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Vocabulary Builder Reference from...

Venus Keus: Three ways the universe could end | TED Talk

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

All Words

IMPORTANT

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Session 1: Word List

universe

n. everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy

synonym : cosmos, macrocosm

(1) theory of the **universe**, (2) expansion of the **universe**

The **universe** is about 13.8 billion years old.

bang

v. to hit or cause to hit something in a way that makes a loud noise

synonym : crash, hit, smash

(1) **bang** his fist on a desk, (2) **bang** a phone down

My father tried to **bang** mathematics into my head since childhood.

predict

v. to state beforehand that something will happen in the future, mainly based on knowledge or experience

synonym : forecast, anticipate, foresee

(1) **predict** the future, (2) **predict** when she will arrive

It's notoriously challenging to **predict** birth rates.

incredibly

adv. in a way that is very difficult to believe; exceedingly or extremely

synonym : enormously, exceptionally, extraordinarily

(1) **incredibly** cheerful character, (2) get **incredibly** insecure

Several cities are experiencing **incredibly** high unemployment rates.

compact

adj. closely and firmly united or packed together, using very little space; smaller than is usual

synonym : packed, tight, consolidated

(1) a **compact** camera, (2) extremely **compact** device

Two countries acted together as if by **compact**.

observation

n. the act or activity of carefully examining or monitoring something or someone

synonym : watching, notice, reflection

(1) class **observation** day, (2) **observation** instrument

In the hospital, she will remain under constant **observation**.

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.

galaxy

n. an independent group of stars, interstellar gas, dark matter, etc., in the universe, bound together by gravity

synonym : star cluster, nebula, star system

(1) elliptic **galaxy**, (2) a **galaxy** of famous actors

The Milky Way **galaxy** has numerous water-bearing planets.

expand

v. to increase or to make something greater in size, number, or importance

synonym : extend, grow, boost

(1) **expand** a lineup, (2) **expand** agricultural output

They hope to **expand** their business worldwide.

accelerate

v. to make something faster or earlier; to cause to develop or progress more quickly

synonym: speed up, quicken, rev

(1) **accelerate** a chemical reaction, (2) **accelerate** the car

The government tried to **accelerate** the commercialization of this development.

cosmology

n. the scientific study of the nature and origin of the universe

synonym: cosmogony

(1) physical **cosmology**, (2) modern **cosmology**

Cosmology evolved from people's philosophical questions about the natural world.

rip

v. to tear something or be torn violently or suddenly

synonym: tear, cut, slit

(1) **rip** a notebook apart, (2) **rip** a hole in the roof

During transit, the stuff may **rip** off the luggage tag.

crunch

n. a loud, crackling noise made by something being crushed or broken; a difficult or critical situation

synonym: crushing, snapping, crisis

(1) financial **crunch**, (2) a gas **crunch**

The **crunch** of the leaves underfoot was heard as they walked through the park.

scenario

n. a description of possible actions or events in the future; a written outline of a play, film, or literary work

synonym: plan, scheme, procedure

(1) the worst case **scenario**, (2) number of different **scenarios**

The president prepared several possible **scenarios** for an enemy attack.

represent

v. to speak, act, or be present on behalf of another person or group; to form or constitute

synonym : depict, express, describe

(1) **represent** by a diagram, (2) the characters that **represent** numbers

We elected him to **represent** us at the international conference.

tight

adj. fixed, fastened, or kept together firmly or closely

synonym : closed, secured, cramped

(1) a **tight** game, (2) student on a **tight** budget

The national election was held amid **tight** security.

rub

v. to move one's hand or an object over the surface of something with pressure

synonym : scrub, massage, stroke

(1) **rub** shoulders, (2) **rub** a glass window

She **rubbed** the sore spot on her leg to ease the pain.

attractive

adj. immensely appealing in look or sound; having characteristics or qualities that make something appealing and valuable

synonym : beautiful, fetching, alluring

(1) **attractive** men, (2) **attractive** opportunity

The growth of the "sharing economy" is **attractive** for tech companies.

gravity

n. the force that attracts a body towards the center of the earth or towards any other physical body having mass; a manner that is solemn

synonym : heaviness, attraction, weight

(1) the attraction of **gravity**, (2) preserve my **gravity**

The astronaut felt weightless in space due to the absence of **gravity**.

hook

n. a curved device used for suspending, holding, or pulling something, especially one attached to a surface for

hanging things on; a sharp curve or crook

synonym : buckle, pin, curve

(1) a hat **hook**, (2) the curved shape of a **hook**

Please hang your towel on a **hook**.

repulsive

adj. causing strong dislike or disgust; offensive, unpleasant, or grotesque; resisting or rejecting contact or influence

synonym : disgusting, revolting, repugnant

(1) **repulsive** smell, (2) **repulsive** act

The politician's rhetoric was so **repulsive** that many people refused to vote for him.

