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Vocabulary Builder Reference from...

Fiorenzo Omenetto: Silk, the ancient material of the future | TED Talk

https://www.ted.com/talks/fiorenzo_omenetto_silk_the _ancient_material_of_the_future



Advanced Words Only

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Session 1: Word List

amaze

- v. to fill with wonder, surprise, or admiration synonym: astound, surprise, stagger
- (1) **amaze** and entertain visitors, (2) **amaze** everyone The magician's tricks **amazed** the audience.

medicinal

adj. of or relating to the treatment or cure of disease synonym: curative, therapeutic, healing

(1) **medicinal** chemistry, (2) traditional **medicinal**The **medicinal** properties of this herb have been known to help with various ailments.

reforestation

the process of replanting or regenerating forests,
 typically after they have been cut down or destroyed by natural disasters

synonym: afforestation

(1) **reforestation** project, (2) **reforestation** policy **Reforestation** efforts are necessary to combat deforestation and its negative environmental impact.

trait

n. a particular feature of your naturesynonym: attribute, feature, quality

(1) chemical trait, (2) personality traits

Multiple genes may influence behavioral traits concurrently.

biodegrade

- v. to decay naturally by microorganisms, such as bacteria and fungi
- (1) **biodegrade** by the microorganism, (2) bioplastic designed to **biodegrade**

The company's plastic products are easily **biodegraded** thanks to a unique manufacturing process.

dissolve

- v. to be or cause to be absorbed by a liquid to form a part of the solution; to close down or dismisssynonym: disband, disappear, liquefy
- (1) **dissolve** the sugar, (2) officially **dissolved** the marriage The political party **dissolved** after much internal fighting.

instantaneous

- adj. occurring or happening immediately or without delay;taking place in an instant or momentsynonym: immediate, prompt, rapid
- (1) **instantaneous** reaction, (2) **instantaneous** message The new software provides **instantaneous** results, making it much more efficient than the previous version.

edible

- adj. fit or safe to be eaten; able to be consumed as foodsynonym: esculent, comestible, digestible
- non- edible ingredients, (2) edible vegetables
 made sure to pick only edible mushrooms for our dinner.

photonics

n. the science and technology of generating, controlling, and detecting photons or particles of light, particularly about applications in areas such as telecommunications, information processing, and lighting

synonym: optics, photon science, light technology

(1) **photonics** devices, (2) **photonics** research The advancement of **photonics** technology has revolutionized the field of telecommunications.

reinvent

v. to change something so drastically that it looks to be completely new

synonym: recreate, remake, revive

(1) reinvent local dishes, (2) reinvent our life

They have tried to **reinvent** their grocery stores.

marvel

 someone something that causes feelings of wonder or surprise

synonym: wonder, phenomenon, amazement

(1) a marvel of beauty, (2) technical marvel

The space shuttle is a modern engineering **marvel**.

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.

unwind

 to relax and release tension, often by engaging in leisure activities or by simply resting; to reverse the winding or twisting of something

synonym: relax, de-stress, unroll

(1) **unwind** after work, (2) **unwind** on vacation

I like to **unwind** with a good book after a long day at work.

cocoon

a protective covering spun by some insects and other invertebrates

synonym: chrysalis, pupa, case

(1) cocoon silk, (2) a dried cocoon

The caterpillar spins a **cocoon** around itself before turning into a butterfly.

weave

v. to make cloth, a carpet, a basket, etc., by repeatedly crossing a single thread through two sets of long threads at a right angle to them

synonym: braid, unite, contrive

(1) weave on a loom, (2) weave a story

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The girl weaves a garland for her friend.

glamorous

adj. highly attractive and exciting, and different from ordinary things or people

synonym: alluring, bewitching, enchanting

(1) **glamorous** movie stars, (2) cast **glamorous** eyes

The south coast is less **glamorous** yet has many clean and

appealing hotels.

detach

v. to separate or disjoin something from something else; to disengage

synonym: separate, disengage, disconnect

(1) **detach** a ticket from its stub, (2) **detach** you from the matter

She **detached** the trailer from the truck before driving away.

evaporate

v. to turn a liquid into a gas; to become less intense and disappear gradually

synonym: vaporize, disappear, vanish

(1) **evaporate** the water, (2) **evaporate** almost overnight The sun will **evaporate** the mist.

nanoscale

- adj. on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale
- (1) **nanoscale** device, (2) things at the **nanoscale**This process improves the strength of the metal by controlling the **nanoscale** lattice structure of the metal.

