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Vocabulary Builder Reference from...

Jean-Baptiste P. Koehl: Why are earthquakes so hard to predict? | TED Talk

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

Advanced Words Only

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Session 1: Word List

polymath

n. a person who has expertise or a broad skillset across a range of diverse subjects or areas of knowledge

synonym: renaissance man, genius, expert

(1) **polymath** scholar, (2) modern-day **polymath**

Leonardo da Vinci is considered a **polymath** for his expertise in various fields such as art, science, and engineering.

skeptical

adj. doubting that something is accurate or useful

synonym: doubtful, distrustful, suspicious

(1) a **skeptical** attitude, (2) **skeptical** scientists

His religious and philosophical beliefs were utterly **skeptical**.

jagged

adj. having a rough and sharply uneven surface or outline

synonym: bumpy, irregular, craggy

(1) **jagged** edges, (2) the **jagged** outline of the crags

There are several **jagged** limestone peaks throughout the mountains.

slab

n. a flat, rectangular piece of material, such as wood or concrete; often used to describe a large, heavy, or solid object or structure

synonym: slate, tile, paving stone

(1) a **slab** of chocolate, (2) marble **slab**

The construction workers poured a large **slab** of concrete for the foundation of the building.

tectonic

adj. relating to the structure of the Earth's crust and the large-scale processes that occur as a result of movements within it

synonym : seismic, geologic, geological

(1) **tectonic** valleys, (2) a **tectonic** earthquake

The **tectonic** plates shifted, causing an earthquake.

molten

adj. in a liquid state as a result of being heated

synonym : melted, liquefied, fused

(1) a **molten** image, (2) **molten** lava

The **molten** metal was poured into the mold.

mantle

n. a layer of rock between the surface and the core of a planet or moon; a loose sleeveless cloak or shawl; the responsibilities of an important position or job that passes from one person to another

synonym : crust, cloak, cover

(1) **mantle** of power, (2) **mantle** of the presidency

The **mantle** layer on Mars is much thinner than on Earth.

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.

intensify

v. to increase or make something increase in extent or strength

synonym : amplify, boost, strengthen

(1) **intensify** diplomatic efforts, (2) **intensify** a good relationship

Rebels have pledged to **intensify** the armed struggle against the dictatorship.

minuscule

adj. extremely small; tiny

synonym : tiny, insignificant, microscopic

(1) **minuscule** amount, (2) **minuscule** letters

This ore emits **minuscule** quantities of radiation

juxtapose

v. to place two or more things side by side, often to compare or contrast them or to create an effect of surprise or incongruity

synonym : place side by side, compare, contrast

(1) **juxtapose** images, (2) **juxtapose** two ideas

The artist likes to **juxtapose** different styles and colors in her paintings.

lubricate

v. to apply a substance, such as oil or grease, to reduce friction or wear on a surface

synonym : grease, oil, make slippery

(1) **lubricate** the economy, (2) **lubricate** the hinges with oil

The mechanic **lubricated** the gears to prevent them from grinding.

superheat

v. to heat a substance to a temperature higher than its boiling point

synonym : overheat, heat up, scorch

(1) **superheat** the cheese, (2) **superheat** the solution

The metal must be **superheated** before being shaped into the final product.

buildup

n. the accumulation or increase of something over time

synonym : accumulation, increase, growth

(1) lactic acid **buildup**, (2) huge military **buildup**

The **buildup** of stress over time can lead to health problems.

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.

toolkit

n. a set of tools, materials, or resources that are designed to be used together for a specific purpose or task; a collection of information or techniques that can be used to address a problem or achieve a goal

synonym: tool set, equipment, utility kit

(1) handy **toolkit**, (2) digital **toolkit**

The DIY **toolkit** includes a variety of power and hand tools for home repair.

overdue

adj. past the expected or scheduled time; not completed or paid on time; delayed, tardy, or postponed

synonym: late, delinquent, outstanding

(1) **overdue** bill, (2) **overdue** task

Her library books were **overdue**, so she had to pay a fine to check out more.

timeframe

n. a period of time within which something is planned to be done or must be accomplished; a specified or estimated duration for completing a project or task

synonym: timespan, duration, period

(1) short **timeframe**, (2) realistic **timeframe**

We need to set a **timeframe** for completing this project.

elicit

v. to obtain information or a reaction from someone, usually with difficulty

synonym: bring out, obtain, evoke

(1) **elicit** a confession, (2) **elicit** a solution

Have you **elicited** a response from them yet?

quake

v. to shake or vibrate violently and for a short time

synonym: shake, trembler, tremor

(1) **quake** in his boots, (2) **quake** with cold

The earth began to **quake**, and he knew he had to leave the building immediately.