approximate

adj. nearly accurate or correct, but not completely so

synonym : rough, close, near

(1) linear **approximate** equation, (2) **approximate** time

The **approximate** cost of the project was estimated to be around \$500,000.

outcome

n. the result or effect of an action, event, etc.

synonym : result, consequence, effect

(1) improved student **outcomes**, (2) a desirable **outcome**

They awaited news of the **outcome** of the election.

opposing

adj. competing, fighting, or working against each other

synonym : disagreeing, dissenting, conflicting

(1) **opposing** counsel, (2) in an **opposing** direction

We have no intention of **opposing** his idea.

determinant

n. a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result

synonym : cause, factor, element

(1) environmental **determinant**, (2) a **determinant** of crop yields

One **determinant** of success is having a positive attitude and a strong work ethic.

stretch

v. to make or be capable of making anything longer or broader without hurting or breaking

synonym: lengthen, prolong, extend

(1) **stretch** along the coast, (2) **stretch** a story

Some herds have been observed to **stretch** hundreds of kilometers.

elasticity

n. the ability of a material to return to its original shape after being stretched or compressed; flexibility; adaptability to change

synonym: flexibility, pliability, suppleness

(1) **elasticity** coefficient, (2) skin **elasticity**

The **elasticity** of the rubber band allowed it to stretch without breaking.

expansion

n. the process of becoming larger or more extensive, or the result of this process

synonym: growth, enlargement, development

(1) industrial **expansion**, (2) **expansion** project

The company is undergoing an **expansion**, opening new locations in several states.

cluster

n. a group of similar things or people close together, often forming a distinct mass or unit

synonym: group, aggregation, array

(1) live in a **cluster**, (2) a **cluster** of stars

A **cluster** of grapes hung from the vine.

separate

v. to force, take, or pull apart; mark as different

synonym: disunite, isolate, ramify

(1) **separate** video into chapter, (2) **separate** cream from milk

We need to **separate** the aspect of his personality from the part of his competence when making an investment decision.

planet

n. any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a

star

synonym : earth, world, globe

(1) **planet** like the Earth, (2) save the **planet**

Mercury is the closest **planet** to the sun.

dissolve

v. to be or cause to be absorbed by a liquid to form a part of the solution; to close down or dismiss

synonym : disband, disappear, liquefy

(1) **dissolve** the sugar, (2) officially **dissolved** the marriage

The political party **dissolved** after much internal fighting.

vast

adj. enormous in size, number, amount, or quantity

synonym : expansive, extended, boundless

(1) **vast** majority, (2) **vast** desert

A **vast** audience viewed the broadcast.

emit

v. to give off or send out something such as light, heat, sound, gas, etc.

synonym : give off, radiate, expel

(1) **emit** a gamma ray, (2) **emit** air pollution

During the unloading, the container box **emits** a clicking sound.

redshift

n. a concept in physics, particularly in the field of cosmology, that describes how light or other electromagnetic radiation from an object increases in wavelength, or shifts to the red end of the spectrum, as it moves away from an observer, which is a key principle behind the Big Bang Theory and the expansion of the universe

synonym : doppler shift

(1) **redshift** effect, (2) Doppler **redshift**

The **redshift** in the galaxy's light suggested it was moving away from us.

wavelength

n. the distance between two points in the same phase in consecutive cycles of a wave

(1) **wavelength** of light, (2) long- **wavelength** laser
White color is made up of many different **wavelengths** of light.

faint

adj. not strong, clear, or vigorous; slight or weak
synonym: slight, vague, soft

(1) **faint** memory, (2) **faint** aroma of roses
She heard a **faint**, nearly invisible scream.

emanate

v. to emit, send out something; to express a quality or feeling

synonym: radiate, exude, give off

(1) **emanate** light, (2) **emanate** happiness
The fragrance of flowers **emanated** from the garden.

chill

n. a feeling of coldness that makes one shiver; (verb) to make cool or cooler

synonym: coldness, coolness, (verb) freeze

(1) the **chill** of autumn, (2) feel a slight **chill**
His swear words cast a **chill** on the party.

elastic

adj. flexible, resilient, or adaptable; (noun) a stretchy material or band that can be stretched and then returned to its original shape; something that is flexible and adaptable

synonym: stretchy, flexible, resilient

(1) **elastic** body, (2) **elastic** waistband
The skin of a snake is remarkably **elastic**, allowing it to slither through tight spaces.

