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Vocabulary Builder Reference from...

Enrico Ramirez-Ruiz: Your body was forged in the spectacular death of stars | TED Talk

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

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Advanced Words Only

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Session 1: Word List

astrophysics

n. the branch of physics concerned with the study of the properties and behavior of celestial objects and the physical processes that govern the behavior and evolution of the universe

(1) **astrophysics** research, (2) neutrino **astrophysics**

He was studying **astrophysics** in an attempt to understand the origins of the universe.

helium

n. a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table

synonym: He, light gas, noble gas

(1) **helium** atom, (2) **helium** gas

The **helium-filled** balloons floated into the sky.

explode

v. to burst or break open violently and noisily; to cause something to burst or break open

synonym: detonate, blast, rupture

(1) **explode** in anger, (2) **explode** in popularity

The old building **exploded** in a fiery inferno.

enrich

v. to make better or improve in quality by adding something else

synonym: enhance, improve, augment

(1) **enrich** a gas with a balloon, (2) **enrich** public services

Reading not only increases knowledge but also **enriches** life.

mortician

n. an individual who prepares dead bodies for burial or cremation; a funeral director

synonym: undertaker, funeral director, embalmer

(1) **mortician** services, (2) professional **mortician**

The funeral home's **mortician** facilitated all the necessary arrangements for the memorial service.

supernova

n. a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant

synonym: explosion, detonation, blast

(1) extragalactic **supernova**, (2) **supernova** remnant

The **supernova** explosion created a bright new star in the night sky.

demise

n. death or the end of something

synonym: death, passing, end

(1) **demise** of bureaucracy, (2) meet their **demise**

The sudden **demise** of the king was a shock to everyone and threw the kingdom into chaos.

lifeblood

n. a vital or essential element or substance that is necessary for survival or success

synonym: essence, vitality, sustenance

(1) the **lifeblood** of every organization, (2) the **lifeblood** of the economy

The company's reputation is its **lifeblood**.

smashing

adj. very successful or impressive; causing something to be broken or destroyed

synonym: great, wonderful, breaking

(1) a **smashing** blow, (2) give **smashing** results

The band's new album was a **smashing** success, reaching the top of the charts.

infall

n. a natural reservoir or spring of fresh water, often located underground and used as a source of clean drinking water; (of cosmology) the process by which matter, such as galaxies, stars, gas, dust, or dark matter, is gravitationally attracted and falls into a larger gravitational structure, such as a galaxy cluster or a black hole

(1) **infall** velocity, (2) **infall** of a waterfall

The **infall** of matter into the black hole creates an incredibly dense region known as the event horizon.

eject

v. to force someone to put out or leave a particular place or position

synonym: discharge, expel, emit

(1) **eject** a player from a game, (2) **eject** huge amounts of pollutant

Our immune system can **eject** disease germs from the body.

recreate

v. to make something that existed previously happen or appear to exist again

synonym: renovate, vivify, revive

(1) **recreate** a single country, (2) **recreate** the feeling of the 1920s

She **recreated** the atmosphere of the pre-war age with her stage setting.

disrupt

v. to prevent or stop something, especially an event, activity, or process, from continuing in the usual way by causing a problem or disturbance

synonym: interrupt, disturb, break into

(1) **disrupt** a well-ordered condition, (2) **disrupt** sleep

I'm so sorry to **disrupt** you when you're pretty busy.

implosion

n. a sudden and extreme collapse or inward bursting, particularly of a structure or system; a rapid or explosive reduction in size, quantity, or value

synonym: collapse, breakdown, disintegration

(1) underground **implosion**, (2) social **implosion**

The company's financial **implosion** was caused by poor management.

neutrino

n. a very small and electrically neutral particle with a very small mass that rarely reacts with other matter

(1) **neutrino** capture, (2) sterile **neutrinos**

This laboratory has a pool consisting of thousands of **neutrino** detectors.

elusive

adj. difficult to find, define, achieve, or remember

synonym: mysterious, ambiguous, inapproachable

(1) an **elusive** criminal, (2) track down an **elusive** fact

The physicist who found the **elusive** particle won the Nobel Prize.

radiate

v. to spread out or emit something, such as light or heat, in all directions

synonym: give off, scatter, beam

(1) **radiate** an aura, (2) **radiate** in all directions

Roads **radiate** from the famous building in the center of the city.

beacon

n. a light or other visible object serving as a signal, guide, or warning

synonym: lighthouse, guidepost, marker

(1) an aerial **beacon**, (2) **beacon** of hope

The lighthouse served as a **beacon** to guide ships safely into port.

