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Marjee Chmiel and Trevor Owens: Is there a center of the universe? | TED Talk

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

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.

essential

adj. indispensable; fundamental

synonym : critical, crucial, basic

(1) **essential** amino acid, (2) **essential** commodities of life

Trial and error is an **essential** part of education.

sphere

n. a round object or geometric shape that is three-dimensional and symmetrical around a central point; a particular aspect or scope of life or activity

synonym : ball, globe, scope

(1) **sphere** of influence, (2) business **sphere**

The **sphere** of the earth is divided into several layers including the crust, mantle, and core.

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?

nest

n. a structure in which animals lay their eggs or give birth to their young

synonym: roost, perch, burrow

(1) bird's **nest**, (2) a **nest** of thieves

The female birds build a **nest** and lay their eggs in May.

solid

adj. hard or firm; characterized by good substantial quality

synonym: stable, reliable, hard

(1) **solid** ally, (2) **solid** employment measures

The **solid-state** of water is called ice.

crystalline

adj. resembling crystal in clarity, transparency, or brilliance; having a highly ordered and symmetrical molecular structure

synonym: crystallized, clear, transparent

(1) **crystalline** structure, (2) **crystalline** water

The geologist found a beautiful specimen of a **crystalline** mineral.

wander

v. to walk around slowly or to a place, often without any clear purpose or direction

synonym: ramble, roam, stroll

(1) **wander** alone in a strange country, (2) **wander** far from home

I often **wander** around the park for half an hour.

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.

crystal

n. a solid material with many even sides that is formed naturally when the substance becomes solid and has a

highly regular atomic structure; clear and colorless glass made of almost pure silica

synonym : quartz

(1) liquid **crystal**, (2) **crystal** analyses

A vast **crystal** chandelier glittered brightly above us.

propose

v. to make a proposal, declare a plan for something

synonym : suggest, offer, recommend

(1) **propose** the amendment, (2) **propose** changes

I want to **propose** a toast in honor of our longstanding relationship.

subsequent

adj. happening or occurring later or after something else

synonym : later, following, ensuing

(1) over **subsequent** months, (2) reduce **subsequent** mortality

In the **subsequent** meeting, the team discussed ways to improve productivity.

discovery

n. the act or process of finding information, a place, or an object, or learning about something that was previously not known

synonym : finding, uncovering, detection

(1) a scientific **discovery**, (2) the great **discovery** of the century

Her research team made an important **discovery**.

centric

adj. tending towards or focused on a particular center, point, or perspective, sometimes to the exclusion of others; emphasizing or prioritizing a specific thing or group; (noun) something that is at the center or core of a specific thing or system

synonym : focused, centralized, concentrated

(1) technology- **centric** approach, (2) employee- **centric** policies

The hotel's customer- **centric** approach always puts the

needs and satisfaction of guests first.

ignore

v. to intentionally not listen or pay attention to
synonym : neglect, disregard, shun

(1) **ignore** her advice, (2) **ignore** a ban

Since independence, the area has been completely **ignored**.

orbit

n. the path of an object around a celestial body, especially a planet, star, or moon, under the influence of gravity;
(of medicine) the bony cavity in the skull that houses the eyeball and its associated structures, like muscles, nerves, and blood vessels

synonym : path, course, trajectory

(1) the **orbit** of the moon, (2) a planetary **orbit**

The rocket engine is used to put the satellite into **orbit**.

telescope

n. a device like a tube in shape containing lenses used to magnify and observe distant objects

(1) a binocular **telescope**, (2) look through a **telescope**

This facility has the largest astronomical **telescope** in the country.

Jovian

adj. relating to Jupiter or its characteristics

synonym : Jupiter, giant planet

(1) **Jovian** satellites, (2) **Jovian** planet

The **Jovian** moon Europa is believed to have an ocean beneath its icy surface.

Newtonian

adj. relating to Sir Isaac Newton or his laws of motion and universal gravitation

synonym : classical, physics, mechanics

(1) **Newtonian** physics, (2) **Newtonian** mechanics

The motion of planets can be described using **Newtonian** mechanics.

universal

adj. existing or affecting everywhere or everyone

synonym : common, broad, worldwide

(1) **universal** life, (2) principles of **universal** design
The picture earned near- **universal** acclaim from critics.

gravitation

n. the force by which a celestial body, such as the Earth, pulls objects toward its center; the attraction between two or more objects due to their mass

synonym: attraction, pull, gravity

(1) terrestrial **gravitation**, (2) universal **gravitation**

The force of **gravitation** keeps the planets in our solar system in orbit around the sun.

demonstrate

v. to display something or give an exhibition to an interested audience

synonym: show, illustrate, display

(1) **demonstrate** a difference, (2) **demonstrate** mastery

How can you **demonstrate** that the earth is a sphere?

