

# Englist.me



## Vocabulary Builder Reference from...

*Rene Laufer: How far would you have to go to escape gravity? | TED Talk*

[https://www.ted.com/talks/rene\\_laufer\\_how\\_far\\_would\\_you\\_have\\_to\\_go\\_to\\_escape\\_gravity](https://www.ted.com/talks/rene_laufer_how_far_would_you_have_to_go_to_escape_gravity)

### Advanced Words Only

#### IMPORTANT

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## Session 1: Word List

### 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.

### dwarf

*n.* a person or animal that is much smaller than usual or expected for its type; a celestial body, especially a planet, that is smaller and less massive than a star

*synonym:* midget, lilliputian, pygmy

(1) a potted **dwarf** tree, (2) a wise old **dwarf**

The **dwarf** planet Pluto is much smaller than earth and orbits the sun.

### 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**.

## 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.

## Newtonian

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

*synonym*: classical, physics, mechanics

(1) **Newtonian** physics, (2) **Newtonian** mechanics

The motion of planets can be described using **Newtonian** mechanics.

## gravitation

*n.* the force by which a celestial body, such as the Earth, pulls objects toward its center; the attraction between two or more objects due to their mass

*synonym*: attraction, pull, gravity

(1) terrestrial **gravitation**, (2) universal **gravitation**

The force of **gravitation** keeps the planets in our solar system in orbit around the sun.

## minuscule

*adj.* extremely small; tiny

*synonym*: tiny, insignificant, microscopic

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

This ore emits **minuscule** quantities of radiation

## dent

*v.* to make a depression or indentation in the surface of something; (noun) a depression scratched or carved into a surface

*synonym*: indent, depress, mark

(1) **dent** removal, (2) **dent** his pride

He acci **dentally** dented his car when he bumped into a tree.

## curvature

*n.* the degree to which a line or surface deviates from being straight or flat; a measure of the amount of bending of a curve

*synonym* : bend, arch, bow

(1) the degree of **curvature**, (2) spinal **curvature**

The **curvature** of the earth can be seen from space.

## spacetime

*n.* a four-dimensional continuum consisting of three dimensions of space and one dimension of time, used to describe the physical universe according to Einstein's theory of general relativity

(1) **spacetime** continuum, (2) quantum **spacetime**

The curvature of **spacetime** is affected by the presence of mass and energy.

## 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.

## weightless

*adj.* having no weight or feeling as if one has no weight, often related to zero gravity or outer space

*synonym* : floatable, buoyant, light

(1) **weightless** flight, (2) **weightless** environment

The astronaut felt **weightless** as she floated inside the International Space Station.

## tether

*v.* to tie or secure an animal, person, or object with a rope, chain, or other similar devices to prevent it from moving too far away; (noun) a rope or chain used to tie up or restrain an animal, such as a horse or dog

*synonym* : tie, fasten, secure

(1) **tether** a horse, (2) **tether** strap

The hiker **tethered** their dog to a tree while they camped for the night.

**tug** v. to pull something quickly and hard, often several times  
*synonym* : draw, jerk, pull

(1) **tug** a rope, (2) **tug** at his hand

This movie **tugs** at everyone's heartstrings.

**celestial** *adj.* relating to the sky or the heavens; of or like the sky or the heavens

*synonym* : heavenly, divine, ethereal

(1) **celestial** bliss, (2) **celestial** navigation

The **celestial** bodies in the night sky were beautiful to behold.

**exert** v. to put forth effort; to put into action; to bring into play  
*synonym* : exert, apply, use

(1) **exert** control, (2) **exert** influence

He **exerted** himself to lift the heavyweight.

**loophole** *n.* a gap or weakness in a legal or bureaucratic system that allows for the exploitation of unintended benefits or avoids penalties

*synonym* : loophole, escape clause, technicality

(1) legal **loophole**, (2) finding a **loophole**

A **loophole** in the tax code allows some people to avoid paying taxes legally.

**spherical** *adj.* having the shape of a sphere; round, spherical, or ball-shaped in appearance

*synonym* : round, orbicular, spherical

(1) **spherical** shape, (2) **spherical** object

The Earth is a nearly **spherical** planet.