seismometer

n. an instrument used to measure and record seismic activity, including earthquakes, volcanic eruptions, and other ground vibrations

synonym : earthquake detector, tremor detector

(1) underwater **seismometer**, (2) built-in **seismometer**

By analyzing the data from the **seismometer**, the scientists determined the earthquake's epicenter.

smartphone

n. a mobile phone that functions as a computer and connects to the Internet

(1) **smartphone** app developer, (2) **smartphone** addict

Internet traffic volumes have increased significantly with the advent of **smartphones**.

crowdsourcing

n. the practice of obtaining needed services, ideas, or content by enlisting the services of a large number of people, either paid or unpaid, typically via the internet

(1) **crowdsourcing** apps, (2) **crowdsourcing** in climate policy

The company used this **crowdsourcing** platform to gather ideas for its next product.

enact

v. to make a law; to put something into practice

synonym : legislate, pass, decree

(1) **enact** new legislation, (2) **enact** the smoking ban

The government **enacted** this law in 1925.

isotope

n. a variation of an element that has the same number of protons in its nucleus but a different number of neutrons, resulting in a different atomic mass and often different physical or chemical properties

synonym : variant, nuclide, radioisotope

(1) radioactive **isotope**, (2) stable **isotope**

The **isotope** carbon-14 is commonly used in radiocarbon dating of fossils.

radon

- n.* a chemical element with the atomic number 86 and symbol Rn that is a radioactive gas and comes from the decay of uranium in rocks and soil, and that is colorless, odorless, and tasteless and can cause cancer if inhaled in large amounts

synonym : Rn

(1) **radon** gas, (2) **radon** poisoning

Radon exposure is the leading cause of lung cancer among non-smokers.

thoron

- n.* the radioactive isotope of radon known as Radon-220, unlike Radon-222, which is the more commonly known isotope of radon and is part of the decay chain of uranium and thorium, often can be found in soil, rocks, and some building materials

synonym : Radon-220

(1) **thoron** gas, (2) **thoron** decay

The **thoron-daughter** products, such as polonium-216, can have health implications if inhaled.

Session 2: Spelling

1. a sk_____al attitude
adj. doubting that something is accurate or useful
2. ma___e of the presidency
n. a layer of rock between the surface and the core of a planet or moon; a loose sleeveless cloak or shawl; the responsibilities of an important position or job that passes from one person to another
3. en__t the smoking ban
v. to make a law; to put something into practice
4. gra_____nal waves
adj. relating to or caused by gravity (= the force that attracts objects towards one another)
5. sma_____ne addict
n. a mobile phone that functions as a computer and connects to the Internet
6. realistic ti_____me
n. a period of time within which something is planned to be done or must be accomplished; a specified or estimated duration for completing a project or task
7. ra__n gas
n. a chemical element with the atomic number 86 and symbol Rn that is a radioactive gas and comes from the decay of uranium in rocks and soil, and that is colorless, odorless, and tasteless and can cause cancer if inhaled in large amounts
8. te_____ic valleys
adj. relating to the structure of the Earth's crust and the large-scale processes that occur as a result of movements within it

ANSWERS: 1. skeptical, 2. mantle, 3. enact, 4. gravitational, 5. smartphone, 6. timeframe, 7. radon, 8. tectonic

9. the ja___d outline of the crags *adj.* having a rough and sharply uneven surface or outline
10. lu_____te the economy *v.* to apply a substance, such as oil or grease, to reduce friction or wear on a surface
11. gra_____nal energy *adj.* relating to or caused by gravity (= the force that attracts objects towards one another)
12. thirty cen_____ers tall *n.* a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter
13. marble s__b *n.* a flat, rectangular piece of material, such as wood or concrete; often used to describe a large, heavy, or solid object or structure
14. el___t a solution *v.* to obtain information or a reaction from someone, usually with difficulty
15. mi_____le letters *adj.* extremely small; tiny
16. ju_____se two ideas *v.* to place two or more things side by side, often to compare or contrast them or to create an effect of surprise or incongruity
17. po_____th scholar *n.* a person who has expertise or a broad skillset across a range of diverse subjects or areas of knowledge
18. cro_____ing apps *n.* the practice of obtaining needed services, ideas, or content by enlisting the services of a large number of people, either paid or unpaid, typically via the internet

ANSWERS: 9. jagged, 10. lubricate, 11. gravitational, 12. centimeter, 13. slab, 14. elicit, 15. minuscule, 16. juxtapose, 17. polymath, 18. crowdsourcing