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.

friar

n. a member of a religious community who lives a contemplative or ascetic lifestyle, often associated with the Roman Catholic or Anglican Church; a medieval European monk who traveled and preached in rural areas

synonym: monk, brother, religious

(1) **friar's** balsam, (2) Dominican **friar**

The **friar's** duties extended beyond the church and into the local community.

infinite

adj. unlimited or very great; impossible to measure

synonym: boundless, countless, limitless

(1) **infinite** appetite, (2) **infinite** in supply

The battle had an **infinite** impact on the nation.

stake

n. a share or financial investment in something such as a business; a wooden or metal post set up to mark something

synonym: share, interest, post

(1) execution by burning at a **stake**, (2) buy the company's **stake**

The **stake** of the company is too high nowadays.

philosophy

n. the study of general and fundamental questions, such as those about existence, reason, knowledge, values, mind

synonym: doctrine, attitude, creed

(1) **philosophy** of education, (2) western **philosophy**

Ethics is a branch of **philosophy**.

whirlpool

n. a rapidly rotating mass of water or air, especially one in a river or sea, causing a suction or vortex

synonym: maelstrom, vortex, eddy

(1) **whirlpool** effect, (2) **whirlpool** bathtub

The river had several dangerous **whirlpools** that were difficult to navigate.

vortex

n. a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind

synonym: whirlpool, whirlwind, maelstrom

(1) **vortex** formation, (2) blow in a **vortex**

The **vortex** of the tornado was massive and destructive.

astronomer

n. a physicist who studies astronomy

synonym: stargazer, cosmologist, astrophysicist

(1) amateur **astronomer**, (2) solar **astronomer**

This question has fascinated solar **astronomers** for decades.

advance

v. to go or move forward; to develop in a positive way

synonym: progress, boost, come along

(1) **advance** the technology, (2) **advance** a cooperative relationship

Scientific knowledge will **advance** significantly with the power of AI.

smudge

n. a blurry or dirty mark or stain left by rubbing or smearing something; also, a bundle of material, such as sage or incense, that is burned to produce smoke for purification or ritual purposes

synonym: blemish, mark, stain

(1) ink **smudge**, (2) lipstick **smudge**

She accidentally left a **smudge** on the newly painted wall.

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.

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.

nebula

n. a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source

synonym: cloud, mist, stardust

(1) a spiral **nebula**, (2) emission **nebula**

The galactic **nebula** was a beautiful sight through the telescope, with its vibrant colors and swirling clouds.

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**.

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.

accord

n. an official agreement or treaty between two organizations, countries, etc.; (verb) allow to have

synonym: alliance, pact, agreement

(1) **accord** with public opinion, (2) binational **accord**

The organization finally signed a peace **accord**.

singular

n. being only one of its kind; unique

synonym: unique, sole, individual

(1) **singular** purpose, (2) **singular** goal

The **singular** beauty of the night sky never ceases to amaze him.

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.

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.

eliminate

v. to remove or get rid of someone or something

synonym: wipe out, destroy, eradicate

(1) **eliminate** contestants, (2) **eliminate** sexual barriers

We can **eliminate** this possibility from those consumptions.

speculate

v. to form a theory or conjecture or guess about a subject without solid evidence

synonym: assume, conjecture, infer

(1) **speculate** about the reason, (2) **speculate** on the outcome

He **speculated** that this investment would lead to success.

humble

adj. having or showing a modest or low estimate of one's quality or importance

synonym: modest, unpretentious, abject

(1) a **humble** cottage, (2) **humble** opinion

The nobler, the more **humble**.

propel

v. to move, drive or push something forward or in a particular direction, often with a lot of force

synonym: drive, push, move

(1) **propel** growth, (2) **propel** the ship

An increase in employment helps **propel** economic growth.

perplexing

adj. causing confusion or uncertainty; difficult to understand or explain; puzzling or mystifying

synonym: puzzling, confusing, baffling

(1) **perplexing** situation, (2) **perplexing** problem

The novel's ambiguous ending left readers with a **perplexing** message.