topography

n. the arrangement and physical features of a particular area or region, including its natural and artificial elements and their relative positions and elevations; the study or description of this arrangement and these features

synonym: terrain, landscape, geography

(1) topography map, (2) detailed topography

The **topography** of the region is rugged, with many hills and valleys.

replicate

v. to make an exact copy of something; to repeat a process or experiment to confirm the results

synonym: duplicate, imitate, reproduce

(1) replicate the cell, (2) replicate data

The experiment was **replicated** several times to ensure accuracy.

onstage

adv. onto or on a stage in a theater; in front of an audience

(1) appeared onstage, (2) walk onstage

He performed his magic trick **onstage**, leaving the audience in awe.

prism

n. a three-dimensional object with a triangular base and parallel sides, which refracts (= to bend something) light that passes through it, resulting in the separation and display of the colors of the visible spectrum; a metaphorical term used to describe a situation that reveals or illuminates various aspects or perspectives of a particular phenomenon or topic

synonym: crystal, polyhedron

(1) **prism** spectrometer, (2) a **prism** of viewpoints

The scientist used an optical **prism** to analyze the dispersion of light in the laboratory experiment.

hologram

 a three-dimensional image produced by the interference of light beams from a laser or other coherent light sources used for artistic, scientific, or commercial applications

synonym: 3D image, virtual image, projection

(1) hologram projection, (2) hologram technology

The museum had a **hologram** exhibit that was very popular with visitors.

superimpose

v. to place, layer, or overlay one thing on top of another, typically in such a way that both are still visible; to add or combine something additional into an existing structure, design, or system

synonym: overlay, impose, place over

(1) **superimpose** image, (2) **superimpose** text The graphic designer will **superimpose** the logo over the image in the brochure.

sect

 a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream

synonym: group, faction, cult

(1) sect beliefs, (2) secret sect

The minority **sect** believed in a set of unconventional religious practices.

reflector

 a surface or object that reflects light, sound, or heat in a specific direction, often used to redirect or focus these elements toward a desired target or area

synonym: mirror

(1) **reflector** coating, (2) vehicle **reflector**

The cyclist wore a **reflector** vest to increase visibility on the road at night.

illuminate

v. to light something or to make something lighter or brighter; to make something free from confusion or ambiguity

synonym: brighten, light, adorn

(1) **illuminate** a dark hall, (2) **illuminate** my understanding That biologist **illuminated** the mechanism of heredity.

polystyrene

- a lightweight, thermoplastic polymer material used in the manufacture of a wide range of products, including packaging, insulation, and consumer goods
- (1) **polystyrene** foam, (2) **polystyrene** packaging The construction industry often utilizes **polystyrene** insulation panels to improve building energy efficiency.

dopant

 a substance or element added in small amounts to a semiconductor material during its manufacturing process to alter its electrical or optical properties; a type of

impurity introduced intentionally to modify the performance or characteristics of the material

synonym: additive, impurity, adulterant

(1) dopant atom, (2) silicon dopant

The **dopant** concentration in the semiconductor determines its electrical conductivity.

beforehand

adv. ahead of time; in advance

synonym: in advance, preceding, earlier

(1) take a seat **beforehand**, (2) three months **beforehand**She packed her sunscreen **beforehand** to remember it on the beach trip.

penicillin

 an antibiotic drug derived from mold and used to treat bacterial infections

synonym: antibiotic, bacitracin

(1) **penicillin** allergy, (2) **penicillin** sensitivity testing The doctor prescribed **penicillin** to treat the bacterial infection.

refrigerate

 to cool or preserve food or other items by using a refrigerator or other cold storage device; to keep something at a low temperature to prevent spoilage or degradation

synonym: chill, cool, freeze

(1) **refrigerate** perishable, (2) **refrigerate** medicine We need to **refrigerate** the leftovers to keep them from spoiling.

degrade

v. to make something worse, especially in quality; to show or treat someone in a way that makes them seem no value and do not have the respect or reasonable opinion of others

synonym: demean, disgrace, impair

(1) **degrade** his public image, (2) **degrade** environmental quality

You should not **degrade** yourself by allowing them to use you.

impassioned

adj. having or showing strong feelings, enthusiasm, or dedication or making a strong emotional appealsynonym: enthusiastic, fervent, ardent

(1) give an **impassioned** defense, (2) **impassioned** plea He spoke with **impassioned** conviction about the need for change.

