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Vocabulary Builder Reference from...

Kirk Sorensen: Thorium, an alternative nuclear fuel | TED Talk

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

Advanced Words Only

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Session 1: Word List

electrify

v. to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something

synonym: wire, amaze, astonish

(1) **electrify** the audience, (2) **electrify** a manufacturing process

The product developed through years of research continues to **electrify** the market.

lunar

adj. of or pertaining to the moon

synonym: moony

(1) **lunar** crater, (2) **lunar** surface

Ancient people felt mystified by the patterns on the **lunar** surface.

centimeter

n. a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter

(1) **centimeter** measurement, (2) thirty **centimeters** tall

The room was only one **centimeter** wider than the piano, making it a tight fit.

depress

v. to make someone feel sad, low in spirits, or without hope; to make markets, businesses, etc., less active

synonym : sadden, discourage, deflate

(1) **depress** their spirits, (2) **depress** crop prices

The economic recession **depressed** the housing market.

overheat

v. to become too hot, or to cause something to become too hot

synonym : become too hot, heat up too much

(1) **overheat** while charging, (2) starts to **overheat**

The car engine **overheated** and had to be repaired.

fission

n. the splitting of an atomic nucleus into two or smaller nuclei, releasing a large amount of energy; the process of breaking something into smaller parts or pieces

synonym : splitting, division, separation

(1) heavy-ion **fission**, (2) atomic **fission**

Nuclear **fission** is the process of splitting an atom into two smaller ones.

condense

v. to reduce the volume or size of something, often by removing water or other liquid; to make something shorter, more concise, or more concentrated

synonym : compress, compact, shorten

(1) **condense** the text, (2) **condense** water vapor

I need to **condense** all of my notes into a manageable summary for my presentation.

fluorine

n. a chemical element with the symbol F and atomic number 9 that is the most reactive of all known elements and exists in nature only in combination with other elements, typically in the form of fluoride compounds

synonym : F, halogen, gas

(1) **fluorine** ion, (2) **fluorine** compound

Some plastics are made using **fluorine-based** compounds.

lithium

n. a soft, silvery-white metal that is highly reactive and used in batteries, alloy production, and medications for bipolar disorder

synonym : lithy, Li, salt

(1) **lithium** carbonate, (2) **lithium** mining

Lithium-ion batteries are commonly used in laptops, smartphones, and electric vehicles.

beryllium

n. a light, strong, brittle metallic element with the symbol Be and atomic number 4, used in nuclear reactors, aerospace, and other high-tech applications

synonym : Be, glucinium

(1) **beryllium** ore, (2) **beryllium** alloy

The rocket's casing was made of **beryllium** for its light weight and strength.

thorium

n. a radioactive chemical element with the symbol Th and atomic number 90 that is silvery-white in color and is used as fuel in some nuclear reactors

synonym : Th, radioactive element

(1) **thorium** deposit, (2) **thorium** reactor

Certain isotopes of **thorium** are used in medicine for treating liver cancer.

circulate

v. to move continuously or freely around a place or closed system

synonym : flow, disperse, rotate

(1) **circulate** a rumor, (2) **circulate** an agenda before the meeting

The fan **circulates** the air in the room quickly.

meltdown

n. a severe overheating of the core of a nuclear reactor resulting in the core melting and radiation escaping; a situation in which something fails or weakens suddenly or dramatically

synonym : collapse, disaster, failure

(1) **meltdown** disaster, (2) economic **meltdown**

The nuclear **meltdown** in the country was a disaster with far-reaching consequences.

excite

v. to make someone feel suddenly enthusiastic or eager
synonym: thrill, exhilarate, animate

(1) **excite** the crowd, (2) **excite** rebellion

The news of her promotion **excited** her.

recycle

v. to sort and collect things to process them and produce valuable materials that can be used again

synonym: reclaim, reuse, reprocess

(1) **recycle** the cardboard boxes, (2) **recycle** milk packaging into new paper

We largely **recycle** the circuit board of cell phones because they contain a lot of valuable metals.

entangle

v. to become twisted or knotted together, especially in a way that makes it difficult to separate them; to involve in something complicated or difficult to escape

synonym: ensnare, entrap, involve

(1) **entangle** in wires, (2) emotionally **entangle**

The vines of the plant **entangled** themselves around the trellis.