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.

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.

filament

n. a thin wire or thread, especially one used to produce light in an electric bulb

synonym: fiber, thread, filament

(1) **filament** lamp, (2) carbon **filament**

The **filament** in the light bulb burned out, and now it's not working.

tattered

adj. worn, torn, or ragged in appearance or condition, usually as a result of long use or hard wear; frayed or falling apart

synonym: ripped, shabby, worn-out

(1) **tattered** clothes, (2) **tattered** umbrella

The **tattered** book was falling apart at the seams from being read too many times.

synthesize

v. to combine a substance to make a more complex product or compound

synonym: incorporate, amalgamate

(1) **synthesize** molecules, (2) **synthesize** information

The spider can **synthesize** multiple different silk proteins.

remnant

n. a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something

synonym: remainder, leftover, residue

(1) **remnant** of the past, (2) **remnants** of fabric

The only **remnant** left of the ancient civilization was the crumbling ruins of their temples.

unsettle

v. to make somebody feel anxious or upset, especially because of an unstable or problematic situation

synonym: aggravate, annoy, disturb

(1) **unsettle** the nervous system, (2) **unsettle** his conviction
This nationwide strike may **unsettle** the country's economy.

rebirth

n. the process of being reborn or starting anew, especially after a period of decline or stagnation

synonym: renewal, rejuvenation, resurrection

(1) undergo a **rebirth**, (2) **rebirth** of democracy

The phoenix is a symbol of **rebirth**, rising from the ashes to be reborn anew.

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.

inhale

v. to breathe in air or a different substance, such as smoke

synonym: breathe in, take in, draw in

(1) **inhale** the smoke, (2) **inhale** the aroma

He **inhaled** deeply, trying to calm down.

sally

n. a sudden, impulsive outing or excursion; a witty or clever remark

synonym: sortie, charge, wisecrack

(1) **sally** of wit, (2) **sally** port

The protesters made a sudden **sally** into the town square, surprising everyone.

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.

scatter

v. to cause to separate and go in different directions

synonym: disperse, spread, bestrew

(1) **scatter** seeds, (2) **scatter** around the internet

The hunter's approach **scattered** the geese.

confine

v. to restrict the movement of someone or something

synonym: restrict, limit, contain

(1) **confine** themselves solely, (2) **confine** the scope of use

The animal was **confined** in a small cage.

embark

v. to go on board a ship or plane; to set out on an enterprise or subject of study; to start something

synonym: enter, undertake, commence

(1) **embark** on a trip, (2) **embark** on a foolish adventure

We **embarked** on a new project.

odyssey

n. a long wandering and eventful journey; a Greek epic poem attributed to Homer, describing the journey of Odysseus after the fall of Troy

(1) go on a serious **odyssey**, (2) cross-country **odyssey**

He continued the extraordinary **odyssey** with his brother.

Session 2: Spelling

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|-----------------------------------|---|
| 1. mo_____an services | <i>n.</i> an individual who prepares dead bodies for burial or cremation; a funeral director |
| 2. underground im_____on | <i>n.</i> a sudden and extreme collapse or inward bursting, particularly of a structure or system; a rapid or explosive reduction in size, quantity, or value |
| 3. carbon fi_____nt | <i>n.</i> a thin wire or thread, especially one used to produce light in an electric bulb |
| 4. co_____e themselves solely | <i>v.</i> to restrict the movement of someone or something |
| 5. di_____t sleep | <i>v.</i> to prevent or stop something, especially an event, activity, or process, from continuing in the usual way by causing a problem or disturbance |
| 6. fi_____nt lamp | <i>n.</i> a thin wire or thread, especially one used to produce light in an electric bulb |
| 7. cross-country od_____y | <i>n.</i> a long wandering and eventful journey; a Greek epic poem attributed to Homer, describing the journey of Odysseus after the fall of Troy |
| 8. amateur ast_____er | <i>n.</i> a physicist who studies astronomy |
| 9. ej__t a player from a game | <i>v.</i> to force someone to put out or leave a particular place or position |
| 10. em___k on a foolish adventure | <i>v.</i> to go on board a ship or plane; to set out on an enterprise or subject of study; to start something |