Session 2: Spelling

- | | |
|---------------------------------------|--|
| 1. bird's n__t | <i>n.</i> a structure in which animals lay their eggs or give birth to their young |
| 2. ad____e a cooperative relationship | <i>v.</i> to go or move forward; to develop in a positive way |
| 3. vo___x formation | <i>n.</i> a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind |
| 4. western phi_____hy | <i>n.</i> the study of general and fundamental questions, such as those about existence, reason, knowledge, values, mind |
| 5. lipstick sm___e | <i>n.</i> a blurry or dirty mark or stain left by rubbing or smearing something; also, a bundle of material, such as sage or incense, that is burned to produce smoke for purification or ritual purposes |
| 6. per_____ng situation | <i>adj.</i> causing confusion or uncertainty; difficult to understand or explain; puzzling or mystifying |
| 7. sp_____te on the outcome | <i>v.</i> to form a theory or conjecture or guess about a subject without solid evidence |
| 8. fr__r's balsam | <i>n.</i> a member of a religious community who lives a contemplative or ascetic lifestyle, often associated with the Roman Catholic or Anglican Church; a medieval European monk who traveled and preached in rural areas |

ANSWERS: 1. nest, 2. advance, 3. vortex, 4. philosophy, 5. smudge, 6. perplexing, 7. speculate, 8. friar

9. emission ne___a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
10. cr_____l analyses *n.* a solid material with many even sides that is formed naturally when the substance becomes solid and has a highly regular atomic structure; clear and colorless glass made of almost pure silica
11. a scientific di_____ry *n.* the act or process of finding information, a place, or an object, or learning about something that was previously not known
12. ig___e her advice *v.* to intentionally not listen or pay attention to
13. employee-ce_____c policies *adj.* tending towards or focused on a particular center, point, or perspective, sometimes to the exclusion of others; emphasizing or prioritizing a specific thing or group; (noun) something that is at the center or core of a specific thing or system
14. sp___e of influence *n.* a round object or geometric shape that is three-dimensional and symmetrical around a central point; a particular aspect or scope of life or activity
15. cry_____ne water *adj.* resembling crystal in clarity, transparency, or brilliance; having a highly ordered and symmetrical molecular structure

ANSWERS: 9. nebula, 10. crystal, 11. discovery, 12. ignore, 13. centric, 14. sphere, 15. crystalline

16. el_____te sexual barriers *v.* to remove or get rid of someone or something
17. look through a te_____pe *n.* a device like a tube in shape containing lenses used to magnify and observe distant objects
18. wh_____ol effect *n.* a rapidly rotating mass of water or air, especially one in a river or sea, causing a suction or vortex
19. pr____l growth *v.* to move, drive or push something forward or in a particular direction, often with a lot of force
20. dem_____te mastery *v.* to display something or give an exhibition to an interested audience
21. es_____al amino acid *adj.* indispensable; fundamental
22. wa____r far from home *v.* to walk around slowly or to a place, often without any clear purpose or direction
23. sp_____te about the reason *v.* to form a theory or conjecture or guess about a subject without solid evidence
24. business sp____e *n.* a round object or geometric shape that is three-dimensional and symmetrical around a central point; a particular aspect or scope of life or activity
25. si_____ar purpose *n.* being only one of its kind; unique
26. Jo____n planet *adj.* relating to Jupiter or its characteristics
27. b__g a phone down *v.* to hit or cause to hit something in a way that makes a loud noise

ANSWERS: 16. eliminate, 17. telescope, 18. whirlpool, 19. propel, 20. demonstrate, 21. essential, 22. wander, 23. speculate, 24. sphere, 25. singular, 26. Jovian, 27. bang

28. major paradigm sh__t *n.* a slight transition in position, direction, or trend
29. blow in a vo___x *n.* a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind
30. es_____al commodities of life *adj.* indispensable; fundamental
31. per_____ng problem *adj.* causing confusion or uncertainty; difficult to understand or explain; puzzling or mystifying
32. principles of un_____al design *adj.* existing or affecting everywhere or everyone
33. pa_____le energy *n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
34. terrestrial gra_____on *n.* the force by which a celestial body, such as the Earth, pulls objects toward its center; the attraction between two or more objects due to their mass
35. a ga___y of famous actors *n.* an independent group of stars, interstellar gas, dark matter, etc., in the universe, bound together by gravity
36. eve_____ly succeed *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
37. universal gra_____on *n.* the force by which a celestial body, such as the Earth, pulls objects toward its center; the attraction between two or more objects due to their mass
38. amateur ast_____er *n.* a physicist who studies astronomy

