

# Englist.me



## Vocabulary Builder Reference from...

David Lunney: The life cycle of a neutron star | TED Talk

[https://www.ted.com/talks/david\\_lunney\\_the\\_life\\_cycle\\_of\\_a\\_neutron\\_star](https://www.ted.com/talks/david_lunney_the_life_cycle_of_a_neutron_star)

### Advanced Words Only

#### IMPORTANT

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## Session 1: Word List

### fused

*adj.* joined together or combined into one; blended or integrated in a way that creates a new entity

*synonym* : merged, blended, united

(1) **fused** glass, (2) **fused** bones

The **fused** wires in the electrical circuit caused a power outage.

### 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.

### 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.

### 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.

## 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.

## innards

*n.* the internal organs of a human or animal; the visceral organs, especially the stomach, and intestines; the internal parts of something

*synonym* : entrails, guts, viscera

(1) animal **innards**, (2) **innards** of a machine

The chef used the **innards** of the fish to make a flavorful broth.

## cataclysm

*n.* a sudden violent event that changes the earth's environment, such as a flood or a war

*synonym* : disaster, catastrophe, turmoil

(1) global **cataclysm**, (2) existential **cataclysm**

The earthquake was a **cataclysm** from which the local people never recovered.

## eruption

*n.* an instance of a sudden and violent release of lava, gas, or ash from a volcano; a sudden outburst or explosion of something

*synonym* : explosion, outburst, burst

(1) **eruption** alert level, (2) emotional **eruption**

The volcanic **eruption** caused widespread destruction and left the area covered in ash.

## 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.

## proton

*n.* a very small particle with a positive charge equal to the negative charge of an electron that forms part of the nucleus of all atoms

(1) **proton** decay, (2) **proton** conductivity

The solar wind is composed almost entirely of electrons and **protons**.

## fuse

*n.* a small part in an electrical device or machinery that can interrupt the flow of electrical current when it is overloaded; (verb) to become plastic or fluid or liquefied from heat

*synonym* : (verb) melt, (verb) blend

(1) **fuse** blows, (2) **fuse** with one another

He has a short **fuse**.

## physicist

*n.* a scientist who specializes in the field of physics

(1) talented **physicist**, (2) theoretical **physicist**

Einstein was an outstanding and famous **physicist** of the 20th century.

## lasagna

*n.* a type of dish consisting of layers of pasta, cheese, meat, or vegetables, typically topped with tomato sauce and baked in an oven; a traditional staple of Italian cuisine

*synonym* : pasta bake, casserole, baked ziti

(1) **lasagna** recipe, (2) **lasagna** noodles

I always order spinach **lasagna** at my favorite Italian restaurant.

## 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.

## rot

v. to decay, or cause something to decay, naturally and gradually

*synonym* : perish, decay, corrode

(1) begin to **rot**, (2) **rot** with age

Please refrigerate the meat, or it will **rot**.

## whirl

v. to spin or turn rapidly; to move or be moved quickly in a circular manner; (noun) a spinning or rotating movement, often rapid or chaotic in nature

*synonym* : spin, rotate, swirl

(1) **whirl** in the washing machine, (2) **whirl** around the dance floor

The leaves began to **whirl** around in the windy weather.

## 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.

## 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.

## lighthouse

n. a tower or other structure that is equipped with a powerful light designed to guide ships safely to harbor or warn them of impending danger

*synonym* : beacon, pharos, guiding light

(1) **lighthouse** beacon, (2) **lighthouse** keeper

Tourists gathered at the **lighthouse's** base to take photos and admire the view.

## 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.

## pulsar

*n.* a highly magnetized, rotating neutron star that emits beams of electromagnetic radiation, which can be observed as regular pulses of light

*synonym*: neutron star, pulsating star, radio star

(1) **pulsar** magnetosphere, (2) gamma-ray **pulsar**

The astronomers detected a **pulsar** in the center of the galaxy.