ANSWERS: 1. mortician, 2. implosion, 3. filament, 4. confine, 5. disrupt, 6. filament, 7. odyssey, 8. astronomer, 9. eject, 10. embark

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| 11. in___l velocity | <i>n.</i> a natural reservoir or spring of fresh water, often located underground and used as a source of clean drinking water; (of cosmology) the process by which matter, such as galaxies, stars, gas, dust, or dark matter, is gravitationally attracted and falls into a larger gravitational structure, such as a galaxy cluster or a black hole |
| 12. syn_____ze molecules | <i>v.</i> to combine a substance to make a more complex product or compound |
| 13. ex_____e in anger | <i>v.</i> to burst or break open violently and noisily; to cause something to burst or break open |
| 14. re_____e milk packaging into new paper | <i>v.</i> to sort and collect things to process them and produce valuable materials that can be used again |
| 15. neutrino ast_____ics | <i>n.</i> the branch of physics concerned with the study of the properties and behavior of celestial objects and the physical processes that govern the behavior and evolution of the universe |
| 16. re_____e the cardboard boxes | <i>v.</i> to sort and collect things to process them and produce valuable materials that can be used again |
| 17. undergo a re_____h | <i>n.</i> the process of being reborn or starting anew, especially after a period of decline or stagnation |
| 18. de_____e of bureaucracy | <i>n.</i> death or the end of something |

ANSWERS: 11. infall, 12. synthesize, 13. explode, 14. recycle, 15. astrophysics, 16. recycle, 17. rebirth, 18. demise

19. be___n of hope *n.* a light or other visible object serving as a signal, guide, or warning
20. ej__t huge amounts of pollutant *v.* to force someone to put out or leave a particular place or position
21. en___h public services *v.* to make better or improve in quality by adding something else
22. social im_____on *n.* a sudden and extreme collapse or inward bursting, particularly of a structure or system; a rapid or explosive reduction in size, quantity, or value
23. ast_____ics research *n.* the branch of physics concerned with the study of the properties and behavior of celestial objects and the physical processes that govern the behavior and evolution of the universe
24. an aerial be___n *n.* a light or other visible object serving as a signal, guide, or warning
25. ta_____ed clothes *adj.* worn, torn, or ragged in appearance or condition, usually as a result of long use or hard wear; frayed or falling apart
26. ne_____no capture *n.* a very small and electrically neutral particle with a very small mass that rarely reacts with other matter
27. un_____le his conviction *v.* to make somebody feel anxious or upset, especially because of an unstable or problematic situation
28. sterile ne_____nos *n.* a very small and electrically neutral particle with a very small mass that rarely reacts with other matter

ANSWERS: 19. beacon, 20. eject, 21. enrich, 22. implosion, 23. astrophysics, 24. beacon, 25. tattered, 26. neutrino, 27. unsettle, 28. neutrino

29. syn_____ze information *v.* to combine a substance to make a more complex product or compound
30. go on a serious od_____y *n.* a long wandering and eventful journey; a Greek epic poem attributed to Homer, describing the journey of Odysseus after the fall of Troy
31. sa__y port *n.* a sudden, impulsive outing or excursion; a witty or clever remark
32. ta_____ed umbrella *adj.* worn, torn, or ragged in appearance or condition, usually as a result of long use or hard wear; frayed or falling apart
33. solar ast_____er *n.* a physicist who studies astronomy
34. track down an el_____e fact *adj.* difficult to find, define, achieve, or remember
35. in___e the smoke *v.* to breathe in air or a different substance, such as smoke
36. ex_____e in popularity *v.* to burst or break open violently and noisily; to cause something to burst or break open
37. meet their de___e *n.* death or the end of something
38. give sm_____ng results *adj.* very successful or impressive; causing something to be broken or destroyed
39. en___h a gas with a balloon *v.* to make better or improve in quality by adding something else
40. re_____t of the past *n.* a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something