Session 2: Spelling

1.	ev	_te almost overnight	ν.	to turn a liquid into a gas; to become
				less intense and disappear gradually

twisting of something

3. a dried co___n

n. a protective covering the second se

a protective covering spun by some insects and other invertebrates

4. re____te the cell

v. to make an exact copy of something; to repeat a process or experiment to confirm the results

5. pol____ne foam

 a lightweight, thermoplastic polymer material used in the manufacture of a wide range of products, including packaging, insulation, and consumer goods

6. pen____in allergy

 an antibiotic drug derived from mold and used to treat bacterial infections

7. ev____te the water

v. to turn a liquid into a gas; to become less intense and disappear gradually

8. officially di____ved the marriage

v. to be or cause to be absorbed by a liquid to form a part of the solution; to close down or dismiss

9. do___t atom

n. a substance or element added in small amounts to a semiconductor material during its manufacturing process to alter its electrical or optical properties; a type of impurity introduced intentionally to modify the performance or characteristics of the material

ANSWERS: 1. evaporate, 2. unwind, 3. cocoon, 4. replicate, 5. polystyrene, 6. penicillin, 7. evaporate, 8. dissolve, 9. dopant

10.	phcs research	n.	the science and technology of generating, controlling, and detecting photons or particles of light, particularly about applications in areas such as telecommunications, information processing, and lighting
11.	wee on a loom	<i>v</i> .	to make cloth, a carpet, a basket, etc., by repeatedly crossing a single thread through two sets of long threads at a right angle to them
12.	take a seat befnd	adv.	ahead of time; in advance
13.	technical maI	n.	someone something that causes feelings of wonder or surprise
14.	und on vacation	<i>v</i> .	to relax and release tension, often by engaging in leisure activities or by simply resting; to reverse the winding or twisting of something
15.	ame everyone	<i>v</i> .	to fill with wonder, surprise, or admiration
16.	dive the sugar	<i>v</i> .	to be or cause to be absorbed by a liquid to form a part of the solution; to close down or dismiss
17.	dee his public image	ν.	to make something worse, especially in quality; to show or treat someone in a way that makes them seem no value and do not have the respect or reasonable opinion of others
18.	rete data	<i>v</i> .	to make an exact copy of something; to repeat a process or experiment to confirm the results

ANSWERS: 10. photonics, 11. weave, 12. beforehand, 13. marvel, 14. unwind, 15. amaze, 16. dissolve, 17. degrade, 18. replicate

19.	insous reaction	adj.	occurring or happening immediately or without delay; taking place in an instant or moment
20.	bioplastic designed to biode	<i>v</i> .	to decay naturally by microorganisms, such as bacteria and fungi
21.	penin sensitivity testing	n.	an antibiotic drug derived from mold and used to treat bacterial infections
22.	indus student	adj.	hardworking, diligent, and persistent in effort
23.	illte my understanding	ν.	to light something or to make something lighter or brighter; to make something free from confusion or ambiguity
24.	nale device	adj.	on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale
25.	ede vegetables	adj.	fit or safe to be eaten; able to be consumed as food
26.	prm spectrometer	n.	a three-dimensional object with a triangular base and parallel sides, which refracts (= to bend something) light that passes through it, resulting in the separation and display of the colors of the visible spectrum; a metaphorical term used to describe a situation that reveals or illuminates various aspects or perspectives of a particular phenomenon or topic
27.	indus worker	adj.	hardworking, diligent, and persistent in effort

ANSWERS: 19. instantaneous, 20. biodegrade, 21. penicillin, 22. industrious, 23. illuminate, 24. nanoscale, 25. edible, 26. prism, 27. industrious

- 28. personality tr ts n. 29. chemical tr t n. 30. co___n silk n. 31. ref_____ion project n. 32. traditional me____al 33. ho am projection 34. appeared on____e 35. walk on e 36. gl____us movie stars 37. am e and entertain visitors ν. 38. a pr__m of viewpoints n.
- n. a particular feature of your nature
 - n. a particular feature of your nature
 - *n.* a protective covering spun by some insects and other invertebrates
 - n. the process of replanting or regenerating forests, typically after they have been cut down or destroyed by natural disasters
 - adj. of or relating to the treatment or cure of disease
 - a three-dimensional image produced by the interference of light beams from a laser or other coherent light sources used for artistic, scientific, or commercial applications
 - adv. onto or on a stage in a theater; in front of an audience
 - adv. onto or on a stage in a theater; in front of an audience
 - adj. highly attractive and exciting, and different from ordinary things or people
 - v. to fill with wonder, surprise, or admiration
 - n. a three-dimensional object with a triangular base and parallel sides, which refracts (= to bend something) light that passes through it, resulting in the separation and display of the colors of the visible spectrum; a metaphorical term used to describe a situation that reveals or illuminates various aspects or perspectives of a particular phenomenon or topic