## Session 2: Spelling

1. sp\_\_\_\_\_me continuum *n.* a four-dimensional continuum consisting of three dimensions of space and one dimension of time, used to describe the physical universe according to Einstein's theory of general relativity
2. ex\_\_t control *v.* to put forth effort; to put into action; to bring into play
3. te\_\_\_r strap *v.* to tie or secure an animal, person, or object with a rope, chain, or other similar devices to prevent it from moving too far away; (noun) a rope or chain used to tie up or restrain an animal, such as a horse or dog
4. in\_\_\_\_\_fy diplomatic efforts *v.* to increase or make something increase in extent or strength
5. a wise old dw\_\_f *n.* a person or animal that is much smaller than usual or expected for its type; a celestial body, especially a planet, that is smaller and less massive than a star
6. quantum sp\_\_\_\_\_me *n.* a four-dimensional continuum consisting of three dimensions of space and one dimension of time, used to describe the physical universe according to Einstein's theory of general relativity
7. sma\_\_\_\_\_ne app developer *n.* a mobile phone that functions as a computer and connects to the Internet

ANSWERS: 1. spacetime, 2. exert, 3. tether, 4. intensify, 5. dwarf, 6. spacetime, 7. smartphone

8. gra\_\_\_\_\_nal energy      *adj.* relating to or caused by gravity (= the force that attracts objects towards one another)
9. te\_\_\_r a horse      *v.* to tie or secure an animal, person, or object with a rope, chain, or other similar devices to prevent it from moving too far away; (noun) a rope or chain used to tie up or restrain an animal, such as a horse or dog
10. finding a lo\_\_\_\_\_le      *n.* a gap or weakness in a legal or bureaucratic system that allows for the exploitation of unintended benefits or avoids penalties
11. universal gra\_\_\_\_\_on      *n.* the force by which a celestial body, such as the Earth, pulls objects toward its center; the attraction between two or more objects due to their mass
12. ce\_\_\_\_\_al bliss      *adj.* relating to the sky or the heavens; of or like the sky or the heavens
13. d\_\_t removal      *v.* to make a depression or indentation in the surface of something; (noun) a depression scratched or carved into a surface
14. sp\_\_\_\_\_al object      *adj.* having the shape of a sphere; round, spherical, or ball-shaped in appearance
15. 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
16. 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

ANSWERS: 8. gravitational, 9. tether, 10. loophole, 11. gravitation, 12. celestial, 13. dent, 14. spherical, 15. pulsar, 16. pulsar

17. the degree of cu\_\_\_\_\_re  
*n.* the degree to which a line or surface deviates from being straight or flat; a measure of the amount of bending of a curve
18. mi\_\_\_\_\_le letters  
*adj.* extremely small; tiny
19. sp\_\_\_\_\_al shape  
*adj.* having the shape of a sphere; round, spherical, or ball-shaped in appearance
20. terrestrial gra\_\_\_\_\_on  
*n.* the force by which a celestial body, such as the Earth, pulls objects toward its center; the attraction between two or more objects due to their mass
21. t\_g a rope  
*v.* to pull something quickly and hard, often several times
22. d\_\_t his pride  
*v.* to make a depression or indentation in the surface of something; (noun) a depression scratched or carved into a surface
23. legal lo\_\_\_\_\_le  
*n.* a gap or weakness in a legal or bureaucratic system that allows for the exploitation of unintended benefits or avoids penalties
24. Ne\_\_\_\_\_an physics  
*adj.* relating to Sir Isaac Newton or his laws of motion and universal gravitation
25. sma\_\_\_\_\_ne addict  
*n.* a mobile phone that functions as a computer and connects to the Internet
26. mi\_\_\_\_\_le amount  
*adj.* extremely small; tiny
27. wei\_\_\_\_\_ss environment  
*adj.* having no weight or feeling as if one has no weight, often related to zero gravity or outer space

ANSWERS: 17. curvature, 18. minuscule, 19. spherical, 20. gravitation, 21. tug, 22. dent, 23. loophole, 24. Newtonian, 25. smartphone, 26. minuscule, 27. weightless