## tantalize

*v.* to tease or torment by presenting something desirable but out of reach or unattainable; to tempt or lure with the promise of something desirable

*synonym*: tease, tempt, torment

(1) **tantalize** taste buds, (2) **tantalize** with promises

The smell of freshly baked cookies in the kitchen **tantalized** me.

## 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.

## furious

*adj.* extremely angry; full of rage

*synonym*: angry, rageful, livid

(1) **furious** anger, (2) a **furious** sea

The coach was **furious** with the players for their lack of effort during the game.

## gorge

*n.* a deep narrow valley between hills or mountains, usually with steep sides and a river running through it

*synonym* : canyon, gully, ravine

(1) cast the **gorge**, (2) the **gorges** of the Yangtse River

We must pass through the narrow **gorge** with a stream running through it.

## waltz

*n.* a ballroom dance in triple time that originated in Vienna and is characterized by a flowing, graceful style and a strong accent on the first beat of each measure

*synonym* : ballroom dance, tango, foxtrot

(1) **waltz** music, (2) elegant **waltz**

The dancers practiced the steps of the **waltz** meticulously to perfect their performance.

## doom

*n.* death, destruction, or some other terrible situation that cannot be avoided

*synonym* : judgment, destiny, fate

(1) economic **doom**, (2) prophet of **doom**

Everyone was aware of the impending **doom** but was unable to prevent it.

## collide

*v.* to hit something violently when moving

*synonym* : clash, slam, contradict

(1) **collide** head-on, (2) **collide** in midair

The interests of the two countries **collide**.

## ripple

*n.* a small wave on the surface of a liquid, typically caused by an object falling into it or a slight wind

*synonym* : wave, undulation, fluctuation

(1) a **ripple** of laughter, (2) **ripple** in the water

Many businesses felt the **ripple** effect of the economy's decline.

## observatory

*n.* a building designed and equipped to observe the planets, the stars, the weather, etc.

(1) space **observatory**, (2) a meteorological **observatory**

That astronomical **observatory** stands at the top of the mountain.

## trove

*n.* a valuable collection of rare or interesting things, usually on the earth

*synonym*: hoard, collection, assemblage

(1) **trove** of information, (2) stumble on a **trove**

The treasure **trove** of ancient artifacts was a museum's dream come true.

## bolster

*v.* to support or strengthen, often by adding extra assistance or resources

*synonym*: reinforce, support, strengthen

(1) **bolster** confidence, (2) **bolster** the economy

The company hired a new advertising agency to **bolster** its marketing efforts.

## 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.

## Session 2: Spelling

1. co\_\_\_\_e in midair v. to hit something violently when moving
2. be\_\_\_\_n of hope n. a light or other visible object serving as a signal, guide, or warning
3. ex\_\_\_\_e in popularity v. to burst or break open violently and noisily; to cause something to burst or break open
4. co\_\_\_\_e head-on v. to hit something violently when moving
5. gra\_\_\_\_\_nal waves 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. ri\_\_\_\_e in the water n. a small wave on the surface of a liquid, typically caused by an object falling into it or a slight wind
8. 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
9. fu\_\_d glass adj. joined together or combined into one; blended or integrated in a way that creates a new entity
10. prophet of d\_\_m n. death, destruction, or some other terrible situation that cannot be avoided
11. f\_\_e blows n. a small part in an electrical device or machinery that can interrupt the flow of electrical current when it is overloaded; (verb) to become plastic or fluid or liquefied from heat

ANSWERS: 1. collide, 2. beacon, 3. explode, 4. collide, 5. gravitational, 6. compress, 7. ripple, 8. condense, 9. fused, 10. doom, 11. fuse