ANSWERS: 28. trait, 29. trait, 30. cocoon, 31. reforestation, 32. medicinal, 33. hologram, 34. onstage, 35. onstage, 36. glamorous, 37. amaze, 38. prism

39.	give an imp	_ed defense	adj.	having or showing strong feelings, enthusiasm, or dedication or making a strong emotional appeal
40.	supse text		v.	to place, layer, or overlay one thing on top of another, typically in such a way that both are still visible; to add or combine something additional into an existing structure, design, or system
41.	things at the na	le	adj.	on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale
42.	insous me	essage	adj.	occurring or happening immediately or without delay; taking place in an instant or moment
43.	s_t beliefs		n.	a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream
44.	meal chemis	stry	adj.	of or relating to the treatment or cure of disease
45.	rent local dish	nes	<i>v</i> .	to change something so drastically that it looks to be completely new
46.	phcs device	S	n.	the science and technology of generating, controlling, and detecting photons or particles of light, particularly about applications in areas such as telecommunications, information processing, and lighting
47.	refte medic	cine	ν.	to cool or preserve food or other items by using a refrigerator or other cold storage device; to keep something at a low temperature to prevent spoilage or degradation

ANSWERS: 39. impassioned, 40. superimpose, 41. nanoscale, 42. instantaneous, 43. sect, 44. medicinal, 45. reinvent, 46. photonics, 47. refrigerate

48.	polne packaging	n.	a lightweight, thermoplastic polymer material used in the manufacture of a wide range of products, including packaging, insulation, and consumer goods
49.	biode by the microorganism	v.	to decay naturally by microorganisms, such as bacteria and fungi
50.	refion policy	n.	the process of replanting or regenerating forests, typically after they have been cut down or destroyed by natural disasters
51.	silicon dot	n.	a substance or element added in small amounts to a semiconductor material during its manufacturing process to alter its electrical or optical properties; a type of impurity introduced intentionally to modify the performance or characteristics of the material
52.	tophy map	n.	the arrangement and physical features of a particular area or region, including its natural and artificial elements and their relative positions and elevations; the study or description of this arrangement and these features
53.	reor coating	n.	a surface or object that reflects light, sound, or heat in a specific direction, often used to redirect or focus these elements toward a desired target or area
54.	refte perishable	v.	to cool or preserve food or other items by using a refrigerator or other cold storage device; to keep something at a low temperature to prevent spoilage or degradation
	SWERS: 48. polystyrene, 49. biodegrae ography, 53. reflector, 54. refrigerate	de, 5	0. reforestation, 51. dopant, 52.

55.	secret st	n.	a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream
56.	deh a ticket from its stub	<i>v</i> .	to separate or disjoin something from something else; to disengage
57.	non-ede ingredients	adj.	fit or safe to be eaten; able to be consumed as food
58.	deh you from the matter	<i>v</i> .	to separate or disjoin something from something else; to disengage
59.	wee a story	ν.	to make cloth, a carpet, a basket, etc., by repeatedly crossing a single thread through two sets of long threads at a right angle to them
60.	three months befnd	adv.	ahead of time; in advance
61.	hoam technology	n.	a three-dimensional image produced by the interference of light beams from a laser or other coherent light sources used for artistic, scientific, or commercial applications
62.	a maI of beauty	n.	someone something that causes feelings of wonder or surprise
63.	cast glus eyes	adj.	highly attractive and exciting, and different from ordinary things or people
64.	illte a dark hall	ν.	to light something or to make something lighter or brighter; to make something free from confusion or ambiguity
65.	imped plea	adj.	having or showing strong feelings, enthusiasm, or dedication or making a strong emotional appeal

ANSWERS: 55. sect, 56. detach, 57. edible, 58. detach, 59. weave, 60. beforehand, 61. hologram, 62. marvel, 63. glamorous, 64. illuminate, 65. impassioned

66. de e environmental quality to make something worse, especially in ν. quality; to show or treat someone in a way that makes them seem no value and do not have the respect or reasonable opinion of others 67. detailed top____hy the arrangement and physical features n. of a particular area or region, including its natural and artificial elements and their relative positions and elevations; the study or description of this arrangement and these features a surface or object that reflects light, 68. vehicle re or sound, or heat in a specific direction, often used to redirect or focus these elements toward a desired target or area 69. re___nt our life to change something so drastically that ν. it looks to be completely new 70. sup____se image to place, layer, or overlay one thing on ν. top of another, typically in such a way that both are still visible; to add or

