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Vocabulary Builder Reference from...

Craig Venter: Watch me unveil "synthetic life" | TED Talk

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

Advanced Words Only

IMPORTANT

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Session 1: Word List

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.

watermark

n. a visible or invisible design or pattern that is embedded into paper or other surfaces and is used to prevent counterfeiting or illegal copying

synonym: logo, insignia, emblem

(1) copyright **watermark**, (2) **watermark** logo

The **watermark** on the document ensured that it could not be forged or duplicated without permission.

hemophilia

n. a genetic disorder in which the ability of the blood to clot is severely reduced, resulting in excessive bleeding and bruising

synonym: bleeding disorder, clotting disorder

(1) **hemophilia** treatment, (2) **hemophilia** diagnosis

He inherited **hemophilia** from his mother and suffers from frequent bleeding.

mycoplasma

n. a genus of bacteria that lack a cell wall and can cause respiratory and genital infections in humans and animals

synonym: mollicutes, pleuropneumonia-like organisms

(1) **mycoplasma** infection, (2) **mycoplasma** pneumonia

The research team developed a new diagnostic tool to detect **mycoplasma** presence in clinical samples rapidly.

genital

adj. of or relating to the external and internal reproductive organs

synonym: reproductive, genetic, sexual

(1) **genital** bleeding, (2) pain in the **genital** area

The **genital** organs of the human body are necessary for reproduction.

synthesize

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

synonym: incorporate, amalgamate

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

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

blacksmith

n. a smith who forges and shapes iron with a hammer and anvil

(1) **blacksmith** welding, (2) **blacksmith** shop

The **blacksmith** shaped a horseshoe on his anvil.

bacteriophage

n. (also "phage") a virus that infects and destroys bacteria

synonym: phage, bacterial virus, bacteriovore

(1) DNA-containing **bacteriophage**, (2) **bacteriophage** infection

Scientists are studying the use of **bacteriophages** to combat bacterial infections.

coli

n. a bacterium of the genus Escherichia that is commonly found in the human gut and is used as a model organism in molecular biology and biochemistry

(1) E. **coli** bacteria strain, (2) **coli** cells

The study of Escherichia **coli** has led to important advancements in areas such as antibiotic resistance, gut microbiome, and synthetic biology.

phi *n.* the 21st letter of the Greek alphabet, used in mathematics and sciences to represent various concepts such as the golden ratio, magnetic flux, and phase angle
(1) golden **phi** ratio, (2) **phi** coefficient
The mathematician explained the significance of **phi** in the sequence of Fibonacci numbers.

nuclease *n.* an enzyme that breaks down nucleic acids, such as DNA and RNA, into smaller fragments by breaking the bonds between nucleotides
(1) restriction **nuclease**, (2) DNA **nuclease**
The **nuclease** enzyme is important for DNA replication and repair.

chew *v.* to crush or grind something, especially food, with the teeth and then swallow it
synonym: masticate, crush, grind
(1) **chew** each word, (2) **chew** a stick of gum
My dog loves to **chew** on bones.

eukaryotic *n.* organisms whose cell nuclei are surrounded by a nuclear envelope
(1) **eukaryotic** algae, (2) **eukaryotic** genome
Mitochondria exist in every **eukaryotic** cell.

overconfidence *n.* excessive trust or faith in one's abilities, judgments, or decisions, often leading to mistaken assumptions or risky behavior
synonym: overestimation, hubris, arrogance
(1) **overconfidence** bias, (2) false **overconfidence**
The student's **overconfidence** in their writing abilities caused them not to bother to proofread their essay, resulting in a

poor grades.

tenet

n. one of the fundamental ideas or beliefs upon which a theory or broader group of views is founded

synonym: dogma, creed, principle

(1) basic **tenets**, (2) a fundamental **tenet** of Judaism

This section explains a central **tenet** of economics.

pitfall

n. a hidden or unsuspected danger or difficulty; a trap or snare

synonym: trap, snare, hazard

(1) potential **pitfall**, (2) **pitfall** to be avoided

One of the biggest **pitfalls** of starting a new business is underestimating the costs.

contaminate

v. to make something impure, unclean, or poisonous by contact or mixture

synonym: defile, pollute, adulterate

(1) **contaminate** with a disease, (2) **contaminate** his ego

We strive not to **contaminate** the environment when demolishing petroleum plants.

