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Vocabulary Builder Reference from...

Jennifer Heldmann: SpaceX's supersized Starship rocket -- and the future of galactic exploration | TED Talk

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

Advanced Words Only

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Session 1: Word List

supersized

adj. enlarged or increased beyond the usual or ordinary size; larger than normal; often used to describe food or drink excessively large portions

synonym: gigantic, colossal, oversized

(1) **supersized** sandwich, (2) **supersized** soda

I ordered a **supersized** meal at the fast food restaurant.

starship

n. a spacecraft designed for long-distance travel between stars; a fictional spacecraft used in science fiction

synonym: interstellar vessel, spaceship, galactic craft

(1) **starship** captain, (2) futuristic **starship** design

The **starship** crew encountered an alien race they had never seen before.

booster

n. something or someone that supports, promotes, or enhances; a device or substance that improves the performance or effectiveness of something

synonym: promoter, supporter, advocate

(1) metabolism **booster**, (2) morale **booster**

The energy drink is marketed as a **booster** to help athletes perform better.

rover

n. a vehicle designed to travel over rough terrain, especially on the surface of a planet or moon

synonym : vehicle, robot, explorer

(1) **rover** mission, (2) lunar **rover**

The **rover** on Mars is gathering data on the planet's surface and sending it back to Earth.

astronaut

n. a person trained by a space agency to travel outside the Earth's atmosphere

synonym : spaceman, cosmonaut

(1) **astronaut** mission, (2) **astronaut** in training

The shuttle **astronaut** trained for months before embarking on the space mission.

industrious

adj. hardworking, diligent, and persistent in effort

synonym : diligent, hardworking, assiduous

(1) **industrious** worker, (2) **industrious** student

He was known to be very **industrious** and would often work late into the night.

spaceflight

n. the act of traveling into space, either by means of crewed or uncrewed spacecraft; the technology and infrastructure required to support space travel

synonym : space travel, orbital flight

(1) private **spaceflight**, (2) **spaceflight** industry

Spaceflight technology has advanced significantly since the first man landed on the moon in 1969.

propellant

n. a substance that provides the force to propel (= to cause something to move forwards) something, such as a rocket or spray can

synonym : fuel, driving force, impelling agent

(1) **propellant** mixture, (2) **propellant** tank

The **propellant** in the rocket provided the force needed to reach outer space.

methane

n. a chemical compound with the chemical formula CH₄ with no smell or color, often used as a fuel
(1) atmospheric **methane**, (2) reduce **methane** emissions
The ignition of **methane** gas in the plant killed five employees.

subsurface

adj. situated or located beneath the surface of something; existing or occurring within the deeper layers of a material or object, often referring to areas below the Earth's surface
synonym: beneath the surface, underground, subterranean
(1) **subsurface** mining, (2) **subsurface** oil reserves
The **subsurface** layers of the ocean are still largely unexplored.

saltiness

n. the quality or state of being salty
(1) the taste of **saltiness**, (2) enhance the **saltiness**
She tasted the dish and detected a slight **saltiness**.

Jovian

adj. relating to Jupiter or its characteristics
synonym: Jupiter, giant planet
(1) **Jovian** satellites, (2) **Jovian** planet
The **Jovian** moon Europa is believed to have an ocean beneath its icy surface.

flyby

n. a close approach to a celestial body, especially a planet, by a spacecraft without landing or entering orbit
synonym: passby, flyover, whizz by
(1) **flyby** mission, (2) a five-plane **flyby**
The spacecraft will conduct a **flyby** of the moon to gather data.

envision

v. to imagine or expect what a situation will be like in the future
synonym: anticipate, foresee, picture
(1) **envision** the future, (2) **envision** the project's success

We cannot **envision** her as President.

submersible

adj. able to be operated or used underwater; capable of being submerged in water or other liquid

synonym: submarine, underwater, submerged

(1) **submersible** pump, (2) **submersible** cable

The **submersible** vehicle can explore the depths of the ocean.

geyser

n. a natural hot spring that periodically ejects a column of boiling water and steam into the air; a device that produces a similar effect for decorative or practical purposes

synonym: hot spring, fumarole

(1) erupting **geyser**, (2) Yellowstone **geyser**

The **geyser's** hot water generates electricity for nearby towns and cities.