methanol

n. a poisonous chemical substance that is the simplest alcohol formed when methane reacts with oxygen

synonym: wood alcohol, methyl alcohol

(1) **methanol** content, (2) **methanol** fuel cell

Accidental ingestion of **methanol** moonshine has resulted in death.

ammonia

n. a compound of nitrogen and hydrogen that forms a gas with a strong smell, used as cleaning substances, fertilizers, and explosives

(1) **ammonia** water, (2) inhale **ammonia** fumes

The advent of **ammonia** fertilizers markedly increased agricultural productivity.

dimethyl

n. a chemical compound containing two methyl groups (CH₃-) bound to a single carbon atom, often used as a

building block for larger organic molecules

(1) **dimethyl** sulfate, (2) **dimethyl** ether

In organic chemistry, **dimethyl** formamide is often used as a reagent and solvent.

ethereal

adj. delicate, light, and airy; extremely refined or subtle; heavenly or spiritual

synonym: airy, delicate, celestial

(1) **ethereal** beauty, (2) **ethereal** light

The **ethereal** music created a dreamlike atmosphere in the concert hall.

stockpile

n. a large quantity or reserve of goods or materials that are accumulated and stored for future use, often used for emergency or contingency purposes; (verb) to accumulate or gather a large quantity of something, usually for future use or as a reserve

synonym: reserve, hoard, cache

(1) **stockpile** weapons, (2) nuclear **stockpile**

The farmer had a huge **stockpile** of hay for the winter.

bury

v. to place a dead body in the ground, grave, or tomb

synonym: entomb, sink, forget

(1) **bury** in the earth, (2) **bury** emotion

There is plenty of space to **bury** everyone.

trench

n. a long, deep ditch made in the ground, usually parallel to a plate boundary and marking a subduction zone; a long ditch built in the ground for carrying away water

synonym: aqueduct, ditch, channel

(1) deep-sea **trench**, (2) **trench** excavator

A **trench** was being dug alongside the road by workers.

Session 2: Spelling

1. fl____ne ion *n.* a chemical element with the symbol F and atomic number 9 that is the most reactive of all known elements and exists in nature only in combination with other elements, typically in the form of fluoride compounds
2. emotionally en____le *v.* to become twisted or knotted together, especially in a way that makes it difficult to separate them; to involve in something complicated or difficult to escape
3. nuclear st____le *n.* a large quantity or reserve of goods or materials that are accumulated and stored for future use, often used for emergency or contingency purposes; (verb) to accumulate or gather a large quantity of something, usually for future use or as a reserve
4. et____al light *adj.* delicate, light, and airy; extremely refined or subtle; heavenly or spiritual
5. re____e the cardboard boxes *v.* to sort and collect things to process them and produce valuable materials that can be used again
6. me____ol fuel cell *n.* a poisonous chemical substance that is the simplest alcohol formed when methane reacts with oxygen
7. ci____te an agenda before the meeting *v.* to move continuously or freely around a place or closed system

ANSWERS: 1. fluorine, 2. entangle, 3. stockpile, 4. ethereal, 5. recycle, 6. methanol, 7. circulate

8. be_____um alloy *n.* a light, strong, brittle metallic element with the symbol Be and atomic number 4, used in nuclear reactors, aerospace, and other high-tech applications
9. tr___h excavator *n.* a long, deep ditch made in the ground, usually parallel to a plate boundary and marking a subduction zone; a long ditch built in the ground for carrying away water
10. inhale am_____a fumes *n.* a compound of nitrogen and hydrogen that forms a gas with a strong smell, used as cleaning substances, fertilizers, and explosives
11. lu__r surface *adj.* of or pertaining to the moon
12. atomic fi_____n *n.* the splitting of an atomic nucleus into two or smaller nuclei, releasing a large amount of energy; the process of breaking something into smaller parts or pieces
13. re_____e milk packaging into new paper *v.* to sort and collect things to process them and produce valuable materials that can be used again
14. li_____m carbonate *n.* a soft, silvery-white metal that is highly reactive and used in batteries, alloy production, and medications for bipolar disorder
15. el_____fy a manufacturing process *v.* to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something

ANSWERS: 8. beryllium, 9. trench, 10. ammonia, 11. lunar, 12. fission, 13. recycle, 14. lithium, 15. electrify

