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Vocabulary Builder Reference from...

Richard Browning: How do jetpacks work? And why don't we all have them? | TED Talk

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

Advanced Words Only

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Session 1: Word List

cosmonaut

n. a Russian astronaut or space traveler; a person trained to travel and work in space, particularly as part of the Soviet or Russian space program

synonym: astronaut, spacefarer, space traveler

(1) **cosmonaut** training, (2) female **cosmonaut**

Soviet **cosmonauts** like Gagarin and Leonov were celebrated as national heroes.

onlooker

n. a person who watches an event or situation without directly participating, often as a spectator or bystander

synonym: bystander, spectator, watcher

(1) curious **onlooker**, (2) spectating **onlooker**

Many **onlookers** gathered at the beach to witness the rare sea turtle hatching.

enthuse

v. to express enthusiastic approval or appreciation for something; to become highly interested or excited about something

synonym: excite, thrill, inspire

(1) **enthuse** with energy, (2) **enthuse** over her performance

The company's CEO's enthusiasm for the new product line **enthused** the entire staff.

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.

counteract

v. to act against something to reduce its bad or harmful effects or neutralize it

synonym : balance, offset, compensate

(1) **counteract** the effect of poison, (2) **counteract** global warming

Our body's immune system produces antibodies to **counteract** disease.

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.

expel

v. to officially force someone to leave a school, organization, or country

synonym : deport, oust, dislodge

(1) **expel** him from his native country, (2) **expel** air from the lungs

He took a big drag of his cigarette and slowly **expelled** the smoke.

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.

inject

v. to put a liquid such as a drug or other substance into a person's or an animal's body using a needle and syringe (= small tube)

synonym : shoot, infiltrate, insinuate

(1) **inject** under the skin, (2) **inject** a personal opinion into a debate

Let's try to **inject** a bit of enthusiasm into your performance.

ignite

v. to set on fire; to cause to start burning

synonym : light, set fire to, ignite

(1) **ignite** a boom, (2) **ignite** passion

He **ignited** the fireworks with a single spark.

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.

nozzle

n. a tube or spout through which a liquid or gas is discharged, particularly one attached to a hose, pump, or spray gun

synonym : spout, sprayer, tube

(1) **nozzle** attachment, (2) fuel **nozzle**

The car wash **nozzle** sprayed a powerful stream of soapy water onto the vehicle.

airborne

adj. moved or conveyed by or through the air; in the air

synonym : flying, aerial, floating

(1) **airborne** troop, (2) **airborne** particles

The amount of **airborne** pollen this year is higher than usual.

jetpack

n. a device worn on the back that propels the wearer into the air by expelling jets of gas or water

synonym : rocket belt, rocket pack, flying belt

(1) **jetpack** technology, (2) futuristic **jetpack**

The astronaut's **jetpack** allowed him to move freely in zero gravity.

improvisation

n. the act of making something up on the spot or creating or performing something without preparation

synonym: spontaneity, ad-lib, extemporization

(1) **improvisation** on stage, (2) jazz **improvisation**

He created a beautiful piece of music using only **improvisation**.

opportune

adj. suitable or happening at a time that is suitable or convenient for a particular purpose

synonym: suitable, timely, practical

(1) **opportune** occasion, (2) an **opportune** remark

The phone rang at the most **opportune** time.

akin

adj. similar or related in nature, character, or origin

synonym: similar, related, alike

(1) **akin** to anger, (2) **akin** to the prior experiences

Her interests are **akin** to mine.

crutch

n. a device used to provide support or stability to a person with limited mobility or strength, such as a cane, walker, or pair of crutches; anything that is relied upon excessively or used as a way of avoiding difficulty or responsibility

synonym: brace, support, prop

(1) **crutch** support, (2) emotional **crutch**

He walked with the aid of a **crutch** after breaking his leg in a skiing accident.

calibrate

v. to measure or adjust something, typically a machine or device, to ensure accurate functioning or to match a standard or desired level of performance

synonym: adjust, fine-tune

(1) **calibrate** machinery, (2) **calibrate** measurements

It's important to **calibrate** the equipment regularly to ensure

accurate results.

midair

n. some point in the air; above ground level

(1) a **midair** collision, (2) thrown out into **midair**

She flawlessly performed a **midair** somersault.

glide

v. to move smoothly and effortlessly

synonym: slide, skim, coast

(1) **glide** through the water, (2) **glide** down the mountain

The eagle gracefully **glided** on the thermals, soaring above the mountains.

