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Vocabulary Builder Reference from...

Michelle Borkin: Can astronomers help doctors? |

TED Talk

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

Advanced Words Only

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Session 1: Word List

unravel

v. undo twisted, knitted, or woven threads by separating it
synonym : separate, unknot, ravel

(1) **unravel** a knit, (2) **unravel** a plot

Detectives are still attempting to **unravel** the mystery of his death.

supernova

n. a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant

synonym : explosion, detonation, blast

(1) extragalactic **supernova**, (2) **supernova** remnant

The **supernova** explosion created a bright new star in the night sky.

remnant

n. a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something

synonym : remainder, leftover, residue

(1) **remnant** of the past, (2) **remnants** of fabric

The only **remnant** left of the ancient civilization was the crumbling ruins of their temples.

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.

explode

v. to burst or break open violently and noisily; to cause something to burst or break open

synonym : detonate, blast, rupture

(1) **explode** in anger, (2) **explode** in popularity

The old building **exploded** in a fiery inferno.

lurk

v. to wait somewhere secretly, especially because you are about to attack someone or do something bad or illegal

synonym : hide, creep, stalk

(1) **lurked** behind the words, (2) **lurk** in the darkness

In the city, the risk of traffic accidents **lurks** at every corner.

astronomer

n. a physicist who studies astronomy

synonym : stargazer, cosmologist, astrophysicist

(1) amateur **astronomer**, (2) solar **astronomer**

This question has fascinated solar **astronomers** for decades.

biomedical

adj. relating to the application of the natural sciences, especially biology, and physiology, to clinical medicine and healthcare

synonym : medical, clinical, health-related

(1) **biomedical** assay, (2) cutting-edge **biomedical**

Biomedical engineering focuses on developing new medical technologies and innovations to improve patient health outcomes.

astronomical

adj. relating to astronomy or the study of celestial bodies and phenomena; very large or immense in scale or magnitude

synonym : huge, vast, enormous

(1) **astronomical** observation, (2) **astronomical** numbers
The cost of the new equipment was **astronomical** and beyond the company's budget.

angiography

n. a medical imaging technique that involves the visualization and examination of blood vessels, typically using the injection of a contrast agent and X-ray imaging to highlight and study the circulatory system

synonym: arteriography, vascular imaging

(1) **angiography** procedure, (2) digital **angiography**
After experiencing chest pains, he underwent coronary **angiography** to check for blockages in his heart's arteries.

cornea

n. the transparent layer at the front of the eye that covers the iris and pupil and helps to focus light onto the retina

synonym: eye membrane, eye lens

(1) **cornea** transplant, (2) **cornea** damage
A scratched **cornea** can be very painful and may cause blurry vision.

steppe

n. a vast, wide, and usually treeless plain, typically found in semi-arid or arid regions, characterized by fertile soil and grassy vegetation, often used for grazing livestock; an expansive and open grassland ecosystem found in Eurasia and North America

synonym: prairie, savannah, grassland

(1) **steppe** climate, (2) barren **steppe**
The nomadic tribes set up camp on the vast **steppe**.

radiology

n. the branch of medicine that uses medical imaging technologies such as X-rays, CT scans, MRIs, and ultrasound to diagnose and treat diseases and injuries

synonym: medical imaging, radiography, radioscopy

(1) interventional **radiology**, (2) diagnostic **radiology**
The patient underwent a **radiology** scan to diagnose their medical condition.

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.

pillar

n. a tall, vertical column or support structure that helps to hold up other parts of a building or structure; a person or thing regarded as providing essential support or core strength to something

synonym: column, post, support

(1) **pillar** of society, (2) **pillar** decoration

The **pillar** of smoke rising from the building signaled a massive fire.

visualize

v. to form a mental image or concept of something; to make something visible

synonym: imagine, picture, envision

(1) **visualize** data, (2) **visualize** flying through space

She tried to **visualize** the layout of the new house in her mind.

revolutionize

v. to bring about a complete or radical change in something, often through the introduction of new methods or ideas

synonym: transform, innovate, modernize

(1) **revolutionize** the industry, (2) **revolutionize** the technology

The invention of the smartphone **revolutionized** the way we communicate with each other.