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.

overcome

v. to succeed in controlling or dealing with something, such as a problem or difficulty; to defeat or overwhelm someone

synonym : beat, confound, overwhelm

(1) **overcome** opponents, (2) **overcome** all difficulties

He tried to **overcome** a bad reputation and win the election.

gravitational

adj. relating to or caused by gravity (= the force that attracts objects towards one another)

synonym : weighty, heavy, earthbound

(1) **gravitational** energy, (2) **gravitational** waves

The **gravitational** force of the black hole was so strong that nothing, not even light, could escape.

electromagnetic

adj. of or relating to the magnetism produced by electric charge in motion

(1) **electromagnetic** radiation, (2) **electromagnetic** properties

His hypothesis concerns the role of an **electromagnetic** field in human health.

nuclear

adj. of or relating to or constituting the nucleus of an atom; deriving destructive energy from the release of atomic energy

synonym : atomic

(1) **nuclear** fusion, (2) use of **nuclear** power

Many countries have now agreed to a treaty banning the use of **nuclear** weapons.

atom

n. the smallest unit of ordinary matter that forms a chemical element, composed of a nucleus and one or more electrons bound to the nucleus

synonym : particle, element, fraction

(1) oxygen **atom**, (2) neutral hydrogen **atoms**

The outermost electron shell of an **atom** determines its chemical characteristics.

nucleus

n. the central and most important part of something; (biology) a part of the cell containing DNA and RNA and responsible for growth and reproduction; (physics) the very dense central region of an atom

synonym: core, heart, middle

(1) form a **nucleus**, (2) the **nucleus** of a team

DNA is stored in the **nucleus** of a cell.

atomic

adj. of or relating to atom (= the smallest component of an element)

synonym: tiny, microscopic, nuclear

(1) **atomic** nucleus, (2) **atomic** bomb

Carbon has an **atomic** mass of 12.

particle

n. a small piece of something; a word or piece of a term with grammatical function but little or no significance

synonym: atom, grain, bit

(1) charged **particle**, (2) **particle** energy

We can calculate the position of the **particles** statistically.

destroy

v. to ruin or damage severely or completely; to eradicate or eliminate completely

synonym: demolish, ruin, obliterate

(1) **destroy** the ecosystem, (2) **destroyed** evidence

The building was **destroyed** in the fire and had to be rebuilt.

correspond

v. to match or be similar to something else almost exactly; to exchange messages

synonym: match, equate, communicate

(1) **correspond** to a standard, (2) **correspond** with a foreign student

The numbers on the sign **correspond** to points on the map.

halt

v. to bring or come to a stop; to force to stop moving or operating

synonym: stop, cease, terminate

(1) **halt** production, (2) **halt** progress

The train came to a **halt** at the station.

reverse

v. to change something's direction, order, position, decision, etc., to the opposite one; (adjective) directed or moving toward the rear

synonym: overturn, shift, switch

(1) **reverse** the trend, (2) **reverse** the order

The restaurant **reversed** a ban on smoking.

clump

n. a small group of bushes, trees, flowers, people, etc.

synonym: cluster, bunch, bundle

(1) **clump** of bacteria, (2) a **clump** of trees

I heard the **clump** of his boots in the hallway.

hurtle

v. to move quickly and forcefully, especially in an uncontrolled or dangerous way

synonym: throw, hurl, fling

(1) **hurtle** into a tunnel, (2) **hurtle** through life

The car **hurtled** down the highway at breakneck speed.

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**.

plummet

v. to fall or drop suddenly and steeply; to decline rapidly or sharply

synonym: drop, plunge, fall

(1) **plummeting** sales, (2) **plummet** against other major currencies

The stock prices have **plummeted** in the last hour, causing concern for investors.

compress

v. to press or squeeze together to make something take up less space

synonym: condense, constrict, squeeze

(1) **compress** the chest, (2) **compress** gas
She **compressed** the files into a single ZIP archive to save space on her computer.

dense

adj. containing a large number of people or something with little space between them

synonym: heavy, thick, idiotic

(1) nutrient- **dense** foods, (2) **dense** forests
The entire mountain is covered in **dense** rainforest.

precede

v. to happen or go before something or someone in time or space

synonym: lead, forego, antecede

(1) men often **precede** women when walking, (2) **precede** any discussion

Agricultural development generally **precedes** economic growth.

explode

v. to burst or break open violently and noisily; to cause something to burst or break open

synonym: detonate, blast, rupture

(1) **explode** in anger, (2) **explode** in popularity
The old building **exploded** in a fiery inferno.

contract

n. a legally binding agreement between two or more parties, setting out their rights and obligations to each other, typically in writing and enforceable by law

synonym: agreement, deal, arrangement

(1) employment **contract**, (2) **contract** law
The company signed a **contract** with the supplier for the delivery of goods.

bounce

v. to cause to move up or away after hitting a surface; to spring back

synonym: bound, leap, spring

(1) **bounce** across the floor, (2) **bounce** back from failure

They will **bounce** between various emotional states.

wipe

v. to clean or dry something by rubbing with a piece of cloth or paper or one's hand and removing dirt, food, or liquid

synonym : clean, brush, swab

(1) **Wipe** off dirt, (2) **wipe** with water

Please **wipe** your sweat with this towel.

mitten

n. a glove with a separate sheath for the thumb but a combined sheath for the four fingers, typically warmer than a traditional glove

synonym : glove, gauntlet, handwear

(1) fingerless **mitten**, (2) knitted **mitten**

My mom knit me a pair of warm woolen **mittens** for the winter.