Session 2: Spelling

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|--------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. ex__l him from his native country | v. | to officially force someone to leave a school, organization, or country |
| 2. spectating on____er | n. | a person who watches an event or situation without directly participating, often as a spectator or bystander |
| 3. en____e over her performance | v. | to express enthusiastic approval or appreciation for something; to become highly interested or excited about something |
| 4. gl__e down the mountain | v. | to move smoothly and effortlessly |
| 5. gra_____nal energy | adj. | relating to or caused by gravity (= the force that attracts objects towards one another) |
| 6. co____ss the chest | v. | to press or squeeze together to make something take up less space |
| 7. pr___l the ship | v. | to move, drive or push something forward or in a particular direction, often with a lot of force |
| 8. imp_____ion on stage | n. | the act of making something up on the spot or creating or performing something without preparation |
| 9. ig___e a boom | v. | to set on fire; to cause to start burning |
| 10. ca_____te machinery | v. | to measure or adjust something, typically a machine or device, to ensure accurate functioning or to match a standard or desired level of performance |

ANSWERS: 1. expel, 2. onlooker, 3. enthuse, 4. glide, 5. gravitational, 6. compress, 7. propel, 8. improvisation, 9. ignite, 10. calibrate

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|---------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 11. ex__l air from the lungs | v. | to officially force someone to leave a school, organization, or country |
| 12. thrown out into mi___r | n. | some point in the air; above ground level |
| 13. en_____e with energy | v. | to express enthusiastic approval or appreciation for something; to become highly interested or excited about something |
| 14. jazz imp_____ion | n. | the act of making something up on the spot or creating or performing something without preparation |
| 15. in___t a personal opinion into a debate | v. | to put a liquid such as a drug or other substance into a person's or an animal's body using a needle and syringe (= small tube) |
| 16. in___t under the skin | v. | to put a liquid such as a drug or other substance into a person's or an animal's body using a needle and syringe (= small tube) |
| 17. co_____ut training | n. | a Russian astronaut or space traveler; a person trained to travel and work in space, particularly as part of the Soviet or Russian space program |
| 18. a__n to anger | adj. | similar or related in nature, character, or origin |
| 19. female co_____ut | n. | a Russian astronaut or space traveler; a person trained to travel and work in space, particularly as part of the Soviet or Russian space program |

ANSWERS: 11. expel, 12. midair, 13. enthuse, 14. improvisation, 15. inject, 16. inject, 17. cosmonaut, 18. akin, 19. cosmonaut

20. ca_____te measurements *v.* to measure or adjust something, typically a machine or device, to ensure accurate functioning or to match a standard or desired level of performance
21. a__n to the prior experiences *adj.* similar or related in nature, character, or origin
22. futuristic je_____k *n.* a device worn on the back that propels the wearer into the air by expelling jets of gas or water
23. ai_____ne particles *adj.* moved or conveyed by or through the air; in the air
24. fuel no_____e *n.* a tube or spout through which a liquid or gas is discharged, particularly one attached to a hose, pump, or spray gun
25. co_____ss gas *v.* to press or squeeze together to make something take up less space
26. emotional cr____h *n.* a device used to provide support or stability to a person with limited mobility or strength, such as a cane, walker, or pair of crutches; anything that is relied upon excessively or used as a way of avoiding difficulty or responsibility
27. cou_____ct the effect of poison *v.* to act against something to reduce its bad or harmful effects or neutralize it
28. je_____k technology *n.* a device worn on the back that propels the wearer into the air by expelling jets of gas or water
29. Ne_____an physics *adj.* relating to Sir Isaac Newton or his laws of motion and universal gravitation

ANSWERS: 20. calibrate, 21. akin, 22. jetpack, 23. airborne, 24. nozzle, 25. compress, 26. crutch, 27. counteract, 28. jetpack, 29. Newtonian