writ

n. a written legal order or command

synonym: legal document, order, legal process

(1) a **writ** of summons, (2) issue a **writ**

He was served with a **writ** of eviction, giving him the notice to vacate the property.

codon

n. a sequence of three nitrogenous bases in a DNA or RNA molecule that specifies a particular amino acid or a start or stop signal in protein synthesis

synonym: genetic sequence, DNA triplet

(1) **codon** base, (2) **codon** sequence

Scientists have found that **codon** usage can vary among different species and even between different tissues within the same organism.

punctuate

v. to insert punctuation marks (= comma, period, colon, etc.) in the text; to interrupt periodically

synonym: emphasize, accent, mark

(1) **punctuate** a sentence, (2) **punctuate** his talk

Strikes had also **punctuated** the preceding weeks.

numb

adj. unable to feel physical sensation and movement; not showing human feeling or sensitivity

synonym: dazed, insensitive, emotionless

(1) **numb** with cold, (2) a **numb** mind

My left arm became **numb**.

decode

v. to convert something, such as a message or piece of information, from a specific form into one that you can understand

synonym: decipher, translate, interpret

(1) **decode** a message, (2) ability to **decode** the differences

The software could **decode** the encrypted data and reveal the hidden information.

recreate

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

synonym: renovate, vivify, revive

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

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

envelop

v. to surround and cover completely; to encase

synonym: wrap, cover, surround

(1) **envelop** the whole world, (2) **envelop** her in a bear hug

The fog **enveloped** the city, making it difficult to see.

classify

v. to categorize or group something according to a system or set of criteria; to assign something to a particular class or category based on its characteristics or properties

synonym : categorize, sort, arrange

(1) **classify** images, (2) **classify** emails into folders

I need to **classify** these documents for the upcoming audit.

layman

n. a person who is not a professional or expert in a particular field, typically referring to someone who lacks specialized knowledge or training in a specific subject

synonym : layperson, non-expert, novice

(1) **layman** perspective, (2) **layman's** language

The doctor explained the procedure to me in **layman's** terms so I could understand it.

ventral

adj. relating to or situated on or toward the belly or underside of an animal or organ; opposite of dorsal

synonym : abdominal, ventricose, stomachal

(1) **ventral** fin, (2) **ventral** hernia

The **ventral** side of the fish was beautifully colored.

shorten

v. to make something shorter in length, duration, or extent; to reduce the length of something; to make something briefer or more concise

synonym : reduce, truncate, abridge

(1) **shorten** the deadline, (2) **shorten** the sentence

I want to **shorten** my haircut before the summer heat arrives.

rhinovirus

n. the most common viral infectious agent in humans and is the predominant cause of the common cold

(1) **rhinovirus** cold, (2) a **rhinovirus** in a host

About half of all asthma attacks are thought to be caused by **rhinovirus** infection.

gulf

n. a large ocean inlet or deep bay that is partially enclosed by land

synonym : chasm, divide, abyss

(1) **gulf** war, (2) **gulf** stream

The **Gulf** of Mexico is a body of water in the southern United

States.

algae

n. A simple plant that grows in or near water and lacks typical leaves and roots

(1) **algae** biofuel, (2) blue **algae**

Algae has jammed the inlet to the water turbine.

hydrocarbon

n. an organic compound consisting entirely of hydrogen and carbon

(1) **hydrocarbon** production, (2) **hydrocarbon** molecules in crude oil

Burning **hydrocarbons** releases water vapor and carbon dioxide.

refinery

n. a facility that is used to process, purify, and refine raw materials such as oil or metal into a more useful or valuable form

synonym: plant, factory, processing plant

(1) hydrogen **refinery**, (2) **refinery** operations

The oil **refinery** was shut down due to safety concerns after a major accident.