12. ta\_\_\_\_\_ze taste buds      *v.* to tease or torment by presenting something desirable but out of reach or unattainable; to tempt or lure with the promise of something desirable
13. gra\_\_\_\_\_nal energy      *adj.* relating to or caused by gravity (= the force that attracts objects towards one another)
14. bo\_\_\_\_\_r the economy      *v.* to support or strengthen, often by adding extra assistance or resources
15. r\_t with age      *v.* to decay, or cause something to decay, naturally and gradually
16. wh\_\_l in the washing machine      *v.* to spin or turn rapidly; to move or be moved quickly in a circular manner; (noun) a spinning or rotating movement, often rapid or chaotic in nature
17. theoretical ph\_\_\_\_\_st      *n.* a scientist who specializes in the field of physics
18. f\_\_e with one another      *n.* a small part in an electrical device or machinery that can interrupt the flow of electrical current when it is overloaded; (verb) to become plastic or fluid or liquefied from heat
19. elegant wa\_\_z      *n.* a ballroom dance in triple time that originated in Vienna and is characterized by a flowing, graceful style and a strong accent on the first beat of each measure
20. lig\_\_\_\_\_se beacon      *n.* a tower or other structure that is equipped with a powerful light designed to guide ships safely to harbor or warn them of impending danger

ANSWERS: 12. tantalize, 13. gravitational, 14. bolster, 15. rot, 16. whirl, 17. physicist, 18. fuse, 19. waltz, 20. lighthouse

21. ex\_\_\_\_e in anger      *v.* to burst or break open violently and noisily; to cause something to burst or break open
22. an aerial be\_\_\_n      *n.* a light or other visible object serving as a signal, guide, or warning
23. meet their de\_\_\_e      *n.* death or the end of something
24. tr\_\_e of information      *n.* a valuable collection of rare or interesting things, usually on the earth
25. fu\_\_d bones      *adj.* joined together or combined into one; blended or integrated in a way that creates a new entity
26. stumble on a tr\_\_e      *n.* a valuable collection of rare or interesting things, usually on the earth
27. begin to r\_t      *v.* to decay, or cause something to decay, naturally and gradually
28. ra\_\_\_\_\_e an aura      *v.* to spread out or emit something, such as light or heat, in all directions
29. economic d\_\_m      *n.* death, destruction, or some other terrible situation that cannot be avoided
30. co\_\_\_\_\_ss gas      *v.* to press or squeeze together to make something take up less space
31. wa\_\_z music      *n.* a ballroom dance in triple time that originated in Vienna and is characterized by a flowing, graceful style and a strong accent on the first beat of each measure
32. gamma-ray pu\_\_\_r      *n.* a highly magnetized, rotating neutron star that emits beams of electromagnetic radiation, which can be observed as regular pulses of light

ANSWERS: 21. explode, 22. beacon, 23. demise, 24. trove, 25. fused, 26. trove, 27. rot, 28. radiate, 29. doom, 30. compress, 31. waltz, 32. pulsar

33. cast the go\_\_e *n.* a deep narrow valley between hills or mountains, usually with steep sides and a river running through it
34. 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
35. emotional er\_\_\_\_on *n.* an instance of a sudden and violent release of lava, gas, or ash from a volcano; a sudden outburst or explosion of something
36. vo\_\_\_x formation *n.* a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind
37. pu\_\_\_r magnetosphere *n.* a highly magnetized, rotating neutron star that emits beams of electromagnetic radiation, which can be observed as regular pulses of light
38. bo\_\_\_\_r confidence *v.* to support or strengthen, often by adding extra assistance or resources
39. existential ca\_\_\_\_\_sm *n.* a sudden violent event that changes the earth's environment, such as a flood or a war
40. 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
41. blow in a vo\_\_\_x *n.* a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind

ANSWERS: 33. gorge, 34. astrophysics, 35. eruption, 36. vortex, 37. pulsar, 38. bolster, 39. cataclysm, 40. condense, 41. vortex

42. pr\_\_\_n decay *n.* a very small particle with a positive charge equal to the negative charge of an electron that forms part of the nucleus of all atoms
43. neutrino ast\_\_\_\_\_ics *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
44. de\_\_\_e of bureaucracy *n.* death or the end of something
45. global ca\_\_\_\_\_sm *n.* a sudden violent event that changes the earth's environment, such as a flood or a war
46. lig\_\_\_\_\_se keeper *n.* a tower or other structure that is equipped with a powerful light designed to guide ships safely to harbor or warn them of impending danger
47. 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
48. he\_\_\_m gas *n.* a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table
49. ra\_\_\_\_\_e in all directions *v.* to spread out or emit something, such as light or heat, in all directions
50. la\_\_\_\_\_a recipe *n.* a type of dish consisting of layers of pasta, cheese, meat, or vegetables, typically topped with tomato sauce and baked in an oven; a traditional staple of Italian cuisine