16. et____al beauty *adj.* delicate, light, and airy; extremely refined or subtle; heavenly or spiritual
17. di____yl ether *n.* a chemical compound containing two methyl groups (CH₃-) bound to a single carbon atom, often used as a building block for larger organic molecules
18. en____le in wires *v.* to become twisted or knotted together, especially in a way that makes it difficult to separate them; to involve in something complicated or difficult to escape
19. di____yl sulfate *n.* a chemical compound containing two methyl groups (CH₃-) bound to a single carbon atom, often used as a building block for larger organic molecules
20. co____se water vapor *v.* to reduce the volume or size of something, often by removing water or other liquid; to make something shorter, more concise, or more concentrated
21. starts to ov____at *v.* to become too hot, or to cause something to become too hot
22. am____a water *n.* a compound of nitrogen and hydrogen that forms a gas with a strong smell, used as cleaning substances, fertilizers, and explosives
23. el____fy the audience *v.* to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something
24. thirty cen____ers tall *n.* a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter

ANSWERS: 16. ethereal, 17. dimethyl, 18. entangle, 19. dimethyl, 20. condense, 21. overheat, 22. ammonia, 23. electrify, 24. centimeter

25. ex___e the crowd *v.* to make someone feel suddenly enthusiastic or eager
26. fl_____ne compound *n.* a chemical element with the symbol F and atomic number 9 that is the most reactive of all known elements and exists in nature only in combination with other elements, typically in the form of fluoride compounds
27. de_____s crop prices *v.* to make someone feel sad, low in spirits, or without hope; to make markets, businesses, etc., less active
28. th_____m reactor *n.* a radioactive chemical element with the symbol Th and atomic number 90 that is silvery-white in color and is used as fuel in some nuclear reactors
29. lu__r crater *adj.* of or pertaining to the moon
30. de_____s their spirits *v.* to make someone feel sad, low in spirits, or without hope; to make markets, businesses, etc., less active
31. me_____ol content *n.* a poisonous chemical substance that is the simplest alcohol formed when methane reacts with oxygen
32. economic me_____wn *n.* a severe overheating of the core of a nuclear reactor resulting in the core melting and radiation escaping; a situation in which something fails or weakens suddenly or dramatically
33. ex___e rebellion *v.* to make someone feel suddenly enthusiastic or eager

ANSWERS: 25. excite, 26. fluorine, 27. depress, 28. thorium, 29. lunar, 30. depress, 31. methanol, 32. meltdown, 33. excite

34. b__y emotion *v.* to place a dead body in the ground, grave, or tomb
35. cen_____er measurement *n.* a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter
36. heavy-ion fi_____n *n.* the splitting of an atomic nucleus into two or smaller nuclei, releasing a large amount of energy; the process of breaking something into smaller parts or pieces
37. deep-sea tr___h *n.* a long, deep ditch made in the ground, usually parallel to a plate boundary and marking a subduction zone; a long ditch built in the ground for carrying away water
38. th_____m deposit *n.* a radioactive chemical element with the symbol Th and atomic number 90 that is silvery-white in color and is used as fuel in some nuclear reactors
39. ci_____te a rumor *v.* to move continuously or freely around a place or closed system
40. be_____um ore *n.* a light, strong, brittle metallic element with the symbol Be and atomic number 4, used in nuclear reactors, aerospace, and other high-tech applications
41. me_____wn disaster *n.* a severe overheating of the core of a nuclear reactor resulting in the core melting and radiation escaping; a situation in which something fails or weakens suddenly or dramatically

ANSWERS: 34. bury, 35. centimeter, 36. fission, 37. trench, 38. thorium, 39. circulate, 40. beryllium, 41. meltdown

42. b__y in the earth *v.* to place a dead body in the ground, grave, or tomb
43. li_____m mining *n.* a soft, silvery-white metal that is highly reactive and used in batteries, alloy production, and medications for bipolar disorder
44. ov_____at while charging *v.* to become too hot, or to cause something to become too hot
45. st_____le weapons *n.* a large quantity or reserve of goods or materials that are accumulated and stored for future use, often used for emergency or contingency purposes; *(verb)* to accumulate or gather a large quantity of something, usually for future use or as a reserve
46. co_____se the text *v.* to reduce the volume or size of something, often by removing water or other liquid; to make something shorter, more concise, or more concentrated