Session 2: Spelling

- | | |
|------------------------------|--|
| 1. issue a w__t | <i>n.</i> a written legal order or command |
| 2. hem_____ia treatment | <i>n.</i> a genetic disorder in which the ability of the blood to clot is severely reduced, resulting in excessive bleeding and bruising |
| 3. g__f stream | <i>n.</i> a large ocean inlet or deep bay that is partially enclosed by land |
| 4. hyd_____on production | <i>n.</i> an organic compound consisting entirely of hydrogen and carbon |
| 5. en_____p the whole world | <i>v.</i> to surround and cover completely; to encase |
| 6. hem_____ia diagnosis | <i>n.</i> a genetic disorder in which the ability of the blood to clot is severely reduced, resulting in excessive bleeding and bruising |
| 7. hydrogen re_____ry | <i>n.</i> a facility that is used to process, purify, and refine raw materials such as oil or metal into a more useful or valuable form |
| 8. con_____te his ego | <i>v.</i> to make something impure, unclean, or poisonous by contact or mixture |
| 9. pain in the ge_____l area | <i>adj.</i> of or relating to the external and internal reproductive organs |
| 10. sh_____n the deadline | <i>v.</i> to make something shorter in length, duration, or extent; to reduce the length of something; to make something briefer or more concise |

ANSWERS: 1. writ, 2. hemophilia, 3. gulf, 4. hydrocarbon, 5. envelop, 6. hemophilia, 7. refinery, 8. contaminate, 9. genital, 10. shorten

11. syn_____ze molecules *v.* to combine a substance to make a more complex product or compound
12. re_____te a single country *v.* to make something that existed previously happen or appear to exist again
13. syn_____ze information *v.* to combine a substance to make a more complex product or compound
14. euk_____ic algae *n.* organisms whose cell nuclei are surrounded by a nuclear envelope
15. ve_____l hernia *adj.* relating to or situated on or toward the belly or underside of an animal or organ; opposite of dorsal
16. false ove_____nce *n.* excessive trust or faith in one's abilities, judgments, or decisions, often leading to mistaken assumptions or risky behavior
17. sh_____n the sentence *v.* to make something shorter in length, duration, or extent; to reduce the length of something; to make something briefer or more concise
18. pi_____l to be avoided *n.* a hidden or unsuspected danger or difficulty; a trap or snare
19. E. c__i bacteria strain *n.* a bacterium of the genus Escherichia that is commonly found in the human gut and is used as a model organism in molecular biology and biochemistry
20. potential pi_____l *n.* a hidden or unsuspected danger or difficulty; a trap or snare
21. en_____p her in a bear hug *v.* to surround and cover completely; to encase

ANSWERS: 11. synthesize, 12. recreate, 13. synthesize, 14. eukaryotic, 15. ventral, 16. overconfidence, 17. shorten, 18. pitfall, 19. coli, 20. pitfall, 21. envelop

22. hyd_____on molecules in crude oil *n.* an organic compound consisting entirely of hydrogen and carbon
23. de___e a message *v.* to convert something, such as a message or piece of information, from a specific form into one that you can understand
24. re_____ry operations *n.* a facility that is used to process, purify, and refine raw materials such as oil or metal into a more useful or valuable form
25. blue al___e *n.* A simple plant that grows in or near water and lacks typical leaves and roots
26. con_____te with a disease *v.* to make something impure, unclean, or poisonous by contact or mixture
27. c__w a stick of gum *v.* to crush or grind something, especially food, with the teeth and then swallow it
28. a n__b mind *adj.* unable to feel physical sensation and movement; not showing human feeling or sensitivity
29. c__w each word *v.* to crush or grind something, especially food, with the teeth and then swallow it
30. ge_____l bleeding *adj.* of or relating to the external and internal reproductive organs
31. basic te__ts *n.* one of the fundamental ideas or beliefs upon which a theory or broader group of views is founded
32. golden p_i ratio *n.* the 21st letter of the Greek alphabet, used in mathematics and sciences to represent various concepts such as the golden ratio, magnetic flux, and phase angle

ANSWERS: 22. hydrocarbon, 23. decode, 24. refinery, 25. algae, 26. contaminate, 27. chew, 28. numb, 29. chew, 30. genital, 31. tenet, 32. phi

42. rhi_____us cold *n.* the most common viral infectious agent in humans and is the predominant cause of the common cold
43. a w__t of summons *n.* a written legal order or command
44. myc_____ma pneumonia *n.* a genus of bacteria that lack a cell wall and can cause respiratory and genital infections in humans and animals
45. ability to de___e the differences *v.* to convert something, such as a message or piece of information, from a specific form into one that you can understand
46. a rhi_____us in a host *n.* the most common viral infectious agent in humans and is the predominant cause of the common cold
47. pu_____te his talk *v.* to insert punctuation marks (= comma, period, colon, etc.) in the text; to interrupt periodically
48. ove_____nce bias *n.* excessive trust or faith in one's abilities, judgments, or decisions, often leading to mistaken assumptions or risky behavior
49. ve_____l fin *adj.* relating to or situated on or toward the belly or underside of an animal or organ; opposite of dorsal
50. pu_____te a sentence *v.* to insert punctuation marks (= comma, period, colon, etc.) in the text; to interrupt periodically
51. cl_____fy images *v.* to categorize or group something according to a system or set of criteria; to assign something to a particular class or category based on its characteristics or properties