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.

constellation

n. a group of stars that form a recognizable pattern and have a name; a group of related or similar ideas, things, or people

synonym: asterism, array, pattern

(1) the stars of the Scorpion **constellation**, (2) northern **constellation**

Navigators still use the Little Bear **constellation** at sea.

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.

eyeball

n. the round part of the eye of a vertebrate that is usually inside the head and, therefore, cannot be seen

(1) **eyeball** motion, (2) redness of the **eyeball**

Increased **eyeball** pressure leads to the development of glaucoma.

exoplanet

n. a planet that orbits a star outside of the solar system

(1) the closest **exoplanet** to Earth, (2) **exoplanet** mission

The **exoplanet** Kepler-186f is located 500 light-years from Earth and is believed to be habitable.

origami

n. the Japanese art or practice of folding paper into decorative shapes and figures

synonym: paper folding, paper art

(1) **origami** paper, (2) **origami** art

I love making **origami** cranes during my free time.

cusp

n. a pointed end, especially the pointed end of a crescent moon or the part of a curve that is most curved

synonym: point, apex, tip

(1) **cusp** of change, (2) a single **cusp**

The project was on the **cusp** of success and needed a little more funding.

uncrewed

adj. operated or functioning without the presence or support of a crew or human operator; unmanned

synonym: unmanned, autonomous, robotic

(1) **uncrewed** vehicle, (2) **uncrewed** aerial drone

An **uncrewed** spacecraft was sent to Mars to explore the red planet.

ancestor

n. a person from whom one is descended; a forefather
synonym : forebear, forefather, progenitor

(1) **ancestor** language, (2) earliest human **ancestor**

My remote **ancestor** immigrated to the United States from Ireland in the 1800s.

cushy

adj. comfortable, easy, and lacking hardship or effort; undemanding; luxurious

synonym : easy, soft, comfortable

(1) **cushy** seat, (2) **cushy** lifestyle

Her job was **cushy** and comfortable, with little pressure or stress.

unforgiving

adj. not willing to forgive or show mercy; not able to be repaired or restored

synonym : relentless, uncompromising, merciless

(1) **unforgiving** blow, (2) **unforgiving** terrain

The **unforgiving** sun scorched the desert, making it uninhabitable.

glacier

n. a slowly moving mass of ice formed from snow on mountains or near the North Pole or the South Pole

synonym : iceberg, ice floe

(1) **glacier** retreat, (2) **glaciers** move tardily

The **glaciers** of the ice age have shaped Fjord.

backhoe

n. a large mechanical digging machine with a shovel-like scoop on the front and a digging arm on the back, used for excavating and moving large amounts of soil and debris

synonym : excavator, digger, shovel

(1) **backhoe** operator, (2) **backhoe** attachment

The construction crew used a **backhoe** to dig the foundation for the new building.

Martian

adj. of or relating to Mars or its imaginary inhabitants

(1) **Martian** geography, (2) **Martian** surface

There is very little water in the **Martian** atmosphere.

robotic

adj. of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots

synonym : automated, mechanical, laborsaving

(1) **robotic** arm, (2) **robotic** guide operation

The surgeon removed the tumor using **robotic** video assistance.

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.

seize

v. to catch or take hold of someone or something suddenly and forcibly; to capture the attention or imagination of something

synonym : grab, grasp, capture

(1) **seize** a person's property, (2) **seize** the day

He has the superpower to **seize** a business opportunity.

cosmos

n. another name for the universe, mainly used when it is thought of as an ordered system

synonym : universe, macrocosm

(1) exploration of **cosmos**, (2) origin of the **cosmos**

Supercomputers enable scientists to create computational models of the **cosmos**.

Session 2: Spelling

1. a five-plane fl__y
n. a close approach to a celestial body, especially a planet, by a spacecraft without landing or entering orbit
2. private spa_____ht
n. the act of traveling into space, either by means of crewed or uncrewed spacecraft; the technology and infrastructure required to support space travel
3. un_____ed aerial drone
adj. operated or functioning without the presence or support of a crew or human operator; unmanned
4. sub_____le pump
adj. able to be operated or used underwater; capable of being submerged in water or other liquid
5. fl__y mission
n. a close approach to a celestial body, especially a planet, by a spacecraft without landing or entering orbit
6. exploration of co____s
n. another name for the universe, mainly used when it is thought of as an ordered system
7. Ma_____n geography
adj. of or relating to Mars or its imaginary inhabitants
8. redness of the ey_____l
n. the round part of the eye of a vertebrate that is usually inside the head and, therefore, cannot be seen
9. northern con_____ion
n. a group of stars that form a recognizable pattern and have a name; a group of related or similar ideas, things, or people