Session 2: Spelling

1. re____e the trend
v. to change something's direction, order, position, decision, etc., to the opposite one; (adjective) directed or moving toward the rear
2. ov____me all difficulties
v. to succeed in controlling or dealing with something, such as a problem or difficulty; to defeat or overwhelm someone
3. bo____e across the floor
v. to cause to move up or away after hitting a surface; to spring back
4. h__t progress
v. to bring or come to a stop; to force to stop moving or operating
5. ex____e in anger
v. to burst or break open violently and noisily; to cause something to burst or break open
6. st____h a story
v. to make or be capable of making anything longer or broader without hurting or breaking
7. re____e the order
v. to change something's direction, order, position, decision, etc., to the opposite one; (adjective) directed or moving toward the rear
8. long-wav____th laser
n. the distance between two points in the same phase in consecutive cycles of a wave
9. ov____me opponents
v. to succeed in controlling or dealing with something, such as a problem or difficulty; to defeat or overwhelm someone

ANSWERS: 1. reverse, 2. overcome, 3. bounce, 4. halt, 5. explode, 6. stretch, 7. reverse, 8. wavelength, 9. overcome

10. b__g a phone down *v.* to hit or cause to hit something in a way that makes a loud noise
11. nu____r fusion *adj.* of or relating to or constituting the nucleus of an atom; deriving destructive energy from the release of atomic energy
12. pl____ting sales *v.* to fall or drop suddenly and steeply; to decline rapidly or sharply
13. r_b a glass window *v.* to move one's hand or an object over the surface of something with pressure
14. co____e in midair *v.* to hit something violently when moving
15. charged pa____le *n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
16. ela____ty coefficient *n.* the ability of a material to return to its original shape after being stretched or compressed; flexibility; adaptability to change
17. knitted mi____n *n.* a glove with a separate sheath for the thumb but a combined sheath for the four fingers, typically warmer than a traditional glove
18. cl__p of bacteria *n.* a small group of bushes, trees, flowers, people, etc.
19. 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

ANSWERS: 10. bang, 11. nuclear, 12. plummet, 13. rub, 14. collide, 15. particle, 16. elasticity, 17. mitten, 18. clump, 19. movement

20. the characters that re_____nt numbers
v. to speak, act, or be present on behalf of another person or group; to form or constitute
21. a desirable ou_____e
n. the result or effect of an action, event, etc.
22. oxygen a__m
n. the smallest unit of ordinary matter that forms a chemical element, composed of a nucleus and one or more electrons bound to the nucleus
23. modern co_____gy
n. the scientific study of the nature and origin of the universe
24. ex___d a lineup
v. to increase or to make something greater in size, number, or importance
25. se_____te video into chapter
v. to force, take, or pull apart; mark as different
26. gra_____nal waves
adj. relating to or caused by gravity (= the force that attracts objects towards one another)
27. gra_____nal energy
adj. relating to or caused by gravity (= the force that attracts objects towards one another)
28. em_____e light
v. to emit, send out something; to express a quality or feeling
29. wav_____th of light
n. the distance between two points in the same phase in consecutive cycles of a wave
30. el_____c waistband
adj. flexible, resilient, or adaptable; (noun) a stretchy material or band that can be stretched and then returned to its original shape; something that is flexible and adaptable

ANSWERS: 20. represent, 21. outcome, 22. atom, 23. cosmology, 24. expand, 25. separate, 26. gravitational, 27. gravitational, 28. emanate, 29. wavelength, 30. elastic

31. save the pl___t *n.* any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a star
32. expansion of the un_____se *n.* everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy
33. ex_____e in popularity *v.* to burst or break open violently and noisily; to cause something to burst or break open
34. pr_____e any discussion *v.* to happen or go before something or someone in time or space
35. men often pr_____e women when walking *v.* to happen or go before something or someone in time or space
36. em_____e happiness *v.* to emit, send out something; to express a quality or feeling
37. cor_____nd with a foreign student *v.* to match or be similar to something else almost exactly; to exchange messages
38. use of nu_____r power *adj.* of or relating to or constituting the nucleus of an atom; deriving destructive energy from the release of atomic energy
39. ele_____tic radiation *adj.* of or relating to the magnetism produced by electric charge in motion
40. the worst case sc_____io *n.* a description of possible actions or events in the future; a written outline of a play, film, or literary work
41. ex___d agricultural output *v.* to increase or to make something greater in size, number, or importance

ANSWERS: 31. planet, 32. universe, 33. explode, 34. precede, 35. precede, 36. emanate, 37. correspond, 38. nuclear, 39. electromagnetic, 40. scenario, 41. expand