quizzical

adj. expressing puzzlement, questioning, or curiosity through a facial expression or demeanor; having an appearance or manner that suggests confusion or mild skepticism

synonym: puzzled, curious, questioning

(1) give a **quizzical** look, (2) **quizzical** smile

The doctor gave a **quizzical** expression after seeing the patient's unusual symptoms.

bioinformatics

n. the interdisciplinary field that combines biology and computer science to analyze, interpret, and manage biological information and data, particularly in the realm of genetics, genomics, and other related areas

synonym : computational biology, genomics

(1) **bioinformatics** research, (2) **bioinformatics** tools

Bioinformatics algorithms are essential for identifying and analyzing patterns in biological data.

specie

n. coins or notes in a currency, as distinct from paper money; a chemical substance or group made up of identical molecules

synonym : coinage, mintage

(1) **specie** reserve, (2) ground-state **specie**

The store only accepts payment in cash, no credit or debit cards, only **specie**.

physicist

n. a scientist who specializes in the field of physics

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

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

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.

serendipity

n. the occurrence and development of events by chance in a happy or beneficial way; a fortunate accident or discovery

synonym : luck, chance, fortune

(1) **serendipity** moment, (2) **serendipity** discovery

The discovery of penicillin was a result of **serendipity**.

adventurous

adj. willing to take risks and try new or difficult things

synonym : daring, risk-taking, bold

(1) lead an **adventurous** life, (2) **adventurous** pioneers
He has an **adventurous** spirit and is unafraid of risks.

cardiologist

n. a medical doctor who specializes in the study and treatment of the heart and the circulatory system

synonym: heart doctor, heart specialist, cardiac specialist

(1) **cardiologist** appointment, (2) skilled **cardiologist**

My grandfather is seeing a **cardiologist** to monitor his heart condition.

enlighten

v. to give someone greater knowledge or understanding about a particular subject or situation, often in a spiritual or moral sense

synonym: inform, educate, illuminate

(1) **enlighten** legions of people, (2) **enlighten** other countries

The teacher sought to **enlighten** her students by introducing them to new ideas and perspectives.

confer

v. to have a meeting or discussion to come to a decision or agreement or exchange ideas; to bestow something

synonym: consult, meet, discuss

(1) **confer** degree, (2) **confer** honor

The leaders of the two countries met to **confer** on the issue.

Session 2: Spelling

1. pi___r of society *n.* a tall, vertical column or support structure that helps to hold up other parts of a building or structure; a person or thing regarded as providing essential support or core strength to something
2. ast_____cal observation *adj.* relating to astronomy or the study of celestial bodies and phenomena; very large or immense in scale or magnitude
3. ex_____e in anger *v.* to burst or break open violently and noisily; to cause something to burst or break open
4. un_____l a knit *v.* undo twisted, knitted, or woven threads by separating it
5. a spiral ne___a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
6. l__ked behind the words *v.* to wait somewhere secretly, especially because you are about to attack someone or do something bad or illegal
7. en_____en legions of people *v.* to give someone greater knowledge or understanding about a particular subject or situation, often in a spiritual or moral sense
8. ang_____hy procedure *n.* a medical imaging technique that involves the visualization and examination of blood vessels, typically using the injection of a contrast agent and X-ray imaging to highlight and study the circulatory system

ANSWERS: 1. pillar, 2. astronomical, 3. explode, 4. unravel, 5. nebula, 6. lurk, 7. enlighten, 8. angiography

9. amateur ast_____er *n.* a physicist who studies astronomy
10. give a qu_____al look *adj.* expressing puzzlement, questioning, or curiosity through a facial expression or demeanor; having an appearance or manner that suggests confusion or mild skepticism
11. rev_____ize the industry *v.* to bring about a complete or radical change in something, often through the introduction of new methods or ideas
12. solar ast_____er *n.* a physicist who studies astronomy
13. co___a damage *n.* the transparent layer at the front of the eye that covers the iris and pupil and helps to focus light onto the retina
14. am___e and entertain visitors *v.* to fill with wonder, surprise, or admiration
15. lead an adv_____us life *adj.* willing to take risks and try new or difficult things
16. en_____en other countries *v.* to give someone greater knowledge or understanding about a particular subject or situation, often in a spiritual or moral sense
17. me_____al chemistry *adj.* of or relating to the treatment or cure of disease
18. bio_____ics tools *n.* the interdisciplinary field that combines biology and computer science to analyze, interpret, and manage biological information and data, particularly in the realm of genetics, genomics, and other related areas

