, 120. dissonance, 121. premiere, 122. argue, 123. whatsoever, 124. chirp, 125. melody, 126. rhythm, 127. eventually

128. in samba rh___m *n.* a strong regular repeated pattern of sounds, words, or musical notes that are used in music, poetry, and dancing
129. even more unf_____ely *adv.* by bad luck; unluckily
130. an u__y sound *adj.* unattractive in appearance; unpleasant to look at
131. the st_____re of a machine *n.* the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts
132. the mo__f of a music piece *n.* a recurring element in an artistic or literary work, typically a particular image or idea; a theme that is repeated or elaborated in a piece of music
133. self-suf_____nt economy *adj.* adequate; enough for a particular purpose or requirement
134. p__g him with updates *v.* to make a high-pitched, ringing sound; to send a brief electronic message or signal to another computer or device to check its availability or connection status
135. d__n of faculty *n.* a person in charge of a college, faculty, or other academic departments, tasked with overseeing its operations, policies, and staff; a senior member of a profession or organization who is highly respected for their knowledge and experience
136. sword d__l *n.* formal, one-on-one combat between two people, typically with deadly weapons, often as a means of settling a dispute or seeking revenge

ANSWERS: 128. rhythm, 129. unfortunately, 130. ugly, 131. structure, 132. motif, 133. sufficient, 134. ping, 135. dean, 136. duel

137. as___ts of social, political, and economic life *n.* one part or feature of a situation, problem, subject, etc.
138. rep_____on of the word *n.* the act of doing or saying something many times
139. cultural le___y *n.* something that is handed down from an earlier generation or time, often something that has had a significant impact on subsequent generations; a bequest made by a person in their will, often money or property
140. issue a w__t *n.* a written legal order or command
141. a br___h pipe *n.* a division of a tree or woody shrub that grows out from the trunk or a main stem; a division of some larger or more complex organization
142. su_____e you're right *v.* to think that something is likely to be actual or possible
143. animal mo__f *n.* a recurring element in an artistic or literary work, typically a particular image or idea; a theme that is repeated or elaborated in a piece of music
144. cognitive dis_____ce *n.* a lack of harmony or agreement between people or things; a harsh or discordant combination of sounds
145. habitual rep_____on *n.* the act of doing or saying something many times
146. suf_____nt time *adj.* adequate; enough for a particular purpose or requirement

ANSWERS: 137. aspect, 138. repetition, 139. legacy, 140. writ, 141. branch, 142. suppose, 143. motif, 144. dissonance, 145. repetition, 146. sufficient

147. parallel com_____on

n. the act or process of calculating something, especially an answer or amount, by using a machine or calculator

148. ant_____te your kind cooperation

v. to expect or predict that something will happen; to tell in advance

ANSWERS: 147. computation, 148. anticipate

Session 3: Fill in the Blanks

1. What do you _____ the culprit's motive was?
v. to think that something is likely to be actual or possible
2. Necessity is the mother of _____.
n. the creation of a new device or process resulting from study and experimentation; the act of inventing
3. I _____ you to reconsider your decision before it's too late.
v. to beg earnestly or desperately; to plead urgently for assistance or mercy
4. My left arm became _____.
adj. unable to feel physical sensation and movement; not showing human feeling or sensitivity
5. The _____ officer was responsible for the safety and well-being of the crew on his ship.
adj. of or relating to ships, sailors, or the navy
6. Dolphins use sound to _____ with each other.
v. to share or exchange information with others by speaking, writing, moving your body, or using other signals
7. Babies heavily _____ on others for food.
v. to require a specific thing or the assistance and support of someone or something to continue, run properly, or succeed.
8. He's been practicing a new _____ for weeks.
n. a piece of music for solo instruments, typically a piano or violin

ANSWERS: 1. suppose, 2. invention, 3. implore, 4. numb, 5. naval, 6. communicate, 7. rely, 8. sonata

9. He _____ hypotheses that no mathematician has ever imagined before.
v. to build or create something; to assemble or combine different parts to form something whole
10. The wallpaper had a pattern of pink _____ on a white surface.
n. a very small circular mark, especially one that is printed
11. The repeating floral _____ in the wallpaper added a touch of elegance to the room.
n. a recurring element in an artistic or literary work, typically a particular image or idea; a theme that is repeated or elaborated in a piece of music
12. The judge's _____ was in favor of the defendant.
n. a decision, judgment, or decree made by a judge, court, or other authority; a set of guiding principles or regulations that dictate behavior or procedures; (adjective) dominant or authoritative in a particular situation
13. His _____ speech about his struggles with addiction brought tears to the audience's eyes.
adj. causing strong emotions or feelings, especially sadness or sympathy
14. After a thorough investigation, she has been named as the _____ suspect.
adj. main or most important; basic; (prime number, noun) a natural number greater than 1 that cannot be formed by multiplying two smaller natural numbers (e.g., 2, 3, 5, 7, 11 and 13)
15. He has a flair for _____.
n. the science dealing with the logic of quantities, shapes, spaces, and arrangement

ANSWERS: 9. constructs, 10. dots, 11. motif, 12. ruling, 13. moving, 14. prime, 15. mathematics

16. _____ a number by itself twice.