ANSWERS: 1. flyby, 2. spaceflight, 3. uncrewed, 4. submersible, 5. flyby, 6. cosmos, 7. Martian, 8. eyeball, 9. constellation

10. metabolism bo_____r *n.* something or someone that supports, promotes, or enhances; a device or substance that improves the performance or effectiveness of something
11. se__e a person's property *v.* to catch or take hold of someone or something suddenly and forcibly; to capture the attention or imagination of something
12. Jo___n satellites *adj.* relating to Jupiter or its characteristics
13. 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
14. reduce me_____e emissions *n.* a chemical compound with the chemical formula CH₄ with no smell or color, often used as a fuel
15. Jo___n planet *adj.* relating to Jupiter or its characteristics
16. ex_____et mission *n.* a planet that orbits a star outside of the solar system
17. the taste of sa_____ss *n.* the quality or state of being salty
18. pro_____nt tank *n.* a substance that provides the force to propel (= to cause something to move forwards) something, such as a rocket or spray can
19. earliest human an_____or *n.* a person from whom one is descended; a forefather

ANSWERS: 10. booster, 11. seize, 12. Jovian, 13. astrophysics, 14. methane, 15. Jovian, 16. exoplanet, 17. saltiness, 18. propellant, 19. ancestor

20. op_____ne occasion *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
21. emission ne___a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
22. as_____ut mission *n.* a person trained by a space agency to travel outside the Earth's atmosphere
23. un_____ed vehicle *adj.* operated or functioning without the presence or support of a crew or human operator; unmanned
24. or_____i paper *n.* the Japanese art or practice of folding paper into decorative shapes and figures
25. se__e the day *v.* to catch or take hold of someone or something suddenly and forcibly; to capture the attention or imagination of something
26. cu__y lifestyle *adj.* comfortable, easy, and lacking hardship or effort; undemanding; luxurious
27. ro_____c arm *adj.* of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots
28. gl_____rs move tardily *n.* a slowly moving mass of ice formed from snow on mountains or near the North Pole or the South Pole
29. ba_____e operator *n.* a large mechanical digging machine with a shovel-like scoop on the front and a digging arm on the back, used for excavating and moving large amounts of soil and debris

ANSWERS: 20. opportune, 21. nebula, 22. astronaut, 23. uncrewed, 24. origami, 25. seize, 26. cushy, 27. robotic, 28. glacier, 29. backhoe

30. the closest ex_____et to Earth *n.* a planet that orbits a star outside of the solar system
31. unf_____ng terrain *adj.* not willing to forgive or show mercy; not able to be repaired or restored
32. 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
33. ind_____us student *adj.* hardworking, diligent, and persistent in effort
34. the stars of the Scorpion
con_____ion *n.* a group of stars that form a recognizable pattern and have a name; a group of related or similar ideas, things, or people
35. cu__y seat *adj.* comfortable, easy, and lacking hardship or effort; undemanding; luxurious
36. erupting ge___r *n.* a natural hot spring that periodically ejects a column of boiling water and steam into the air; a device that produces a similar effect for decorative or practical purposes
37. ey____l motion *n.* the round part of the eye of a vertebrate that is usually inside the head and, therefore, cannot be seen
38. spa_____ht industry *n.* the act of traveling into space, either by means of crewed or uncrewed spacecraft; the technology and infrastructure required to support space travel

ANSWERS: 30. exoplanet, 31. unforgiving, 32. astrophysics, 33. industrious, 34. constellation, 35. cushy, 36. geyser, 37. eyeball, 38. spaceflight