42. a gas cr___h *n.* a loud, crackling noise made by something being crushed or broken; a difficult or critical situation
43. at___c nucleus *adj.* of or relating to atom (= the smallest component of an element)
44. the ch___l of autumn *n.* a feeling of coldness that makes one shiver; (verb) to make cool or cooler
45. fa__t memory *adj.* not strong, clear, or vigorous; slight or weak
46. environmental det_____nt *n.* a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result
47. re_____ve smell *adj.* causing strong dislike or disgust; offensive, unpleasant, or grotesque; resisting or rejecting contact or influence
48. fingerless mi___n *n.* a glove with a separate sheath for the thumb but a combined sheath for the four fingers, typically warmer than a traditional glove
49. de__e forests *adj.* containing a large number of people or something with little space between them
50. w__e with water *v.* to clean or dry something by rubbing with a piece of cloth or paper or one's hand and removing dirt, food, or liquid
51. hu___e into a tunnel *v.* to move quickly and forcefully, especially in an uncontrolled or dangerous way

ANSWERS: 42. crunch, 43. atomic, 44. chill, 45. faint, 46. determinant, 47. repulsive, 48. mitten, 49. dense, 50. wipe, 51. hurtle

52. a co_____t camera *adj.* closely and firmly united or packed together, using very little space; smaller than is usual
53. ex_____on project *n.* the process of becoming larger or more extensive, or the result of this process
54. re_____nt by a diagram *v.* to speak, act, or be present on behalf of another person or group; to form or constitute
55. number of different sc_____ios *n.* a description of possible actions or events in the future; a written outline of a play, film, or literary work
56. employment co_____ct *n.* a legally binding agreement between two or more parties, setting out their rights and obligations to each other, typically in writing and enforceable by law
57. elliptic ga____y *n.* an independent group of stars, interstellar gas, dark matter, etc., in the universe, bound together by gravity
58. e__t a gamma ray *v.* to give off or send out something such as light, heat, sound, gas, etc.
59. eve_____ly succeed *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
60. skin ela_____ty *n.* the ability of a material to return to its original shape after being stretched or compressed; flexibility; adaptability to change
61. acc_____te a chemical reaction *v.* to make something faster or earlier; to cause to develop or progress more quickly

ANSWERS: 52. compact, 53. expansion, 54. represent, 55. scenario, 56. contract, 57. galaxy, 58. emit, 59. eventually, 60. elasticity, 61. accelerate

62. co_____ss gas *v.* to press or squeeze together to make something take up less space
63. pa_____le energy *n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
64. el_____c body *adj.* flexible, resilient, or adaptable; (noun) a stretchy material or band that can be stretched and then returned to its original shape; something that is flexible and adaptable
65. se_____te cream from milk *v.* to force, take, or pull apart; mark as different
66. pr_____t when she will arrive *v.* to state beforehand that something will happen in the future, mainly based on knowledge or experience
67. re_____ft effect *n.* a concept in physics, particularly in the field of cosmology, that describes how light or other electromagnetic radiation from an object increases in wavelength, or shifts to the red end of the spectrum, as it moves away from an observer, which is a key principle behind the Big Bang Theory and the expansion of the universe
68. de_____yed evidence *v.* to ruin or damage severely or completely; to eradicate or eliminate completely
69. industrial ex_____on *n.* the process of becoming larger or more extensive, or the result of this process
70. financial cr_____h *n.* a loud, crackling noise made by something being crushed or broken; a difficult or critical situation

ANSWERS: 62. compress, 63. particle, 64. elastic, 65. separate, 66. predict, 67. redshift, 68. destroy, 69. expansion, 70. crunch

71. e__t air pollution *v.* to give off or send out something such as light, heat, sound, gas, etc.
72. pl____t against other major currencies *v.* to fall or drop suddenly and steeply; to decline rapidly or sharply
73. a cl____r of stars *n.* a group of similar things or people close together, often forming a distinct mass or unit
74. 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
75. h__t production *v.* to bring or come to a stop; to force to stop moving or operating
76. acc____te the car *v.* to make something faster or earlier; to cause to develop or progress more quickly
77. co____ct law *n.* a legally binding agreement between two or more parties, setting out their rights and obligations to each other, typically in writing and enforceable by law
78. get inc____ly insecure *adv.* in a way that is very difficult to believe; exceedingly or extremely
79. live in a cl____r *n.* a group of similar things or people close together, often forming a distinct mass or unit
80. physical co____gy *n.* the scientific study of the nature and origin of the universe

ANSWERS: 71. emit, 72. plummet, 73. cluster, 74. movement, 75. halt, 76. accelerate, 77. contract, 78. incredibly, 79. cluster, 80. cosmology

81. linear app_____te equation *adj.* nearly accurate or correct, but not completely so
82. theory of the un_____se *n.* everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy
83. a ga____y of famous actors *n.* an independent group of stars, interstellar gas, dark matter, etc., in the universe, bound together by gravity
84. obs_____on instrument *n.* the act or activity of carefully examining or monitoring something or someone
85. nutrient-de__e foods *adj.* containing a large number of people or something with little space between them
86. att_____ve men *adj.* immensely appealing in look or sound; having characteristics or qualities that make something appealing and valuable
87. de_____y the ecosystem *v.* to ruin or damage severely or completely; to eradicate or eliminate completely
88. r_p a notebook apart *v.* to tear something or be torn violently or suddenly
89. eve_____ly become obsolete *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
90. v__t desert *adj.* enormous in size, number, amount, or quantity
91. fa__t aroma of roses *adj.* not strong, clear, or vigorous; slight or weak