ANSWERS: 29. synthesize, 30. odyssey, 31. sally, 32. tattered, 33. astronomer, 34. elusive, 35. inhale, 36. explode, 37. demise, 38. smashing, 39. enrich, 40. remnant

41. extragalactic su_____va *n.* a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant
42. in___e the aroma *v.* to breathe in air or a different substance, such as smoke
43. emission ne___a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
44. em___k on a trip *v.* to go on board a ship or plane; to set out on an enterprise or subject of study; to start something
45. re_____te the feeling of the 1920s *v.* to make something that existed previously happen or appear to exist again
46. ra_____e an aura *v.* to spread out or emit something, such as light or heat, in all directions
47. co_____e the scope of use *v.* to restrict the movement of someone or something
48. re_____h of democracy *n.* the process of being reborn or starting anew, especially after a period of decline or stagnation
49. sc_____r seeds *v.* to cause to separate and go in different directions
50. an el_____e criminal *adj.* difficult to find, define, achieve, or remember
51. in___l of a waterfall *n.* a natural reservoir or spring of fresh water, often located underground and used as a source of clean drinking water; (of cosmology) the process by which matter, such as galaxies, stars, gas, dust, or dark matter, is gravitationally attracted and falls into a larger gravitational structure, such as a galaxy cluster or a black hole

ANSWERS: 41. supernova, 42. inhale, 43. nebula, 44. embark, 45. recreate, 46. radiate, 47. confine, 48. rebirth, 49. scatter, 50. elusive, 51. infall

52. op_____ne occasion *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
53. a sm_____ng blow *adj.* very successful or impressive; causing something to be broken or destroyed
54. re_____te a single country *v.* to make something that existed previously happen or appear to exist again
55. su_____va remnant *n.* a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant
56. ra_____e in all directions *v.* to spread out or emit something, such as light or heat, in all directions
57. he_____m gas *n.* a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table
58. professional mo_____an *n.* an individual who prepares dead bodies for burial or cremation; a funeral director
59. an op_____ne remark *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
60. the li_____od of the economy *n.* a vital or essential element or substance that is necessary for survival or success
61. the li_____od of every organization *n.* a vital or essential element or substance that is necessary for survival or success

ANSWERS: 52. opportune, 53. smashing, 54. recreate, 55. supernova, 56. radiate, 57. helium, 58. mortician, 59. opportune, 60. lifeblood, 61. lifeblood

62. sc____r around the internet *v.* to cause to separate and go in different directions
63. he____m atom *n.* a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table
64. sa__y of wit *n.* a sudden, impulsive outing or excursion; a witty or clever remark
65. un____le the nervous system *v.* to make somebody feel anxious or upset, especially because of an unstable or problematic situation
66. di____t a well-ordered condition *v.* to prevent or stop something, especially an event, activity, or process, from continuing in the usual way by causing a problem or disturbance
67. a spiral ne____a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
68. re____ts of fabric *n.* a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something

ANSWERS: 62. scatter, 63. helium, 64. sally, 65. unsettle, 66. disrupt, 67. nebula, 68. remnant

Session 3: Fill in the Blanks

1. The _____ of matter into the black hole creates an incredibly dense region known as the event horizon.
 - n.* a natural reservoir or spring of fresh water, often located underground and used as a source of clean drinking water; (of cosmology) the process by which matter, such as galaxies, stars, gas, dust, or dark matter, is gravitationally attracted and falls into a larger gravitational structure, such as a galaxy cluster or a black hole

2. He continued the extraordinary _____ with his brother.
 - n.* a long wandering and eventful journey; a Greek epic poem attributed to Homer, describing the journey of Odysseus after the fall of Troy

3. The band's new album was a _____ success, reaching the top of the charts.
 - adj.* very successful or impressive; causing something to be broken or destroyed