28. ce\_\_\_\_\_al navigation *adj.* relating to the sky or the heavens; of or like the sky or the heavens
29. Ne\_\_\_\_\_an mechanics *adj.* relating to Sir Isaac Newton or his laws of motion and universal gravitation
30. wei\_\_\_\_\_ss flight *adj.* having no weight or feeling as if one has no weight, often related to zero gravity or outer space
31. t\_g at his hand *v.* to pull something quickly and hard, often several times
32. in\_\_\_\_\_fy a good relationship *v.* to increase or make something increase in extent or strength
33. gra\_\_\_\_\_nal waves *adj.* relating to or caused by gravity (= the force that attracts objects towards one another)
34. a potted dw\_\_f tree *n.* a person or animal that is much smaller than usual or expected for its type; a celestial body, especially a planet, that is smaller and less massive than a star
35. spinal cu\_\_\_\_\_re *n.* the degree to which a line or surface deviates from being straight or flat; a measure of the amount of bending of a curve
36. ex\_\_t influence *v.* to put forth effort; to put into action; to bring into play

ANSWERS: 28. celestial, 29. Newtonian, 30. weightless, 31. tug, 32. intensify, 33. gravitational, 34. dwarf, 35. curvature, 36. exert



## Session 3: Fill in the Blanks

1. The force of \_\_\_\_\_ keeps the planets in our solar system in orbit around the sun.
  - n.* the force by which a celestial body, such as the Earth, pulls objects toward its center; the attraction between two or more objects due to their mass
  
2. He \_\_\_\_\_ himself to lift the heavyweight.
  - v.* to put forth effort; to put into action; to bring into play
  
3. The \_\_\_\_\_ planet Pluto is much smaller than earth and orbits the sun.
  - n.* a person or animal that is much smaller than usual or expected for its type; a celestial body, especially a planet, that is smaller and less massive than a star
  
4. He acci\_\_\_\_\_ dented his car when he bumped into a tree.
  - v.* to make a depression or indentation in the surface of something; (noun) a depression scratched or carved into a surface
  
5. A \_\_\_\_\_ in the tax code allows some people to avoid paying taxes legally.
  - n.* a gap or weakness in a legal or bureaucratic system that allows for the exploitation of unintended benefits or avoids penalties
  
6. The astronaut felt \_\_\_\_\_ as she floated inside the International Space Station.
  - adj.* having no weight or feeling as if one has no weight, often related to zero gravity or outer space
  
7. The Earth is a nearly \_\_\_\_\_ planet.
  - adj.* having the shape of a sphere; round, spherical, or ball-shaped in appearance

ANSWERS: 1. gravitation, 2. exerted, 3. dwarf, 4. dentally, 5. loophole, 6. weightless, 7. spherical

8. The \_\_\_\_\_ bodies in the night sky were beautiful to behold.  
*adj.* relating to the sky or the heavens; of or like the sky or the heavens
9. 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)
10. This ore emits \_\_\_\_\_ quantities of radiation  
*adj.* extremely small; tiny
11. The hiker \_\_\_\_\_ their dog to a tree while they camped for the night.  
*v.* to tie or secure an animal, person, or object with a rope, chain, or other similar devices to prevent it from moving too far away; (noun) a rope or chain used to tie up or restrain an animal, such as a horse or dog
12. Rebels have pledged to \_\_\_\_\_ the armed struggle against the dictatorship.  
*v.* to increase or make something increase in extent or strength
13. This movie \_\_\_\_\_ at everyone's heartstrings.  
*v.* to pull something quickly and hard, often several times
14. The curvature of \_\_\_\_\_ is affected by the presence of mass and energy.  
*n.* a four-dimensional continuum consisting of three dimensions of space and one dimension of time, used to describe the physical universe according to Einstein's theory of general relativity
15. Internet traffic volumes have increased significantly with the advent of \_\_\_\_\_.  
*n.* a mobile phone that functions as a computer and connects to the Internet

ANSWERS: 8. celestial, 9. gravitational, 10. minuscule, 11. tethered, 12. intensify, 13. tugs, 14. spacetime, 15. smartphones

16. 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

17. The \_\_\_\_\_ of the earth can be seen from space.

*n.* the degree to which a line or surface deviates from being straight or flat; a measure of the amount of bending of a curve

18. The motion of planets can be described using \_\_\_\_\_ mechanics.

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

ANSWERS: 16. pulsar, 17. curvature, 18. Newtonian