19. a mo___n image *adj.* in a liquid state as a result of being heated
20. qu__e with cold *v.* to shake or vibrate violently and for a short time
21. stable is____e *n.* a variation of an element that has the same number of protons in its nucleus but a different number of neutrons, resulting in a different atomic mass and often different physical or chemical properties
22. modern-day po____th *n.* a person who has expertise or a broad skillset across a range of diverse subjects or areas of knowledge
23. built-in sei____er *n.* an instrument used to measure and record seismic activity, including earthquakes, volcanic eruptions, and other ground vibrations
24. sk____al scientists *adj.* doubting that something is accurate or useful
25. in____fy diplomatic efforts *v.* to increase or make something increase in extent or strength
26. th___n decay *n.* the radioactive isotope of radon known as Radon-220, unlike Radon-222, which is the more commonly known isotope of radon and is part of the decay chain of uranium and thorium, often can be found in soil, rocks, and some building materials
27. ma___e of power *n.* a layer of rock between the surface and the core of a planet or moon; a loose sleeveless cloak or shawl; the responsibilities of an important position or job that passes from one person to another

ANSWERS: 19. molten, 20. quake, 21. isotope, 22. polymath, 23. seismometer, 24. skeptical, 25. intensify, 26. thoron, 27. mantle

28. lu_____te the hinges with oil *v.* to apply a substance, such as oil or grease, to reduce friction or wear on a surface
29. ja____d edges *adj.* having a rough and sharply uneven surface or outline
30. a te_____ic earthquake *adj.* relating to the structure of the Earth's crust and the large-scale processes that occur as a result of movements within it
31. huge military bu_____p *n.* the accumulation or increase of something over time
32. el____t a confession *v.* to obtain information or a reaction from someone, usually with difficulty
33. digital to_____t *n.* a set of tools, materials, or resources that are designed to be used together for a specific purpose or task; a collection of information or techniques that can be used to address a problem or achieve a goal
34. cen_____er measurement *n.* a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter
35. mi_____le amount *adj.* extremely small; tiny
36. mo____n lava *adj.* in a liquid state as a result of being heated
37. qu__e in his boots *v.* to shake or vibrate violently and for a short time
38. lactic acid bu_____p *n.* the accumulation or increase of something over time

ANSWERS: 28. lubricate, 29. jagged, 30. tectonic, 31. buildup, 32. elicit, 33. toolkit, 34. centimeter, 35. minuscule, 36. molten, 37. quake, 38. buildup

39. cro_____ing in climate policy *n.* the practice of obtaining needed services, ideas, or content by enlisting the services of a large number of people, either paid or unpaid, typically via the internet
40. sma_____ne app developer *n.* a mobile phone that functions as a computer and connects to the Internet
41. radioactive is_____e *n.* a variation of an element that has the same number of protons in its nucleus but a different number of neutrons, resulting in a different atomic mass and often different physical or chemical properties
42. en__t new legislation *v.* to make a law; to put something into practice
43. ov_____e bill *adj.* past the expected or scheduled time; not completed or paid on time; delayed, tardy, or postponed
44. handy to_____t *n.* a set of tools, materials, or resources that are designed to be used together for a specific purpose or task; a collection of information or techniques that can be used to address a problem or achieve a goal
45. ju_____se images *v.* to place two or more things side by side, often to compare or contrast them or to create an effect of surprise or incongruity
46. ov_____e task *adj.* past the expected or scheduled time; not completed or paid on time; delayed, tardy, or postponed

ANSWERS: 39. crowdsourcing, 40. smartphone, 41. isotope, 42. enact, 43. overdue, 44. toolkit, 45. juxtapose, 46. overdue

47. su_____at the solution *v.* to heat a substance to a temperature higher than its boiling point
48. underwater sei_____er *n.* an instrument used to measure and record seismic activity, including earthquakes, volcanic eruptions, and other ground vibrations
49. th___n gas *n.* the radioactive isotope of radon known as Radon-220, unlike Radon-222, which is the more commonly known isotope of radon and is part of the decay chain of uranium and thorium, often can be found in soil, rocks, and some building materials
50. a s__b of chocolate *n.* a flat, rectangular piece of material, such as wood or concrete; often used to describe a large, heavy, or solid object or structure
51. ra__n poisoning *n.* a chemical element with the atomic number 86 and symbol Rn that is a radioactive gas and comes from the decay of uranium in rocks and soil, and that is colorless, odorless, and tasteless and can cause cancer if inhaled in large amounts
52. in_____fy a good relationship *v.* to increase or make something increase in extent or strength
53. short ti_____me *n.* a period of time within which something is planned to be done or must be accomplished; a specified or estimated duration for completing a project or task

ANSWERS: 47. superheat, 48. seismometer, 49. thoron, 50. slab, 51. radon, 52. intensify, 53. timeframe