ANSWERS: 9. astronomer, 10. quizzical, 11. revolutionize, 12. astronomer, 13. cornea, 14. amaze, 15. adventurous, 16. enlighten, 17. medicinal, 18. bioinformatics

19. co___a transplant *n.* the transparent layer at the front of the eye that covers the iris and pupil and helps to focus light onto the retina
20. co___r honor *v.* to have a meeting or discussion to come to a decision or agreement or exchange ideas; to bestow something
21. extragalactic su_____va *n.* a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant
22. skilled car_____ist *n.* a medical doctor who specializes in the study and treatment of the heart and the circulatory system
23. vi_____ze flying through space *v.* to form a mental image or concept of something; to make something visible
24. theoretical ph_____st *n.* a scientist who specializes in the field of physics
25. ser_____ty moment *n.* the occurrence and development of events by chance in a happy or beneficial way; a fortunate accident or discovery
26. ex_____e in popularity *v.* to burst or break open violently and noisily; to cause something to burst or break open
27. emission ne___a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
28. ground-state sp___e *n.* coins or notes in a currency, as distinct from paper money; a chemical substance or group made up of identical molecules

ANSWERS: 19. cornea, 20. confer, 21. supernova, 22. cardiologist, 23. visualize, 24. physicist, 25. serendipity, 26. explode, 27. nebula, 28. specie

29. traditional me_____al *adj.* of or relating to the treatment or cure of disease
30. l__k in the darkness *v.* to wait somewhere secretly, especially because you are about to attack someone or do something bad or illegal
31. barren st___e *n.* a vast, wide, and usually treeless plain, typically found in semi-arid or arid regions, characterized by fertile soil and grassy vegetation, often used for grazing livestock; an expansive and open grassland ecosystem found in Eurasia and North America
32. diagnostic ra_____gy *n.* the branch of medicine that uses medical imaging technologies such as X-rays, CT scans, MRIs, and ultrasound to diagnose and treat diseases and injuries
33. su_____va remnant *n.* a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant
34. digital ang_____hy *n.* a medical imaging technique that involves the visualization and examination of blood vessels, typically using the injection of a contrast agent and X-ray imaging to highlight and study the circulatory system
35. qu_____al smile *adj.* expressing puzzlement, questioning, or curiosity through a facial expression or demeanor; having an appearance or manner that suggests confusion or mild skepticism

ANSWERS: 29. medicinal, 30. lurk, 31. steppe, 32. radiology, 33. supernova, 34. angiography, 35. quizzical

36. talented ph_____st *n.* a scientist who specializes in the field of physics
37. re_____t of the past *n.* a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something
38. bio_____ics research *n.* the interdisciplinary field that combines biology and computer science to analyze, interpret, and manage biological information and data, particularly in the realm of genetics, genomics, and other related areas
39. co_____r degree *v.* to have a meeting or discussion to come to a decision or agreement or exchange ideas; to bestow something
40. st_____e climate *n.* a vast, wide, and usually treeless plain, typically found in semi-arid or arid regions, characterized by fertile soil and grassy vegetation, often used for grazing livestock; an expansive and open grassland ecosystem found in Eurasia and North America
41. am___e everyone *v.* to fill with wonder, surprise, or admiration
42. car_____ist appointment *n.* a medical doctor who specializes in the study and treatment of the heart and the circulatory system
43. ser_____ty discovery *n.* the occurrence and development of events by chance in a happy or beneficial way; a fortunate accident or discovery

ANSWERS: 36. physicist, 37. remnant, 38. bioinformatics, 39. confer, 40. steppe, 41. amaze, 42. cardiologist, 43. serendipity