ANSWERS: 81. approximate, 82. universe, 83. galaxy, 84. observation, 85. dense, 86. attractive, 87. destroy, 88. rip, 89. eventually, 90. vast, 91. faint

92. improved student ou____es *n.* the result or effect of an action, event, etc.
93. a hat h__k *n.* a curved device used for suspending, holding, or pulling something, especially one attached to a surface for hanging things on; a sharp curve or crook
94. Doppler re____ft *n.* a concept in physics, particularly in the field of cosmology, that describes how light or other electromagnetic radiation from an object increases in wavelength, or shifts to the red end of the spectrum, as it moves away from an observer, which is a key principle behind the Big Bang Theory and the expansion of the universe
95. op____ng counsel *adj.* competing, fighting, or working against each other
96. v__t majority *adj.* enormous in size, number, amount, or quantity
97. co____e head-on *v.* to hit something violently when moving
98. a cl__p of trees *n.* a small group of bushes, trees, flowers, people, etc.
99. a ti__t game *adj.* fixed, fastened, or kept together firmly or closely
100. app_____te time *adj.* nearly accurate or correct, but not completely so
101. hu___e through life *v.* to move quickly and forcefully, especially in an uncontrolled or dangerous way

ANSWERS: 92. outcome, 93. hook, 94. redshift, 95. opposing, 96. vast, 97. collide, 98. clump, 99. tight, 100. approximate, 101. hurtle

102. W__e off dirt v. to clean or dry something by rubbing with a piece of cloth or paper or one's hand and removing dirt, food, or liquid
103. a det_____nt of crop yields n. a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result
104. form a nu_____s n. the central and most important part of something; (biology) a part of the cell containing DNA and RNA and responsible for growth and reproduction; (physics) the very dense central region of an atom
105. co_____ss the chest v. to press or squeeze together to make something take up less space
106. bo___e back from failure v. to cause to move up or away after hitting a surface; to spring back
107. neutral hydrogen a__ms n. the smallest unit of ordinary matter that forms a chemical element, composed of a nucleus and one or more electrons bound to the nucleus
108. att_____ve opportunity adj. immensely appealing in look or sound; having characteristics or qualities that make something appealing and valuable
109. re_____ve act adj. causing strong dislike or disgust; offensive, unpleasant, or grotesque; resisting or rejecting contact or influence
110. r_p a hole in the roof v. to tear something or be torn violently or suddenly

ANSWERS: 102. wipe, 103. determinant, 104. nucleus, 105. compress, 106. bounce, 107. atom, 108. attractive, 109. repulsive, 110. rip

111. feel a slight ch__l *n.* a feeling of coldness that makes one shiver; (verb) to make cool or cooler
112. preserve my gr____y *n.* the force that attracts a body towards the center of the earth or towards any other physical body having mass; a manner that is solemn
113. pl___t like the Earth *n.* any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a star
114. inc_____ly cheerful character *adv.* in a way that is very difficult to believe; exceedingly or extremely
115. ele_____tic properties *adj.* of or relating to the magnetism produced by electric charge in motion
116. extremely co_____t device *adj.* closely and firmly united or packed together, using very little space; smaller than is usual
117. st_____h along the coast *v.* to make or be capable of making anything longer or broader without hurting or breaking
118. class obs_____on day *n.* the act or activity of carefully examining or monitoring something or someone
119. the attraction of gr____y *n.* the force that attracts a body towards the center of the earth or towards any other physical body having mass; a manner that is solemn
120. student on a ti__t budget *adj.* fixed, fastened, or kept together firmly or closely
121. the nu_____s of a team *n.* the central and most important part of something; (biology) a part of the cell containing DNA and RNA and responsible for growth and reproduction; (physics) the very dense central region of an atom

ANSWERS: 111. chill, 112. gravity, 113. planet, 114. incredibly, 115. electromagnetic, 116. compact, 117. stretch, 118. observation, 119. gravity, 120. tight, 121. nucleus

122. di____ve the sugar *v.* to be or cause to be absorbed by a liquid to form a part of the solution; to close down or dismiss
123. b__g his fist on a desk *v.* to hit or cause to hit something in a way that makes a loud noise
124. cor_____nd to a standard *v.* to match or be similar to something else almost exactly; to exchange messages
125. in an op_____ng direction *adj.* competing, fighting, or working against each other
126. officially di____ved the marriage *v.* to be or cause to be absorbed by a liquid to form a part of the solution; to close down or dismiss
127. pr_____t the future *v.* to state beforehand that something will happen in the future, mainly based on knowledge or experience
128. the curved shape of a h__k *n.* a curved device used for suspending, holding, or pulling something, especially one attached to a surface for hanging things on; a sharp curve or crook
129. r_b shoulders *v.* to move one's hand or an object over the surface of something with pressure
130. at___c bomb *adj.* of or relating to atom (= the smallest component of an element)