54. su_____at the cheese

v. to heat a substance to a temperature higher than its boiling point

ANSWERS: 54. superheat

Session 3: Fill in the Blanks

1. By analyzing the data from the _____ the scientists determined the earthquake's epicenter.
 - n.* an instrument used to measure and record seismic activity, including earthquakes, volcanic eruptions, and other ground vibrations
2. The _____ carbon-14 is commonly used in radiocarbon dating of fossils.
 - n.* a variation of an element that has the same number of protons in its nucleus but a different number of neutrons, resulting in a different atomic mass and often different physical or chemical properties
3. There are several _____ limestone peaks throughout the mountains.
 - adj.* having a rough and sharply uneven surface or outline
4. Her library books were _____ so she had to pay a fine to check out more.
 - adj.* past the expected or scheduled time; not completed or paid on time; delayed, tardy, or postponed
5. Internet traffic volumes have increased significantly with the advent of _____.
 - n.* a mobile phone that functions as a computer and connects to the Internet
6. Rebels have pledged to _____ the armed struggle against the dictatorship.
 - v.* to increase or make something increase in extent or strength
7. _____ exposure is the leading cause of lung cancer among non-smokers.
 - n.* a chemical element with the atomic number 86 and symbol Rn that is a radioactive gas and comes from the decay of uranium in rocks and soil, and that is colorless, odorless, and tasteless and can cause cancer if inhaled in large amounts

ANSWERS: 1. seismometer, 2. isotope, 3. jagged, 4. overdue, 5. smartphones, 6. intensify, 7. Radon

8. 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
9. Leonardo da Vinci is considered a _____ for his expertise in various fields such as art, science, and engineering.
- n.* a person who has expertise or a broad skillset across a range of diverse subjects or areas of knowledge
10. Have you _____ a response from them yet?
- v.* to obtain information or a reaction from someone, usually with difficulty
11. The DIY _____ includes a variety of power and hand tools for home repair.
- n.* a set of tools, materials, or resources that are designed to be used together for a specific purpose or task; a collection of information or techniques that can be used to address a problem or achieve a goal
12. 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)
13. The artist likes to _____ different styles and colors in her paintings.
- v.* to place two or more things side by side, often to compare or contrast them or to create an effect of surprise or incongruity
14. The _____ metal was poured into the mold.
- adj.* in a liquid state as a result of being heated
15. The company used this _____ platform to gather ideas for its next product.
- n.* the practice of obtaining needed services, ideas, or content by enlisting the services of a large number of people, either paid or unpaid, typically via the internet

ANSWERS: 8. centimeter, 9. polymath, 10. elicited, 11. toolkit, 12. gravitational, 13.

juxtapose, 14. molten, 15. crowdsourcing

16. The earth began to _____ and he knew he had to leave the building immediately.
v. to shake or vibrate violently and for a short time
17. His religious and philosophical beliefs were utterly _____.
adj. doubting that something is accurate or useful
18. The mechanic _____ the gears to prevent them from grinding.
v. to apply a substance, such as oil or grease, to reduce friction or wear on a surface
19. The metal must be _____ before being shaped into the final product.
v. to heat a substance to a temperature higher than its boiling point
20. This ore emits _____ quantities of radiation
adj. extremely small; tiny
21. The government _____ this law in 1925.
v. to make a law; to put something into practice
22. The _____ of stress over time can lead to health problems.
n. the accumulation or increase of something over time
23. The _____ layer on Mars is much thinner than on Earth.
n. a layer of rock between the surface and the core of a planet or moon; a loose sleeveless cloak or shawl; the responsibilities of an important position or job that passes from one person to another
24. We need to set a _____ for completing this project.
n. a period of time within which something is planned to be done or must be accomplished; a specified or estimated duration for completing a project or task

ANSWERS: 16. quake, 17. skeptical, 18. lubricated, 19. superheated, 20. minuscule, 21. enacted, 22. buildup, 23. mantle, 24. timeframe

25. The _____ plates shifted, causing an earthquake.

adj. relating to the structure of the Earth's crust and the large-scale processes that occur as a result of movements within it

26. The construction workers poured a large _____ of concrete for the foundation of the building.

n. a flat, rectangular piece of material, such as wood or concrete; often used to describe a large, heavy, or solid object or structure

27. The _____ products, such as polonium-216, can have health implications if inhaled.

n. the radioactive isotope of radon known as Radon-220, unlike Radon-222, which is the more commonly known isotope of radon and is part of the decay chain of uranium and thorium, often can be found in soil, rocks, and some building materials

ANSWERS: 25. tectonic, 26. slab, 27. thoron-daughter