ANSWERS: 28. shift, 29. vortex, 30. essential, 31. perplexing, 32. universal, 33. particle, 34. gravitation, 35. galaxy, 36. eventually, 37. gravitation, 38. astronomer

39. pr___l the ship *v.* to move, drive or push something forward or in a particular direction, often with a lot of force
40. class obs_____on day *n.* the act or activity of carefully examining or monitoring something or someone
41. ac___d with public opinion *n.* an official agreement or treaty between two organizations, countries, etc.; (verb) allow to have
42. charged pa_____le *n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
43. so__d ally *adj.* hard or firm; characterized by good substantial quality
44. wa___r alone in a strange country *v.* to walk around slowly or to a place, often without any clear purpose or direction
45. a binocular te_____pe *n.* a device like a tube in shape containing lenses used to magnify and observe distant objects
46. pr_____e the amendment *v.* to make a proposal, declare a plan for something
47. the great di_____ry of the century *n.* the act or process of finding information, a place, or an object, or learning about something that was previously not known
48. ad_____e the technology *v.* to go or move forward; to develop in a positive way
49. solar ast_____er *n.* a physicist who studies astronomy

ANSWERS: 39. propel, 40. observation, 41. accord, 42. particle, 43. solid, 44. wander, 45. telescope, 46. propose, 47. discovery, 48. advance, 49. astronomer

50. reduce sub_____nt mortality *adj.* happening or occurring later or after something else
51. binational ac____d *n.* an official agreement or treaty between two organizations, countries, etc.; (verb) allow to have
52. hu____e opinion *adj.* having or showing a modest or low estimate of one's quality or importance
53. v__t desert *adj.* enormous in size, number, amount, or quantity
54. obs_____on instrument *n.* the act or activity of carefully examining or monitoring something or someone
55. in_____te in supply *adj.* unlimited or very great; impossible to measure
56. over sub_____nt months *adj.* happening or occurring later or after something else
57. liquid cr_____l *n.* a solid material with many even sides that is formed naturally when the substance becomes solid and has a highly regular atomic structure; clear and colorless glass made of almost pure silica
58. a hu____e cottage *adj.* having or showing a modest or low estimate of one's quality or importance
59. Doppler sh__t *n.* a slight transition in position, direction, or trend
60. 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

ANSWERS: 50. subsequent, 51. accord, 52. humble, 53. vast, 54. observation, 55. infinite, 56. subsequent, 57. crystal, 58. humble, 59. shift, 60. universe

61. 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
62. a n__t of thieves *n.* a structure in which animals lay their eggs or give birth to their young
63. technology-ce_____c approach *adj.* tending towards or focused on a particular center, point, or perspective, sometimes to the exclusion of others; emphasizing or prioritizing a specific thing or group; (noun) something that is at the center or core of a specific thing or system
64. b__g his fist on a desk *v.* to hit or cause to hit something in a way that makes a loud noise
65. si_____ar goal *n.* being only one of its kind; unique
66. ink sm___e *n.* a blurry or dirty mark or stain left by rubbing or smearing something; also, a bundle of material, such as sage or incense, that is burned to produce smoke for purification or ritual purposes
67. ig___e a ban *v.* to intentionally not listen or pay attention to
68. 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
69. Ne_____an mechanics *adj.* relating to Sir Isaac Newton or his laws of motion and universal gravitation

ANSWERS: 61. planet, 62. nest, 63. centric, 64. bang, 65. singular, 66. smudge, 67. ignore, 68. universe, 69. Newtonian