39. sup_____ed sandwich *adj.* enlarged or increased beyond the usual or ordinary size; larger than normal; often used to describe food or drink excessively large portions
40. en_____on the future *v.* to imagine or expect what a situation will be like in the future
41. futuristic st_____ip design *n.* a spacecraft designed for long-distance travel between stars; a fictional spacecraft used in science fiction
42. sub_____ce oil reserves *adj.* situated or located beneath the surface of something; existing or occurring within the deeper layers of a material or object, often referring to areas below the Earth's surface
43. sup_____ed soda *adj.* enlarged or increased beyond the usual or ordinary size; larger than normal; often used to describe food or drink excessively large portions
44. en_____on the project's success *v.* to imagine or expect what a situation will be like in the future
45. an_____or language *n.* a person from whom one is descended; a forefather
46. morale bo_____r *n.* something or someone that supports, promotes, or enhances; a device or substance that improves the performance or effectiveness of something
47. pro_____nt mixture *n.* a substance that provides the force to propel (= to cause something to move forwards) something, such as a rocket or spray can

ANSWERS: 39. supersized, 40. envision, 41. starship, 42. subsurface, 43. supersized, 44. envision, 45. ancestor, 46. booster, 47. propellant

48. sub_____ce mining *adj.* situated or located beneath the surface of something; existing or occurring within the deeper layers of a material or object, often referring to areas below the Earth's surface
49. ro_____c guide operation *adj.* of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots
50. lunar ro__r *n.* a vehicle designed to travel over rough terrain, especially on the surface of a planet or moon
51. enhance the sa_____ss *n.* the quality or state of being salty
52. c__p of change *n.* a pointed end, especially the pointed end of a crescent moon or the part of a curve that is most curved
53. an op_____ne remark *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
54. a spiral ne____a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
55. ind_____us worker *adj.* hardworking, diligent, and persistent in effort
56. ro__r mission *n.* a vehicle designed to travel over rough terrain, especially on the surface of a planet or moon
57. gl_____r retreat *n.* a slowly moving mass of ice formed from snow on mountains or near the North Pole or the South Pole

ANSWERS: 48. subsurface, 49. robotic, 50. rover, 51. saltiness, 52. cusp, 53. opportune, 54. nebula, 55. industrious, 56. rover, 57. glacier

58. atmospheric me_____e *n.* a chemical compound with the chemical formula CH₄ with no smell or color, often used as a fuel
59. Yellowstone ge____r *n.* a natural hot spring that periodically ejects a column of boiling water and steam into the air; a device that produces a similar effect for decorative or practical purposes
60. st_____ip captain *n.* a spacecraft designed for long-distance travel between stars; a fictional spacecraft used in science fiction
61. or_____i art *n.* the Japanese art or practice of folding paper into decorative shapes and figures
62. as_____ut in training *n.* a person trained by a space agency to travel outside the Earth's atmosphere
63. origin of the co____s *n.* another name for the universe, mainly used when it is thought of as an ordered system
64. unf_____ng blow *adj.* not willing to forgive or show mercy; not able to be repaired or restored
65. ba_____e attachment *n.* a large mechanical digging machine with a shovel-like scoop on the front and a digging arm on the back, used for excavating and moving large amounts of soil and debris
66. sub_____le cable *adj.* able to be operated or used underwater; capable of being submerged in water or other liquid

ANSWERS: 58. methane, 59. geyser, 60. starship, 61. origami, 62. astronaut, 63. cosmos, 64. unforgiving, 65. backhoe, 66. submersible

67. Ma____n surface

adj. of or relating to Mars or its imaginary inhabitants

68. a single c__p

n. a pointed end, especially the pointed end of a crescent moon or the part of a curve that is most curved

ANSWERS: 67. Martian, 68. cusp

Session 3: Fill in the Blanks

1. He was known to be very _____ and would often work late into the night.
adj. hardworking, diligent, and persistent in effort
2. The construction crew used a _____ to dig the foundation for the new building.
n. a large mechanical digging machine with a shovel-like scoop on the front and a digging arm on the back, used for excavating and moving large amounts of soil and debris
3. The spacecraft will conduct a _____ of the moon to gather data.
n. a close approach to a celestial body, especially a planet, by a spacecraft without landing or entering orbit
4. The _____ vehicle can explore the depths of the ocean.
adj. able to be operated or used underwater; capable of being submerged in water or other liquid
5. The _____ Kepler-186f is located 500 light-years from Earth and is believed to be habitable.
n. a planet that orbits a star outside of the solar system
6. I ordered a _____ meal at the fast food restaurant.
adj. enlarged or increased beyond the usual or ordinary size; larger than normal; often used to describe food or drink excessively large portions
7. My remote _____ immigrated to the United States from Ireland in the 1800s.
n. a person from whom one is descended; a forefather