- v.* to add a number to itself a specified number of times; to increase or cause to increase very much in number or quantity

17. I can _____ my friend's computer to see if it's online.

- v.* to make a high-pitched, ringing sound; to send a brief electronic message or signal to another computer or device to check its availability or connection status

18. It was highly _____ to make jokes during a serious business meeting.

- adj.* not suitable or proper for a particular occasion, purpose, or person

19. Her voice gradually increased in _____.

- n.* the property of sound that varies with variation in the frequency of vibration; the degree of a slope, especially of a roof; short presentation for selling or sharing something

20. The _____ of the discussion was the current state of the economy.

- n.* a subject that is being discussed or written about

21. I claim on my _____ that it is true.

- n.* high regard or great respect for someone; the quality of having and doing based on a keen sense of morality; (verb) to show respect towards someone

22. Hounds _____ their prey by using their keen scent.

- v.* to go after and try to catch wild animals to kill them for food, sport, or profit

23. The organizational _____ of start-ups is often flat and straightforward.

- n.* the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts

ANSWERS: 16. Multiply, 17. ping, 18. inappropriate, 19. pitch, 20. topic, 21. honor, 22. hunt, 23. structure

24. The sound of the _____ woke me up early in the morning.
n. a short, sharp sound that is made by birds or insects or by electronic devices such as alarms or beepers
25. The company divided the tasks into _____ segments to increase efficiency.
adj. separate and distinct; not continuous; individually distinguishable
26. His professional experience includes all _____ of media production.
n. one part or feature of a situation, problem, subject, etc.
27. _____ is the mother of all learning.
n. the act of doing or saying something many times
28. To find drunk drivers, police conduct _____ tests.
adj. made, done, or happening without method, conscious decision, or any regular pattern
29. He claims that his legitimate requests were _____ ignored.
adv. again and again; many times
30. We _____ heavy snowfall tomorrow.
v. to expect or predict that something will happen; to tell in advance
31. Her _____ manner relaxed everyone there.
adj. having or showing a kindly or tender nature; soft and mild
32. Could you help me _____ some furniture?
n. a slight transition in position, direction, or trend

ANSWERS: 24. chirp, 25. discrete, 26. aspects, 27. Repetition, 28. random, 29. repeatedly, 30. anticipate, 31. gentle, 32. shift

33. He refused to do anything _____ to help her.

adv. not at all; no matter what

34. The _____ between the two melodies created a sense of tension in the music.

n. a lack of harmony or agreement between people or things; a harsh or discordant combination of sounds

35. The _____ of the dancers on stage was graceful and elegant.

n. a group of people working together to achieve a shared goal, especially a political, social, or artistic one; the process of moving or being moved, physically or figuratively

36. The university's _____ was responsible for overseeing the academic programs and policies.

n. a person in charge of a college, faculty, or other academic departments, tasked with overseeing its operations, policies, and staff; a senior member of a profession or organization who is highly respected for their knowledge and experience

37. Another critical factor of child poverty is the father's _____.

n. the fact or condition of being away from a place where they are typically anticipated to be

38. The frequent performances of the _____ prove its popularity.

n. a long musical composition in Western classical music for orchestra, usually with three or four main parts called movements

39. The economic stimulation program would _____ a lot of new jobs.

v. to produce or create something; to make offspring by reproduction

ANSWERS: 33. whatsoever, 34. dissonance, 35. movement, 36. dean, 37. absence, 38. symphony, 39. generate

40. _____ school students must learn basic math and reading skills.
adj. relating to the first principles or fundamental parts of a subject; fundamental or basic, often used to refer to a school or level of education that covers the fundamental principles of various subjects
41. The researchers try to discover a common _____ in all types of successful organizations.
n. one of several parts that combines with others to form something bigger
42. The _____ conference held last year brought together scholars from all around the world.
n. the study of music as a scholarly discipline typically focuses on issues related to the history, theory, and cultural context of music
43. Her _____ as a philanthropist will live on for generations to come.
n. something that is handed down from an earlier generation or time, often something that has had a significant impact on subsequent generations; a bequest made by a person in their will, often money or property
44. The _____ between the two rival knights was a spectacle to see.
n. formal, one-on-one combat between two people, typically with deadly weapons, often as a means of settling a dispute or seeking revenge
45. His _____ from his parents was a defining moment and gave him newfound freedom.
n. the act or process of setting someone free from control or influence
46. He was served with a _____ of eviction, giving him the notice to vacate the property.
n. a written legal order or command