70. 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
71. v__t majority *adj.* enormous in size, number, amount, or quantity
72. Dominican fr___r *n.* a member of a religious community who lives a contemplative or ascetic lifestyle, often associated with the Roman Catholic or Anglican Church; a medieval European monk who traveled and preached in rural areas
73. a spiral ne___a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
74. un_____al life *adj.* existing or affecting everywhere or everyone
75. dem_____te a difference *v.* to display something or give an exhibition to an interested audience
76. a planetary or__t *n.* the path of an object around a celestial body, especially a planet, star, or moon, under the influence of gravity; (of medicine) the bony cavity in the skull that houses the eyeball and its associated structures, like muscles, nerves, and blood vessels
77. the or__t of the moon *n.* the path of an object around a celestial body, especially a planet, star, or moon, under the influence of gravity; (of medicine) the bony cavity in the skull that houses the eyeball and its associated structures, like muscles, nerves, and blood vessels

ANSWERS: 70. planet, 71. vast, 72. friar, 73. nebula, 74. universal, 75. demonstrate, 76. orbit, 77. orbit

78. el_____te contestants *v.* to remove or get rid of someone or something
79. eve_____ly become obsolete *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
80. wh_____ol bathtub *n.* a rapidly rotating mass of water or air, especially one in a river or sea, causing a suction or vortex
81. nutrient-de__e foods *adj.* containing a large number of people or something with little space between them
82. de__e forests *adj.* containing a large number of people or something with little space between them
83. phi_____hy of education *n.* the study of general and fundamental questions, such as those about existence, reason, knowledge, values, mind
84. cry_____ne structure *adj.* resembling crystal in clarity, transparency, or brilliance; having a highly ordered and symmetrical molecular structure
85. elliptic ga___y *n.* an independent group of stars, interstellar gas, dark matter, etc., in the universe, bound together by gravity
86. Ne_____an physics *adj.* relating to Sir Isaac Newton or his laws of motion and universal gravitation
87. buy the company's st__e *n.* a share or financial investment in something such as a business; a wooden or metal post set up to mark something

ANSWERS: 78. eliminate, 79. eventually, 80. whirlpool, 81. dense, 82. dense, 83. philosophy, 84. crystalline, 85. galaxy, 86. Newtonian, 87. stake

88. in____te appetite *adj.* unlimited or very great; impossible to measure
89. Jo____n satellites *adj.* relating to Jupiter or its characteristics
90. execution by burning at a st__e *n.* a share or financial investment in something such as a business; a wooden or metal post set up to mark something
91. so__d employment measures *adj.* hard or firm; characterized by good substantial quality
92. pr____e changes *v.* to make a proposal, declare a plan for something

ANSWERS: 88. infinite, 89. Jovian, 90. stake, 91. solid, 92. propose

Session 3: Fill in the Blanks

- 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
- The _____ of the earth is divided into several layers including the crust, mantle, and core.
n. a round object or geometric shape that is three-dimensional and symmetrical around a central point; a particular aspect or scope of life or activity
- In the _____ meeting, the team discussed ways to improve productivity.
adj. happening or occurring later or after something else
- The _____ of the tornado was massive and destructive.
n. a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind
- The geologist found a beautiful specimen of a _____ mineral.
adj. resembling crystal in clarity, transparency, or brilliance; having a highly ordered and symmetrical molecular structure
- Ethics is a branch of _____.
n. the study of general and fundamental questions, such as those about existence, reason, knowledge, values, mind
- A _____ audience viewed the broadcast.
adj. enormous in size, number, amount, or quantity
- The _____ beauty of the night sky never ceases to amaze him.
n. being only one of its kind; unique

ANSWERS: 1. planet, 2. sphere, 3. subsequent, 4. vortex, 5. crystalline, 6. philosophy, 7. vast, 8. singular

9. I want to _____ a toast in honor of our longstanding relationship.
v. to make a proposal, declare a plan for something
10. The entire mountain is covered in _____ rainforest.
adj. containing a large number of people or something with little space between them
11. This question has fascinated solar _____ for decades.
n. a physicist who studies astronomy
12. The river had several dangerous _____ that were difficult to navigate.
n. a rapidly rotating mass of water or air, especially one in a river or sea, causing a suction or vortex
13. Trial and error is an _____ part of education.
adj. indispensable; fundamental
14. The corporation _____ dominated the entire tobacco business.
adv. finally, particularly after a long time or a lot of struggle, complications, and so on
15. The galactic _____ was a beautiful sight through the telescope, with its vibrant colors and swirling clouds.
n. a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
16. The _____ duties extended beyond the church and into the local community.
n. a member of a religious community who lives a contemplative or ascetic lifestyle, often associated with the Roman Catholic or Anglican Church; a medieval European monk who traveled and preached in rural areas