ANSWERS: 1. industrious, 2. backhoe, 3. flyby, 4. submersible, 5. exoplanet, 6. supersized, 7. ancestor

8. The _____ hot water generates electricity for nearby towns and cities.
- n.* a natural hot spring that periodically ejects a column of boiling water and steam into the air; a device that produces a similar effect for decorative or practical purposes
9. 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
10. The surgeon removed the tumor using _____ video assistance.
- adj.* of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots
11. The shuttle _____ trained for months before embarking on the space mission.
- n.* a person trained by a space agency to travel outside the Earth's atmosphere
12. _____ technology has advanced significantly since the first man landed on the moon in 1969.
- n.* the act of traveling into space, either by means of crewed or uncrewed spacecraft; the technology and infrastructure required to support space travel
13. Navigators still use the Little Bear _____ at sea.
- n.* a group of stars that form a recognizable pattern and have a name; a group of related or similar ideas, things, or people
14. The _____ of the ice age have shaped Fjord.
- n.* a slowly moving mass of ice formed from snow on mountains or near the North Pole or the South Pole

ANSWERS: 8. geyser's, 9. nebula, 10. robotic, 11. astronaut, 12. Spaceflight, 13. constellation, 14. glaciers

15. Increased _____ pressure leads to the development of glaucoma.
n. the round part of the eye of a vertebrate that is usually inside the head and, therefore, cannot be seen
16. The _____ sun scorched the desert, making it uninhabitable.
adj. not willing to forgive or show mercy; not able to be repaired or restored
17. The _____ layers of the ocean are still largely unexplored.
adj. situated or located beneath the surface of something; existing or occurring within the deeper layers of a material or object, often referring to areas below the Earth's surface
18. The _____ on Mars is gathering data on the planet's surface and sending it back to Earth.
n. a vehicle designed to travel over rough terrain, especially on the surface of a planet or moon
19. Her job was _____ and comfortable, with little pressure or stress.
adj. comfortable, easy, and lacking hardship or effort; undemanding; luxurious
20. The _____ in the rocket provided the force needed to reach outer space.
n. a substance that provides the force to propel (= to cause something to move forwards) something, such as a rocket or spray can
21. The _____ moon Europa is believed to have an ocean beneath its icy surface.
adj. relating to Jupiter or its characteristics
22. He has the superpower to _____ a business opportunity.
v. to catch or take hold of someone or something suddenly and forcibly; to capture the attention or imagination of something

ANSWERS: 15. eyeball, 16. unforgiving, 17. subsurface, 18. rover, 19. cushy, 20. propellant, 21. Jovian, 22. seize

23. The energy drink is marketed as a _____ to help athletes perform better.
- n.* something or someone that supports, promotes, or enhances; a device or substance that improves the performance or effectiveness of something
24. There is very little water in the _____ atmosphere.
- adj.* of or relating to Mars or its imaginary inhabitants
25. 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
26. The project was on the _____ of success and needed a little more funding.
- n.* a pointed end, especially the pointed end of a crescent moon or the part of a curve that is most curved
27. Supercomputers enable scientists to create computational models of the _____.
- n.* another name for the universe, mainly used when it is thought of as an ordered system
28. We cannot _____ her as President.
- v.* to imagine or expect what a situation will be like in the future
29. The _____ crew encountered an alien race they had never seen before.
- n.* a spacecraft designed for long-distance travel between stars; a fictional spacecraft used in science fiction
30. The ignition of _____ gas in the plant killed five employees.
- n.* a chemical compound with the chemical formula CH₄ with no smell or color, often used as a fuel

ANSWERS: 23. booster, 24. Martian, 25. astrophysics, 26. cusp, 27. cosmos, 28. envision, 29. starship, 30. methane

31. I love making _____ cranes during my free time.

n. the Japanese art or practice of folding paper into decorative shapes and figures

32. She tasted the dish and detected a slight _____.

n. the quality or state of being salty

33. An _____ spacecraft was sent to Mars to explore the red planet.

adj. operated or functioning without the presence or support of a crew or human operator; unmanned

34. The phone rang at the most _____ time.

adj. suitable or happening at a time that is suitable or convenient for a particular purpose

ANSWERS: 31. origami, 32. saltiness, 33. uncrewed, 34. opportune