ANSWERS: 42. rhinovirus, 43. writ, 44. mycoplasma, 45. decode, 46. rhinovirus, 47. punctuate, 48. overconfidence, 49. ventral, 50. punctuate, 51. classify

52. co__n sequence *n.* a sequence of three nitrogenous bases in a DNA or RNA molecule that specifies a particular amino acid or a start or stop signal in protein synthesis
53. g__f war *n.* a large ocean inlet or deep bay that is partially enclosed by land
54. re_____te the cell *v.* to make an exact copy of something; to repeat a process or experiment to confirm the results
55. DNA nu_____se *n.* an enzyme that breaks down nucleic acids, such as DNA and RNA, into smaller fragments by breaking the bonds between nucleotides
56. p_i coefficient *n.* the 21st letter of the Greek alphabet, used in mathematics and sciences to represent various concepts such as the golden ratio, magnetic flux, and phase angle
57. la___n perspective *n.* a person who is not a professional or expert in a particular field, typically referring to someone who lacks specialized knowledge or training in a specific subject
58. c__i cells *n.* a bacterium of the genus *Escherichia* that is commonly found in the human gut and is used as a model organism in molecular biology and biochemistry
59. myc_____ma infection *n.* a genus of bacteria that lack a cell wall and can cause respiratory and genital infections in humans and animals

ANSWERS: 52. codon, 53. gulf, 54. replicate, 55. nuclease, 56. phi, 57. layman, 58. coli, 59. mycoplasma

60. al__e biofuel *n.* A simple plant that grows in or near water and lacks typical leaves and roots
61. n__b with cold *adj.* unable to feel physical sensation and movement; not showing human feeling or sensitivity
62. bac_____age infection *n.* (also "phage") a virus that infects and destroys bacteria
63. copyright wa_____rk *n.* a visible or invisible design or pattern that is embedded into paper or other surfaces and is used to prevent counterfeiting or illegal copying
64. re_____te the feeling of the 1920s *v.* to make something that existed previously happen or appear to exist again
65. la___n's language *n.* a person who is not a professional or expert in a particular field, typically referring to someone who lacks specialized knowledge or training in a specific subject
66. euk_____ic genome *n.* organisms whose cell nuclei are surrounded by a nuclear envelope

ANSWERS: 60. algae, 61. numb, 62. bacteriophage, 63. watermark, 64. recreate, 65. layman, 66. eukaryotic

Session 3: Fill in the Blanks

1. The mathematician explained the significance of ____ in the sequence of Fibonacci numbers.
 - n.* the 21st letter of the Greek alphabet, used in mathematics and sciences to represent various concepts such as the golden ratio, magnetic flux, and phase angle

2. Mitochondria exist in every _____ cell.
 - n.* organisms whose cell nuclei are surrounded by a nuclear envelope

3. About half of all asthma attacks are thought to be caused by _____ infection.
 - n.* the most common viral infectious agent in humans and is the predominant cause of the common cold

4. The _____ shaped a horseshoe on his anvil.
 - n.* a smith who forges and shapes iron with a hammer and anvil

5. The student's _____ in their writing abilities caused them not to bother to proofread their essay, resulting in a poor grades.
 - n.* excessive trust or faith in one's abilities, judgments, or decisions, often leading to mistaken assumptions or risky behavior

6. Scientists have found that _____ usage can vary among different species and even between different tissues within the same organism.
 - n.* a sequence of three nitrogenous bases in a DNA or RNA molecule that specifies a particular amino acid or a start or stop signal in protein synthesis

7. My dog loves to _____ on bones.
 - v.* to crush or grind something, especially food, with the teeth and then swallow it

ANSWERS: 1. phi, 2. eukaryotic, 3. rhinovirus, 4. blacksmith, 5. overconfidence, 6. codon, 7. chew

