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Vocabulary Builder Reference from...

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

Advanced Words Only

IMPORTANT

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Session 1: Word List

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.

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.

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.

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.

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.

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.

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.

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.

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. solar ast_____er *n.* a physicist who studies astronomy
2. lipstick 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
3. pr____l the ship *v.* to move, drive or push something forward or in a particular direction, often with a lot of force
4. vo____x formation *n.* a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind
5. 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
6. cry_____ne water *adj.* resembling crystal in clarity, transparency, or brilliance; having a highly ordered and symmetrical molecular structure
7. wh_____ol effect *n.* a rapidly rotating mass of water or air, especially one in a river or sea, causing a suction or vortex
8. fr__r's balsam *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: 1. astronomer, 2. smudge, 3. propel, 4. vortex, 5. smudge, 6. crystalline, 7. whirlpool, 8. friar

9. wh_____ol bathtub *n.* a rapidly rotating mass of water or air, especially one in a river or sea, causing a suction or vortex
10. blow in a vo____x *n.* a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind
11. cry_____ne structure *adj.* resembling crystal in clarity, transparency, or brilliance; having a highly ordered and symmetrical molecular structure
12. Ne_____an physics *adj.* relating to Sir Isaac Newton or his laws of motion and universal gravitation
13. pr____l growth *v.* to move, drive or push something forward or in a particular direction, often with a lot of force
14. a spiral ne____a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
15. Ne_____an mechanics *adj.* relating to Sir Isaac Newton or his laws of motion and universal gravitation
16. 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
17. Jo____n satellites *adj.* relating to Jupiter or its characteristics
18. Jo____n planet *adj.* relating to Jupiter or its characteristics

ANSWERS: 9. whirlpool, 10. vortex, 11. crystalline, 12. Newtonian, 13. propel, 14. nebula, 15. Newtonian, 16. friar, 17. Jovian, 18. Jovian

19. per_____ng situation *adj.* causing confusion or uncertainty; difficult to understand or explain; puzzling or mystifying
20. sp_____te on the outcome *v.* to form a theory or conjecture or guess about a subject without solid evidence
21. amateur ast_____er *n.* a physicist who studies astronomy
22. per_____ng problem *adj.* causing confusion or uncertainty; difficult to understand or explain; puzzling or mystifying
23. sp_____te about the reason *v.* to form a theory or conjecture or guess about a subject without solid evidence
24. 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
25. 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
26. emission ne___a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source

ANSWERS: 19. perplexing, 20. speculate, 21. astronomer, 22. perplexing, 23. speculate, 24. gravitation, 25. gravitation, 26. nebula

Session 3: Fill in the Blanks

1. The motion of planets can be described using _____ mechanics.
adj. relating to Sir Isaac Newton or his laws of motion and universal gravitation
2. The _____ of the tornado was massive and destructive.
n. a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind
3. 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
4. He _____ that this investment would lead to success.
v. to form a theory or conjecture or guess about a subject without solid evidence
5. 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
6. 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
7. 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

ANSWERS: 1. Newtonian, 2. vortex, 3. friar's, 4. speculated, 5. gravitation, 6. crystalline, 7. propel

8. The novel's ambiguous ending left readers with a _____ message.
adj. causing confusion or uncertainty; difficult to understand or explain; puzzling or mystifying
9. 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
10. 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
11. This question has fascinated solar _____ for decades.
n. a physicist who studies astronomy
12. 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
13. The _____ moon Europa is believed to have an ocean beneath its icy surface.
adj. relating to Jupiter or its characteristics

ANSWERS: 8. perplexing, 9. nebula, 10. whirlpools, 11. astronomers, 12. smudge, 13. Jovian