ANSWERS: 122. dissolve, 123. bang, 124. correspond, 125. opposing, 126. dissolve, 127. predict, 128. hook, 129. rub, 130. atomic

Session 3: Fill in the Blanks

1. I heard the _____ of his boots in the hallway.
n. a small group of bushes, trees, flowers, people, etc.
2. The _____ cost of the project was estimated to be around \$500,000.
adj. nearly accurate or correct, but not completely so
3. It's notoriously challenging to _____ birth rates.
v. to state beforehand that something will happen in the future, mainly based on knowledge or experience
4. The government tried to _____ the commercialization of this development.
v. to make something faster or earlier; to cause to develop or progress more quickly
5. The corporation _____ dominated the entire tobacco business.
adv. finally, particularly after a long time or a lot of struggle, complications, and so on
6. A _____ audience viewed the broadcast.
adj. enormous in size, number, amount, or quantity
7. The _____ in the galaxy's light suggested it was moving away from us.
n. a concept in physics, particularly in the field of cosmology, that describes how light or other electromagnetic radiation from an object increases in wavelength, or shifts to the red end of the spectrum, as it moves away from an observer, which is a key principle behind the Big Bang Theory and the expansion of the universe

ANSWERS: 1. clump, 2. approximate, 3. predict, 4. accelerate, 5. eventually, 6. vast, 7. redshift

8. His swear words cast a _____ on the party.
n. a feeling of coldness that makes one shiver; (verb) to make cool or cooler
9. Please _____ your sweat with this towel.
v. to clean or dry something by rubbing with a piece of cloth or paper or one's hand and removing dirt, food, or liquid
10. We elected him to _____ us at the international conference.
v. to speak, act, or be present on behalf of another person or group; to form or constitute
11. She _____ the files into a single ZIP archive to save space on her computer.
v. to press or squeeze together to make something take up less space
12. In the hospital, she will remain under constant _____.
n. the act or activity of carefully examining or monitoring something or someone
13. We have no intention of _____ his idea.
adj. competing, fighting, or working against each other
14. Agricultural development generally _____ economic growth.
v. to happen or go before something or someone in time or space
15. The car _____ down the highway at breakneck speed.
v. to move quickly and forcefully, especially in an uncontrolled or dangerous way
16. The _____ is about 13.8 billion years old.
n. everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy

ANSWERS: 8. chill, 9. wipe, 10. represent, 11. compressed, 12. observation, 13. opposing, 14. precedes, 15. hurtled, 16. universe

17. The _____ of the leaves underfoot was heard as they walked through the park.
n. a loud, crackling noise made by something being crushed or broken; a difficult or critical situation
18. A _____ of grapes hung from the vine.
n. a group of similar things or people close together, often forming a distinct mass or unit
19. The building was _____ in the fire and had to be rebuilt.
v. to ruin or damage severely or completely; to eradicate or eliminate completely
20. The national election was held amid _____ security.
adj. fixed, fastened, or kept together firmly or closely
21. The _____ of the rubber band allowed it to stretch without breaking.
n. the ability of a material to return to its original shape after being stretched or compressed; flexibility; adaptability to change
22. Many countries have now agreed to a treaty banning the use of _____ weapons.
adj. of or relating to or constituting the nucleus of an atom; deriving destructive energy from the release of atomic energy
23. The stock prices have _____ in the last hour, causing concern for investors.
v. to fall or drop suddenly and steeply; to decline rapidly or sharply
24. The _____ force of the black hole was so strong that nothing, not even light, could escape.
adj. relating to or caused by gravity (= the force that attracts objects towards one another)

ANSWERS: 17. crunch, 18. cluster, 19. destroyed, 20. tight, 21. elasticity, 22. nuclear, 23. plummeted, 24. gravitational

25. The president prepared several possible _____ for an enemy attack.
n. a description of possible actions or events in the future; a written outline of a play, film, or literary work
26. The old building _____ in a fiery inferno.
v. to burst or break open violently and noisily; to cause something to burst or break open
27. The numbers on the sign _____ to points on the map.
v. to match or be similar to something else almost exactly; to exchange messages
28. The political party _____ after much internal fighting.
v. to be or cause to be absorbed by a liquid to form a part of the solution; to close down or dismiss
29. She _____ the sore spot on her leg to ease the pain.
v. to move one's hand or an object over the surface of something with pressure
30. The fragrance of flowers _____ from the garden.
v. to emit, send out something; to express a quality or feeling
31. The Milky Way _____ has numerous water-bearing planets.
n. an independent group of stars, interstellar gas, dark matter, etc., in the universe, bound together by gravity
32. The entire mountain is covered in _____ rainforest.
adj. containing a large number of people or something with little space between them