ANSWERS: 42. proton, 43. astrophysics, 44. demise, 45. cataclysm, 46. lighthouse, 47. supernova, 48. helium, 49. radiate, 50. lasagna

51. er\_\_\_\_on alert level *n.* an instance of a sudden and violent release of lava, gas, or ash from a volcano; a sudden outburst or explosion of something
52. fu\_\_\_\_s anger *adj.* extremely angry; full of rage
53. a fu\_\_\_\_s sea *adj.* extremely angry; full of rage
54. a meteorological obs\_\_\_\_\_\_ry *n.* a building designed and equipped to observe the planets, the stars, the weather, etc.
55. in\_\_\_\_s of a machine *n.* the internal organs of a human or animal; the visceral organs, especially the stomach, and intestines; the internal parts of something
56. a ri\_\_\_\_e of laughter *n.* a small wave on the surface of a liquid, typically caused by an object falling into it or a slight wind
57. wh\_\_l around the dance floor *v.* to spin or turn rapidly; to move or be moved quickly in a circular manner; (noun) a spinning or rotating movement, often rapid or chaotic in nature
58. 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
59. space obs\_\_\_\_\_\_ry *n.* a building designed and equipped to observe the planets, the stars, the weather, etc.
60. he\_\_\_\_m atom *n.* a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table

ANSWERS: 51. eruption, 52. furious, 53. furious, 54. observatory, 55. innards, 56. ripple, 57. whirl, 58. supernova, 59. observatory, 60. helium

61. talented ph\_\_\_\_\_st *n.* a scientist who specializes in the field of physics
62. ta\_\_\_\_\_ze with promises *v.* to tease or torment by presenting something desirable but out of reach or unattainable; to tempt or lure with the promise of something desirable
63. the go\_\_es of the Yangtse River *n.* a deep narrow valley between hills or mountains, usually with steep sides and a river running through it
64. animal in\_\_\_\_\_s *n.* the internal organs of a human or animal; the visceral organs, especially the stomach, and intestines; the internal parts of something
65. pr\_\_\_n conductivity *n.* a very small particle with a positive charge equal to the negative charge of an electron that forms part of the nucleus of all atoms
66. la\_\_\_\_\_a noodles *n.* a type of dish consisting of layers of pasta, cheese, meat, or vegetables, typically topped with tomato sauce and baked in an oven; a traditional staple of Italian cuisine

ANSWERS: 61. physicist, 62. tantalize, 63. gorge, 64. innards, 65. proton, 66. lasagna

## Session 3: Fill in the Blanks

1. Please refrigerate the meat, or it will \_\_\_\_\_.  
*v.* to decay, or cause something to decay, naturally and gradually
2. 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
3. Many businesses felt the \_\_\_\_\_ effect of the economy's decline.  
*n.* a small wave on the surface of a liquid, typically caused by an object falling into it or a slight wind
4. The old building \_\_\_\_\_ in a fiery inferno.  
*v.* to burst or break open violently and noisily; to cause something to burst or break open
5. The earthquake was a \_\_\_\_\_ from which the local people never recovered.  
*n.* a sudden violent event that changes the earth's environment, such as a flood or a war
6. The leaves began to \_\_\_\_\_ around in the windy weather.  
*v.* to spin or turn rapidly; to move or be moved quickly in a circular manner; (noun) a spinning or rotating movement, often rapid or chaotic in nature
7. The company hired a new advertising agency to \_\_\_\_\_ its marketing efforts.  
*v.* to support or strengthen, often by adding extra assistance or resources
8. The smell of freshly baked cookies in the kitchen \_\_\_\_\_ me.  
*v.* to tease or torment by presenting something desirable but out of reach or unattainable; to tempt or lure with the promise of something desirable