ANSWERS: 40. Elementary, 41. component, 42. musicology, 43. legacy, 44. duel, 45. emancipation, 46. writ

47. The _____ truth was that he had been lying to her for months.

adj. unattractive in appearance; unpleasant to look at

48. This harmonious _____ immortalized its composer.

n. a succession of musical tones forming part of a larger piece of music

49. The industrial _____ laws were passed with little to no alteration.

n. the way two persons or groups of people feel and act toward one another

50. A thunderous boom _____ throughout the valley.

n. a sound heard after being reflected off a surface, such as a wall or a cliff

51. She vividly _____ getting laid off several years ago.

v. to remember something

52. Solar gravity creates _____ pressures and temperatures.

adj. very great in amount or degree

53. The couple began to _____ over which restaurant to go to for dinner.

v. to express differing opinions or points of view, often in a heated or contentious manner; to present a case or reasoning to persuade or convince others

54. That candidate does not have _____ means to win an election with certainty.

adj. adequate; enough for a particular purpose or requirement

55. The researcher demonstrated the superiority of quantum _____ in several mathematical tasks.

n. the act or process of calculating something, especially an answer or amount, by using a machine or calculator

ANSWERS: 47. ugly, 48. melody, 49. relations, 50. echoed, 51. recalls, 52. extreme, 53. argue, 54. sufficient, 55. computation

56. I pushed _____ with my new project, even though it would take much hard work.
adv. forward, outward, or onward in location, direction, or progress; into view or consideration; with confidence, boldness, or in the open
57. He beat out a jazz _____ on the cajones.
n. a strong regular repeated pattern of sounds, words, or musical notes that are used in music, poetry, and dancing
58. The _____ of the new movie was held at the city's main theater.
n. the first public performance of a play, film, or piece of music, or the opening of a show or exhibition
59. The _____ will repair my telephone tomorrow morning.
n. a person whose job is designing, building, or maintaining something such as machines, structures, or software
60. The military _____ disappeared without a trace.
n. a type of underwater vehicle or vessel that can operate beneath the surface of the water; (adjective) beneath the surface of the sea
61. The surgeon made an incision in the _____ of the patient's heart.
n. a large room used for a formal, public, or particular purpose; one of the parts of a parliament
62. We must _____ a new system to streamline our workflow and increase efficiency.
v. to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created

ANSWERS: 56. forth, 57. rhythm, 58. premiere, 59. engineer, 60. submarine, 61. chambers, 62. develop

63. Please _____ to the instruction manual for further assistance.

- v.* to direct someone's attention, thoughts, or questions to another source or person; to mention, cite, or allude to something as evidence or support

64. The corporation _____ dominated the entire tobacco business.

- adv.* finally, particularly after a long time or a lot of struggle, complications, and so on

65. The _____ chemistry between the two actors added depth to their onscreen romance.

- adj.* not appearing or happening on the screen in a film, play, or television program; pertaining to events or actions that occur outside of the viewer's or audience's direct view

66. We need to resolve this issue without any further _____.

- n.* an action, fuss, or commotion, often over a trivial or unimportant matter; unnecessary activity or effort

67. The _____ of the tree had fallen and blocked the road.

- n.* a division of a tree or woody shrub that grows out from the trunk or a main stem; a division of some larger or more complex organization

68. It is essential to keep these two issues _____.

- adj.* noticeable from something else of a similar type

69. The street was filled with _____ on New Year's Eve.

- n.* lively and noisy festivities, typically involving drinking, dancing, and general merrymaking; a celebration marked by indulgence and enjoyment

70. The customer on the Internet has to choose one from a formidable _____ of products.

- n.* a large group or collection of things or people, especially one that is impressive or attractive

ANSWERS: 63. refer, 64. eventually, 65. offscreen, 66. ado, 67. branch, 68. distinct, 69. revelry, 70. array

71. He was the leader of the demonstrators and spoke out against the war in the front ____.
- n.* an arrangement of objects or people side by side in a line; (verb) to propel a boat through the water using oars
72. ____ pattern roads often appear in urban areas.
- n.* a pattern of regularly spaced horizontal and vertical lines; a system of high tension cables by which electrical power is distributed throughout a region
73. The structure is _____ of three main components.
- v.* to write music, poetry, or formal writing; to constitute or make up a whole, or a specified part of it
74. The treatments were done but, _____ were unsuccessful.
- adv.* by bad luck; unluckily

ANSWERS: 71. row, 72. Grid, 73. composed, 74. unfortunately,