30. a mi___r collision *n.* some point in the air; above ground level
31. an op_____ne remark *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
32. op_____ne occasion *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
33. gra_____nal waves *adj.* relating to or caused by gravity (= the force that attracts objects towards one another)
34. pr___l growth *v.* to move, drive or push something forward or in a particular direction, often with a lot of force
35. cr___h support *n.* a device used to provide support or stability to a person with limited mobility or strength, such as a cane, walker, or pair of crutches; anything that is relied upon excessively or used as a way of avoiding difficulty or responsibility
36. cou_____ct global warming *v.* to act against something to reduce its bad or harmful effects or neutralize it
37. ig___e passion *v.* to set on fire; to cause to start burning
38. gl___e through the water *v.* to move smoothly and effortlessly
39. ai_____ne troop *adj.* moved or conveyed by or through the air; in the air
40. curious on_____er *n.* a person who watches an event or situation without directly participating, often as a spectator or bystander

ANSWERS: 30. midair, 31. opportune, 32. opportune, 33. gravitational, 34. propel, 35. crutch, 36. counteract, 37. ignite, 38. glide, 39. airborne, 40. onlooker

41. Ne_____an mechanics

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

42. no___e attachment

n. a tube or spout through which a liquid or gas is discharged, particularly one attached to a hose, pump, or spray gun

ANSWERS: 41. Newtonian, 42. nozzle

Session 3: Fill in the Blanks

1. He took a big drag of his cigarette and slowly _____ the smoke.
v. to officially force someone to leave a school, organization, or country
2. Our body's immune system produces antibodies to _____ disease.
v. to act against something to reduce its bad or harmful effects or neutralize it
3. The eagle gracefully _____ on the thermals, soaring above the mountains.
v. to move smoothly and effortlessly
4. The amount of _____ pollen this year is higher than usual.
adj. moved or conveyed by or through the air; in the air
5. Her interests are _____ to mine.
adj. similar or related in nature, character, or origin
6. The company's CEO's enthusiasm for the new product line _____ the entire staff.
v. to express enthusiastic approval or appreciation for something; to become highly interested or excited about something
7. The car wash _____ sprayed a powerful stream of soapy water onto the vehicle.
n. a tube or spout through which a liquid or gas is discharged, particularly one attached to a hose, pump, or spray gun
8. The phone rang at the most _____ time.
adj. suitable or happening at a time that is suitable or convenient for a particular purpose

ANSWERS: 1. expelled, 2. counteract, 3. glided, 4. airborne, 5. akin, 6. enthused, 7. nozzle, 8. opportune

9. 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
10. He walked with the aid of a _____ after breaking his leg in a skiing accident.
- n.* a device used to provide support or stability to a person with limited mobility or strength, such as a cane, walker, or pair of crutches; anything that is relied upon excessively or used as a way of avoiding difficulty or responsibility
11. Soviet _____ like Gagarin and Leonov were celebrated as national heroes.
- n.* a Russian astronaut or space traveler; a person trained to travel and work in space, particularly as part of the Soviet or Russian space program
12. Many _____ gathered at the beach to witness the rare sea turtle hatching.
- n.* a person who watches an event or situation without directly participating, often as a spectator or bystander
13. He created a beautiful piece of music using only _____.
- n.* the act of making something up on the spot or creating or performing something without preparation
14. He _____ the fireworks with a single spark.
- v.* to set on fire; to cause to start burning
15. The astronaut's _____ allowed him to move freely in zero gravity.
- n.* a device worn on the back that propels the wearer into the air by expelling jets of gas or water
16. Let's try to _____ a bit of enthusiasm into your performance.
- v.* to put a liquid such as a drug or other substance into a person's or an animal's body using a needle and syringe (= small tube)

ANSWERS: 9. propel, 10. crutch, 11. cosmonauts, 12. onlookers, 13. improvisation, 14. ignited, 15. jetpack, 16. inject

17. 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)

18. She flawlessly performed a _____ somersault.

n. some point in the air; above ground level

19. The motion of planets can be described using _____ mechanics.

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

20. It's important to _____ the equipment regularly to ensure accurate results.

v. to measure or adjust something, typically a machine or device, to ensure accurate functioning or to match a standard or desired level of performance

21. 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

ANSWERS: 17. gravitational, 18. midair, 19. Newtonian, 20. calibrate, 21. compressed