ANSWERS: 66. degrade, 67. topography, 68. reflector, 69. reinvent, 70. superimpose

combine something additional into an existing structure, design, or system

Session 3: Fill in the Blanks

1.	efforts are necessary to combat deforestation and its negative environmental impact.
n.	the process of replanting or regenerating forests, typically after they have been cut down or destroyed by natural disasters
2.	The girl a garland for her friend.
<i>v</i> .	to make cloth, a carpet, a basket, etc., by repeatedly crossing a single thread through two sets of long threads at a right angle to them
3.	The advancement of technology has revolutionized the field of telecommunications.
n.	the science and technology of generating, controlling, and detecting photons or particles of light, particularly about applications in areas such as telecommunications, information processing, and lighting
4.	The minority believed in a set of unconventional religious practices.
n.	a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream
5.	The museum had a exhibit that was very popular with visitors.
n.	a three-dimensional image produced by the interference of light beams from a laser or other coherent light sources used for artistic, scientific, or commercial applications
6.	The company's plastic products are easily thanks to a unique manufacturing process.
<i>v</i> .	to decay naturally by microorganisms, such as bacteria and fungi
	SWERS: 1. Reforestation, 2. weaves, 3. photonics, 4. sect, 5. hologram, 6. degraded

ANSWERS: 7. illuminated, 8. topography, 9. glamorous, 10. medicinal, 11. detached, 12. reflector, 13. polystyrene, 14. reinvent

laboratory experiment.
n. a three-dimensional object with a triangular base and parallel sides, which refracts (= to bend something) light that passes through it, resulting in the separation and display of the colors of the visible spectrum; a metaphorical term used to describe a situation that reveals or illuminates various aspects or perspectives of a particular phenomenon or topic
16. He was known to be very and would often work late into the night.
adj. hardworking, diligent, and persistent in effort
17. I made sure to pick only mushrooms for our dinner.
adj. fit or safe to be eaten; able to be consumed as food
18. The graphic designer will the logo over the image in the brochure.
v. to place, layer, or overlay one thing on top of another, typically in such a way that both are still visible; to add or combine something additional into an existing structure, design, or system
19. He performed his magic trick leaving the audience in awe.
adv. onto or on a stage in a theater; in front of an audience
20. The caterpillar spins a around itself before turning into a butterfly.
n. a protective covering spun by some insects and other invertebrates
21. The magician's tricks the audience.
v. to fill with wonder, surprise, or admiration
22. The concentration in the semiconductor determines its electrical conductivity.
n. a substance or element added in small amounts to a semiconductor material during its manufacturing process to alter its electrical or optical properties; a type of impurity introduced intentionally to modify the performance or characteristics of the material

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ANSWERS: 15. prism, 16. industrious, 17. edible, 18. superimpose, 19. onstage, 20.

23.	The space shuttle is a modern engineering
n.	someone something that causes feelings of wonder or surprise
24.	This process improves the strength of the metal by controlling thelattice structure of the metal.
adj	on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale
25.	The experiment was several times to ensure accuracy.
<i>v</i> .	to make an exact copy of something; to repeat a process or experiment to confirm the results
26.	You should not yourself by allowing them to use you.
v.	to make something worse, especially in quality; to show or treat someone in a way that makes them seem no value and do not have the respect or reasonable opinion of others
27.	I like to with a good book after a long day at work.
v.	to relax and release tension, often by engaging in leisure activities or by simply resting; to reverse the winding or twisting of something
28.	The doctor prescribed to treat the bacterial infection.
n.	an antibiotic drug derived from mold and used to treat bacterial infections
29.	Multiple genes may influence behavioral concurrently.
n.	a particular feature of your nature
30.	The political party after much internal fighting.
ν.	to be or cause to be absorbed by a liquid to form a part of the solution; to close down or dismiss
	SWERS: 23. marvel, 24. nanoscale, 25. replicated, 26. degrade, 27. unwind, 28. iicillin, 29. traits, 30. dissolved

ANSWERS: 31. refrigerate, 32. instantaneous, 33. impassioned, 34. evaporate, 35. beforehand

35. She packed her sunscreen _____ to remember it on the beach trip.

adv. ahead of time; in advance