8. The _____ side of the fish was beautifully colored.

adj. relating to or situated on or toward the belly or underside of an animal or organ; opposite of dorsal

9. The spider can _____ multiple different silk proteins.

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

10. I need to _____ these documents for the upcoming audit.

v. to categorize or group something according to a system or set of criteria; to assign something to a particular class or category based on its characteristics or properties

11. We strive not to _____ the environment when demolishing petroleum plants.

v. to make something impure, unclean, or poisonous by contact or mixture

12. He was served with a _____ of eviction, giving him the notice to vacate the property.

n. a written legal order or command

13. The fog _____ the city, making it difficult to see.

v. to surround and cover completely; to encase

14. The oil _____ was shut down due to safety concerns after a major accident.

n. a facility that is used to process, purify, and refine raw materials such as oil or metal into a more useful or valuable form

15. The _____ enzyme is important for DNA replication and repair.

n. an enzyme that breaks down nucleic acids, such as DNA and RNA, into smaller fragments by breaking the bonds between nucleotides

ANSWERS: 8. ventral, 9. synthesize, 10. classify, 11. contaminate, 12. writ, 13. enveloped, 14. refinery, 15. nuclease

16. The _____ of Mexico is a body of water in the southern United States.
n. a large ocean inlet or deep bay that is partially enclosed by land
17. Burning _____ releases water vapor and carbon dioxide.
n. an organic compound consisting entirely of hydrogen and carbon
18. The study of Escherichia _____ has led to important advancements in areas such as antibiotic resistance, gut microbiome, and synthetic biology.
n. a bacterium of the genus Escherichia that is commonly found in the human gut and is used as a model organism in molecular biology and biochemistry
19. The research team developed a new diagnostic tool to detect _____ presence in clinical samples rapidly.
n. a genus of bacteria that lack a cell wall and can cause respiratory and genital infections in humans and animals
20. Strikes had also _____ the preceding weeks.
v. to insert punctuation marks (= comma, period, colon, etc.) in the text; to interrupt periodically
21. Scientists are studying the use of _____ to combat bacterial infections.
n. (also "phage") a virus that infects and destroys bacteria
22. _____ has jammed the inlet to the water turbine.
n. A simple plant that grows in or near water and lacks typical leaves and roots
23. She _____ the atmosphere of the pre-war age with her stage setting.
v. to make something that existed previously happen or appear to exist again

ANSWERS: 16. Gulf, 17. hydrocarbons, 18. coli, 19. mycoplasma, 20. punctuated, 21. bacteriophages, 22. Algae, 23. recreated

24. The experiment was _____ several times to ensure accuracy.
- v.* to make an exact copy of something; to repeat a process or experiment to confirm the results
25. The _____ on the document ensured that it could not be forged or duplicated without permission.
- n.* a visible or invisible design or pattern that is embedded into paper or other surfaces and is used to prevent counterfeiting or illegal copying
26. He inherited _____ from his mother and suffers from frequent bleeding.
- n.* a genetic disorder in which the ability of the blood to clot is severely reduced, resulting in excessive bleeding and bruising
27. One of the biggest _____ of starting a new business is underestimating the costs.
- n.* a hidden or unsuspected danger or difficulty; a trap or snare
28. I want to _____ my haircut before the summer heat arrives.
- v.* to make something shorter in length, duration, or extent; to reduce the length of something; to make something briefer or more concise
29. The doctor explained the procedure to me in _____ terms so I could understand it.
- n.* a person who is not a professional or expert in a particular field, typically referring to someone who lacks specialized knowledge or training in a specific subject
30. The software could _____ the encrypted data and reveal the hidden information.
- v.* to convert something, such as a message or piece of information, from a specific form into one that you can understand

ANSWERS: 24. replicated, 25. watermark, 26. hemophilia, 27. pitfalls, 28. shorten, 29. layman's, 30. decode

31. My left arm became _____.

adj. unable to feel physical sensation and movement; not showing human feeling or sensitivity

32. The _____ organs of the human body are necessary for reproduction.

adj. of or relating to the external and internal reproductive organs

33. This section explains a central _____ of economics.

n. one of the fundamental ideas or beliefs upon which a theory or broader group of views is founded

ANSWERS: 31. numb, 32. genital, 33. tenet