ANSWERS: 42. bury, 43. lithium, 44. overheat, 45. stockpile, 46. condense

Session 3: Fill in the Blanks

1. I need to _____ all of my notes into a manageable summary for my presentation.
 - v. to reduce the volume or size of something, often by removing water or other liquid; to make something shorter, more concise, or more concentrated

2. The vines of the plant _____ themselves around the trellis.
 - v. to become twisted or knotted together, especially in a way that makes it difficult to separate them; to involve in something complicated or difficult to escape

3. The car engine _____ and had to be repaired.
 - v. to become too hot, or to cause something to become too hot

4. Ancient people felt mystified by the patterns on the _____ surface.
 - adj. of or pertaining to the moon

5. Certain isotopes of _____ are used in medicine for treating liver cancer.
 - n. a radioactive chemical element with the symbol Th and atomic number 90 that is silvery-white in color and is used as fuel in some nuclear reactors

6. The fan _____ the air in the room quickly.
 - v. to move continuously or freely around a place or closed system

7. Nuclear _____ is the process of splitting an atom into two smaller ones.
 - n. the splitting of an atomic nucleus into two or smaller nuclei, releasing a large amount of energy; the process of breaking something into smaller parts or pieces

ANSWERS: 1. condense, 2. entangled, 3. overheated, 4. lunar, 5. thorium, 6. circulates, 7. fission

8. The _____ music created a dreamlike atmosphere in the concert hall.
adj. delicate, light, and airy; extremely refined or subtle; heavenly or spiritual
9. In organic chemistry, _____ formamide is often used as a reagent and solvent.
n. a chemical compound containing two methyl groups (CH₃-) bound to a single carbon atom, often used as a building block for larger organic molecules
10. Some plastics are made using _____ compounds.
n. a chemical element with the symbol F and atomic number 9 that is the most reactive of all known elements and exists in nature only in combination with other elements, typically in the form of fluoride compounds
11. The news of her promotion _____ her.
v. to make someone feel suddenly enthusiastic or eager
12. The farmer had a huge _____ of hay for the winter.
n. a large quantity or reserve of goods or materials that are accumulated and stored for future use, often used for emergency or contingency purposes; (verb) to accumulate or gather a large quantity of something, usually for future use or as a reserve
13. The rocket's casing was made of _____ for its light weight and strength.
n. a light, strong, brittle metallic element with the symbol Be and atomic number 4, used in nuclear reactors, aerospace, and other high-tech applications
14. A _____ was being dug alongside the road by workers.
n. a long, deep ditch made in the ground, usually parallel to a plate boundary and marking a subduction zone; a long ditch built in the ground for carrying away water

ANSWERS: 8. ethereal, 9. dimethyl, 10. fluorine-based, 11. excited, 12. stockpile, 13. beryllium, 14. trench

15. We largely _____ the circuit board of cell phones because they contain a lot of valuable metals.
- v. to sort and collect things to process them and produce valuable materials that can be used again
16. The room was only one _____ wider than the piano, making it a tight fit.
- n. a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter
17. There is plenty of space to _____ everyone.
- v. to place a dead body in the ground, grave, or tomb
18. Accidental ingestion of _____ moonshine has resulted in death.
- n. a poisonous chemical substance that is the simplest alcohol formed when methane reacts with oxygen
19. The economic recession _____ the housing market.
- v. to make someone feel sad, low in spirits, or without hope; to make markets, businesses, etc., less active
20. The advent of _____ fertilizers markedly increased agricultural productivity.
- n. a compound of nitrogen and hydrogen that forms a gas with a strong smell, used as cleaning substances, fertilizers, and explosives
21. The nuclear _____ in the country was a disaster with far-reaching consequences.
- n. a severe overheating of the core of a nuclear reactor resulting in the core melting and radiation escaping; a situation in which something fails or weakens suddenly or dramatically

ANSWERS: 15. recycle, 16. centimeter, 17. bury, 18. methanol, 19. depressed, 20. ammonia, 21. meltdown

22. _____ batteries are commonly used in laptops, smartphones, and electric vehicles.
- n.* a soft, silvery-white metal that is highly reactive and used in batteries, alloy production, and medications for bipolar disorder
23. The product developed through years of research continues to _____ the market.
- v.* to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something

ANSWERS: 22. Lithium-ion, 23. electrify