4. I'm so sorry to _____ you when you're pretty busy.
 - v.* to prevent or stop something, especially an event, activity, or process, from continuing in the usual way by causing a problem or disturbance

5. The _____ balloons floated into the sky.
 - n.* a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table

6. The spider can _____ multiple different silk proteins.
 - v.* to combine a substance to make a more complex product or compound

7. The company's reputation is its _____.
 - n.* a vital or essential element or substance that is necessary for survival or success

ANSWERS: 1. infall, 2. odyssey, 3. smashing, 4. disrupt, 5. helium-filled, 6. synthesize, 7. lifeblood

8. The _____ in the light bulb burned out, and now it's not working.
n. a thin wire or thread, especially one used to produce light in an electric bulb
9. The protesters made a sudden _____ into the town square, surprising everyone.
n. a sudden, impulsive outing or excursion; a witty or clever remark
10. The company's financial _____ was caused by poor management.
n. a sudden and extreme collapse or inward bursting, particularly of a structure or system; a rapid or explosive reduction in size, quantity, or value
11. The animal was _____ in a small cage.
v. to restrict the movement of someone or something
12. The physicist who found the _____ particle won the Nobel Prize.
adj. difficult to find, define, achieve, or remember
13. He was studying _____ in an attempt to understand the origins of the universe.
n. the branch of physics concerned with the study of the properties and behavior of celestial objects and the physical processes that govern the behavior and evolution of the universe
14. Roads _____ from the famous building in the center of the city.
v. to spread out or emit something, such as light or heat, in all directions
15. The _____ explosion created a bright new star in the night sky.
n. a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant

ANSWERS: 8. filament, 9. sally, 10. implosion, 11. confined, 12. elusive, 13. astrophysics, 14. radiate, 15. supernova

16. The funeral home's _____ facilitated all the necessary arrangements for the memorial service.
- n.* an individual who prepares dead bodies for burial or cremation; a funeral director
17. 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
18. He _____ deeply, trying to calm down.
- v.* to breathe in air or a different substance, such as smoke
19. Our immune system can _____ disease germs from the body.
- v.* to force someone to put out or leave a particular place or position
20. This question has fascinated solar _____ for decades.
- n.* a physicist who studies astronomy
21. The sudden _____ of the king was a shock to everyone and threw the kingdom into chaos.
- n.* death or the end of something
22. The _____ book was falling apart at the seams from being read too many times.
- adj.* worn, torn, or ragged in appearance or condition, usually as a result of long use or hard wear; frayed or falling apart
23. The lighthouse served as a _____ to guide ships safely into port.
- n.* a light or other visible object serving as a signal, guide, or warning

ANSWERS: 16. mortician, 17. nebula, 18. inhaled, 19. eject, 20. astronomers, 21. demise, 22. tattered, 23. beacon

24. The old building _____ in a fiery inferno.
v. to burst or break open violently and noisily; to cause something to burst or break open
25. The phoenix is a symbol of _____ rising from the ashes to be reborn anew.
n. the process of being reborn or starting anew, especially after a period of decline or stagnation
26. This laboratory has a pool consisting of thousands of _____ detectors.
n. a very small and electrically neutral particle with a very small mass that rarely reacts with other matter
27. The phone rang at the most _____ time.
adj. suitable or happening at a time that is suitable or convenient for a particular purpose
28. Reading not only increases knowledge but also _____ life.
v. to make better or improve in quality by adding something else
29. The hunter's approach _____ the geese.
v. to cause to separate and go in different directions
30. This nationwide strike may _____ the country's economy.
v. to make somebody feel anxious or upset, especially because of an unstable or problematic situation
31. 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

ANSWERS: 24. exploded, 25. rebirth, 26. neutrino, 27. opportune, 28. enriches, 29. scattered, 30. unsettle, 31. recycle

32. The only _____ left of the ancient civilization was the crumbling ruins of their temples.
- n.* a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something
33. We _____ on a new project.
- v.* to go on board a ship or plane; to set out on an enterprise or subject of study; to start something
34. She _____ the atmosphere of the pre-war age with her stage setting.
- v.* to make something that existed previously happen or appear to exist again

ANSWERS: 32. remnant, 33. embarked, 34. recreated