ANSWERS: 1. rot, 2. supernova, 3. ripple, 4. exploded, 5. cataclysm, 6. whirl, 7. bolster, 8. tantalized

9. The volcanic \_\_\_\_\_ caused widespread destruction and left the area covered in ash.
- n.* an instance of a sudden and violent release of lava, gas, or ash from a volcano; a sudden outburst or explosion of something
10. I always order spinach \_\_\_\_\_ at my favorite Italian restaurant.
- n.* a type of dish consisting of layers of pasta, cheese, meat, or vegetables, typically topped with tomato sauce and baked in an oven; a traditional staple of Italian cuisine
11. The dancers practiced the steps of the \_\_\_\_\_ meticulously to perfect their performance.
- n.* a ballroom dance in triple time that originated in Vienna and is characterized by a flowing, graceful style and a strong accent on the first beat of each measure
12. The \_\_\_\_\_ wires in the electrical circuit caused a power outage.
- adj.* joined together or combined into one; blended or integrated in a way that creates a new entity
13. 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
14. 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)
15. The astronomers detected a \_\_\_\_\_ in the center of the galaxy.
- n.* a highly magnetized, rotating neutron star that emits beams of electromagnetic radiation, which can be observed as regular pulses of light

ANSWERS: 9. eruption, 10. lasagna, 11. waltz, 12. fused, 13. helium-filled, 14. gravitational, 15. pulsar



16. Everyone was aware of the impending \_\_\_\_\_ but was unable to prevent it.  
*n.* death, destruction, or some other terrible situation that cannot be avoided
17. 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
18. The coach was \_\_\_\_\_ with the players for their lack of effort during the game.  
*adj.* extremely angry; full of rage
19. The interests of the two countries \_\_\_\_\_.  
*v.* to hit something violently when moving
20. The sudden \_\_\_\_\_ of the king was a shock to everyone and threw the kingdom into chaos.  
*n.* death or the end of something
21. That astronomical \_\_\_\_\_ stands at the top of the mountain.  
*n.* a building designed and equipped to observe the planets, the stars, the weather, etc.
22. 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
23. We must pass through the narrow \_\_\_\_\_ with a stream running through it.  
*n.* a deep narrow valley between hills or mountains, usually with steep sides and a river running through it

ANSWERS: 16. doom, 17. astrophysics, 18. furious, 19. collide, 20. demise, 21. observatory, 22. compressed, 23. gorge

24. 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
25. He has a short \_\_\_\_\_.
- n.* a small part in an electrical device or machinery that can interrupt the flow of electrical current when it is overloaded; (verb) to become plastic or fluid or liquefied from heat
26. Tourists gathered at the \_\_\_\_\_ base to take photos and admire the view.
- n.* a tower or other structure that is equipped with a powerful light designed to guide ships safely to harbor or warn them of impending danger
27. Einstein was an outstanding and famous \_\_\_\_\_ of the 20th century.
- n.* a scientist who specializes in the field of physics
28. The chef used the \_\_\_\_\_ of the fish to make a flavorful broth.
- n.* the internal organs of a human or animal; the visceral organs, especially the stomach, and intestines; the internal parts of something
29. The solar wind is composed almost entirely of electrons and \_\_\_\_\_.
- n.* a very small particle with a positive charge equal to the negative charge of an electron that forms part of the nucleus of all atoms
30. 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
31. 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

ANSWERS: 24. radiate, 25. fuse, 26. lighthouse's, 27. physicist, 28. innards, 29. protons, 30. beacon, 31. condense

32. The treasure \_\_\_\_\_ of ancient artifacts was a museum's dream come true.

*n.* a valuable collection of rare or interesting things, usually on the earth

33. The \_\_\_\_\_ of the tornado was massive and destructive.

*n.* a mass of whirling air, water, dust, or smoke, especially a whirlpool or whirlwind

ANSWERS: 32. trove, 33. vortex