ANSWERS: 9. propose, 10. dense, 11. astronomers, 12. whirlpools, 13. essential, 14. eventually, 15. nebula, 16. friar's

17. The nobler, the more _____.

adj. having or showing a modest or low estimate of one's quality or importance

18. The hotel's customer-_____ approach always puts the needs and satisfaction of guests first.

adj. tending towards or focused on a particular center, point, or perspective, sometimes to the exclusion of others; emphasizing or prioritizing a specific thing or group; (noun) something that is at the center or core of a specific thing or system

19. A vast _____ chandelier glittered brightly above us.

n. a solid material with many even sides that is formed naturally when the substance becomes solid and has a highly regular atomic structure; clear and colorless glass made of almost pure silica

20. 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

21. We can _____ this possibility from those consumptions.

v. to remove or get rid of someone or something

22. The novel's ambiguous ending left readers with a _____ message.

adj. causing confusion or uncertainty; difficult to understand or explain; puzzling or mystifying

23. The organization finally signed a peace _____.

n. an official agreement or treaty between two organizations, countries, etc.;
(verb) allow to have

ANSWERS: 17. humble, 18. centric, 19. crystal, 20. universe, 21. eliminate, 22. perplexing, 23. accord

24. How can you _____ that the earth is a sphere?

v. to display something or give an exhibition to an interested audience

25. I often _____ around the park for half an hour.

v. to walk around slowly or to a place, often without any clear purpose or direction

26. 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

27. The _____ of the company is too high nowadays.

n. a share or financial investment in something such as a business; a wooden or metal post set up to mark something

28. This facility has the largest astronomical _____ in the country.

n. a device like a tube in shape containing lenses used to magnify and observe distant objects

29. The battle had an _____ impact on the nation.

adj. unlimited or very great; impossible to measure

30. 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

31. The force of _____ keeps the planets in our solar system in orbit around the sun.

n. the force by which a celestial body, such as the Earth, pulls objects toward its center; the attraction between two or more objects due to their mass

ANSWERS: 24. demonstrate, 25. wander, 26. galaxy, 27. stake, 28. telescope, 29. infinite, 30. particles, 31. gravitation

32. Her research team made an important _____.
- n.* the act or process of finding information, a place, or an object, or learning about something that was previously not known
33. He _____ that this investment would lead to success.
- v.* to form a theory or conjecture or guess about a subject without solid evidence
34. 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
35. The _____ of water is called ice.
- adj.* hard or firm; characterized by good substantial quality
36. Since independence, the area has been completely _____.
- v.* to intentionally not listen or pay attention to
37. The rocket engine is used to put the satellite into _____.
- n.* the path of an object around a celestial body, especially a planet, star, or moon, under the influence of gravity; (of medicine) the bony cavity in the skull that houses the eyeball and its associated structures, like muscles, nerves, and blood vessels
38. The _____ moon Europa is believed to have an ocean beneath its icy surface.
- adj.* relating to Jupiter or its characteristics
39. The female birds build a _____ and lay their eggs in May.
- n.* a structure in which animals lay their eggs or give birth to their young
40. The motion of planets can be described using _____ mechanics.
- adj.* relating to Sir Isaac Newton or his laws of motion and universal gravitation

ANSWERS: 32. discovery, 33. speculated, 34. bang, 35. solid-state, 36. ignored, 37. orbit, 38. Jovian, 39. nest, 40. Newtonian

41. Scientific knowledge will _____ significantly with the power of AI.
v. to go or move forward; to develop in a positive way
42. In the hospital, she will remain under constant _____.
n. the act or activity of carefully examining or monitoring something or someone
43. Could you help me _____ some furniture?
n. a slight transition in position, direction, or trend
44. She accidentally left a _____ on the newly painted wall.
n. a blurry or dirty mark or stain left by rubbing or smearing something; also, a bundle of material, such as sage or incense, that is burned to produce smoke for purification or ritual purposes
45. An increase in employment helps _____ economic growth.
v. to move, drive or push something forward or in a particular direction, often with a lot of force
46. The picture earned near-_____ acclaim from critics.
adj. existing or affecting everywhere or everyone

ANSWERS: 41. advance, 42. observation, 43. shift, 44. smudge, 45. propel, 46. universal