ANSWERS: 25. scenarios, 26. exploded, 27. correspond, 28. dissolved, 29. rubbed, 30. emanated, 31. galaxy, 32. dense

33. The astronaut felt weightless in space due to the absence of _____.
- n.* the force that attracts a body towards the center of the earth or towards any other physical body having mass; a manner that is solemn
34. During transit, the stuff may ____ off the luggage tag.
- v.* to tear something or be torn violently or suddenly
35. He tried to _____ a bad reputation and win the election.
- v.* to succeed in controlling or dealing with something, such as a problem or difficulty; to defeat or overwhelm someone
36. DNA is stored in the _____ of a cell.
- n.* the central and most important part of something; (biology) a part of the cell containing DNA and RNA and responsible for growth and reproduction; (physics) the very dense central region of an atom
37. White color is made up of many different _____ of light.
- n.* the distance between two points in the same phase in consecutive cycles of a wave
38. One _____ of success is having a positive attitude and a strong work ethic.
- n.* a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result
39. Mercury is the closest _____ to the sun.
- n.* any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a star
40. The restaurant _____ a ban on smoking.
- v.* to change something's direction, order, position, decision, etc., to the opposite one; (adjective) directed or moving toward the rear

ANSWERS: 33. gravity, 34. rip, 35. overcome, 36. nucleus, 37. wavelengths, 38. determinant, 39. planet, 40. reversed

41. The growth of the "sharing economy" is _____ for tech companies.
adj. immensely appealing in look or sound; having characteristics or qualities that make something appealing and valuable
42. Some herds have been observed to _____ hundreds of kilometers.
v. to make or be capable of making anything longer or broader without hurting or breaking
43. They will _____ between various emotional states.
v. to cause to move up or away after hitting a surface; to spring back
44. _____ evolved from people's philosophical questions about the natural world.
n. the scientific study of the nature and origin of the universe
45. His hypothesis concerns the role of an _____ field in human health.
adj. of or relating to the magnetism produced by electric charge in motion
46. The skin of a snake is remarkably _____ allowing it to slither through tight spaces.
adj. flexible, resilient, or adaptable; (noun) a stretchy material or band that can be stretched and then returned to its original shape; something that is flexible and adaptable
47. She heard a _____ nearly invisible scream.
adj. not strong, clear, or vigorous; slight or weak
48. They hope to _____ their business worldwide.
v. to increase or to make something greater in size, number, or importance

ANSWERS: 41. attractive, 42. stretch, 43. bounce, 44. Cosmology, 45. electromagnetic, 46. elastic, 47. faint, 48. expand

49. The interests of the two countries _____.
- v.* to hit something violently when moving
50. The politician's rhetoric was so _____ that many people refused to vote for him.
- adj.* causing strong dislike or disgust; offensive, unpleasant, or grotesque; resisting or rejecting contact or influence
51. We need to _____ the aspect of his personality from the part of his competence when making an investment decision.
- v.* to force, take, or pull apart; mark as different
52. The outermost electron shell of an _____ determines its chemical characteristics.
- n.* the smallest unit of ordinary matter that forms a chemical element, composed of a nucleus and one or more electrons bound to the nucleus
53. We can calculate the position of the _____ statistically.
- n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
54. Carbon has an _____ mass of 12.
- adj.* of or relating to atom (= the smallest component of an element)
55. The company signed a _____ with the supplier for the delivery of goods.
- n.* a legally binding agreement between two or more parties, setting out their rights and obligations to each other, typically in writing and enforceable by law
56. The train came to a _____ at the station.
- v.* to bring or come to a stop; to force to stop moving or operating

ANSWERS: 49. collide, 50. repulsive, 51. separate, 52. atom, 53. particles, 54. atomic, 55. contract, 56. halt

57. The company is undergoing an _____ opening new locations in several states.
- n.* the process of becoming larger or more extensive, or the result of this process
58. 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
59. Two countries acted together as if by _____.
- adj.* closely and firmly united or packed together, using very little space; smaller than is usual
60. They awaited news of the _____ of the election.
- n.* the result or effect of an action, event, etc.
61. My mom knit me a pair of warm woolen _____ for the winter.
- n.* a glove with a separate sheath for the thumb but a combined sheath for the four fingers, typically warmer than a traditional glove
62. My father tried to _____ mathematics into my head since childhood.
- v.* to hit or cause to hit something in a way that makes a loud noise
63. Please hang your towel on a _____.
- n.* a curved device used for suspending, holding, or pulling something, especially one attached to a surface for hanging things on; a sharp curve or crook
64. During the unloading, the container box _____ a clicking sound.
- v.* to give off or send out something such as light, heat, sound, gas, etc.

ANSWERS: 57. expansion, 58. movement, 59. compact, 60. outcome, 61. mittens, 62. bang, 63. hook, 64. emits

65. Several cities are experiencing _____ high unemployment rates.

adv. in a way that is very difficult to believe; exceedingly or extremely

ANSWERS: 65. incredibly