44. bio_____al assay *adj.* relating to the application of the natural sciences, especially biology, and physiology, to clinical medicine and healthcare
45. vi_____ze data *v.* to form a mental image or concept of something; to make something visible
46. sp____e reserve *n.* coins or notes in a currency, as distinct from paper money; a chemical substance or group made up of identical molecules
47. un_____l a plot *v.* undo twisted, knitted, or woven threads by separating it
48. interventional ra_____gy *n.* the branch of medicine that uses medical imaging technologies such as X-rays, CT scans, MRIs, and ultrasound to diagnose and treat diseases and injuries
49. pi____r decoration *n.* a tall, vertical column or support structure that helps to hold up other parts of a building or structure; a person or thing regarded as providing essential support or core strength to something
50. rev_____ize the technology *v.* to bring about a complete or radical change in something, often through the introduction of new methods or ideas
51. cutting-edge bio_____al *adj.* relating to the application of the natural sciences, especially biology, and physiology, to clinical medicine and healthcare
52. ast_____cal numbers *adj.* relating to astronomy or the study of celestial bodies and phenomena; very large or immense in scale or magnitude

ANSWERS: 44. biomedical, 45. visualize, 46. specie, 47. unravel, 48. radiology, 49. pillar, 50. revolutionize, 51. biomedical, 52. astronomical

53. re____ts of fabric

n. a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something

54. adv____us pioneers

adj. willing to take risks and try new or difficult things

ANSWERS: 53. remnant, 54. adventurous

Session 3: Fill in the Blanks

1. 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

2. The discovery of penicillin was a result of _____.
 - n. the occurrence and development of events by chance in a happy or beneficial way; a fortunate accident or discovery

3. The patient underwent a _____ scan to diagnose their medical condition.
 - n. the branch of medicine that uses medical imaging technologies such as X-rays, CT scans, MRIs, and ultrasound to diagnose and treat diseases and injuries

4. _____ algorithms are essential for identifying and analyzing patterns in biological data.
 - n. the interdisciplinary field that combines biology and computer science to analyze, interpret, and manage biological information and data, particularly in the realm of genetics, genomics, and other related areas

5. She tried to _____ the layout of the new house in her mind.
 - v. to form a mental image or concept of something; to make something visible

6. A scratched _____ can be very painful and may cause blurry vision.
 - n. the transparent layer at the front of the eye that covers the iris and pupil and helps to focus light onto the retina

7. The old building _____ in a fiery inferno.
 - v. to burst or break open violently and noisily; to cause something to burst or break open

ANSWERS: 1. nebula, 2. serendipity, 3. radiology, 4. Bioinformatics, 5. visualize, 6. cornea, 7. exploded

8. The doctor gave a _____ expression after seeing the patient's unusual symptoms.
- adj.* expressing puzzlement, questioning, or curiosity through a facial expression or demeanor; having an appearance or manner that suggests confusion or mild skepticism
9. The nomadic tribes set up camp on the vast _____.
- n.* a vast, wide, and usually treeless plain, typically found in semi-arid or arid regions, characterized by fertile soil and grassy vegetation, often used for grazing livestock; an expansive and open grassland ecosystem found in Eurasia and North America
10. The _____ properties of this herb have been known to help with various ailments.
- adj.* of or relating to the treatment or cure of disease
11. In the city, the risk of traffic accidents _____ at every corner.
- v.* to wait somewhere secretly, especially because you are about to attack someone or do something bad or illegal
12. The cost of the new equipment was _____ and beyond the company's budget.
- adj.* relating to astronomy or the study of celestial bodies and phenomena; very large or immense in scale or magnitude
13. This question has fascinated solar _____ for decades.
- n.* a physicist who studies astronomy
14. The teacher sought to _____ her students by introducing them to new ideas and perspectives.
- v.* to give someone greater knowledge or understanding about a particular subject or situation, often in a spiritual or moral sense

ANSWERS: 8. quizzical, 9. steppe, 10. medicinal, 11. lurks, 12. astronomical, 13. astronomers, 14. enlighten

15. After experiencing chest pains, he underwent coronary _____ to check for blockages in his heart's arteries.
- n.* a medical imaging technique that involves the visualization and examination of blood vessels, typically using the injection of a contrast agent and X-ray imaging to highlight and study the circulatory system
16. The store only accepts payment in cash, no credit or debit cards, only _____.
- n.* coins or notes in a currency, as distinct from paper money; a chemical substance or group made up of identical molecules
17. The leaders of the two countries met to _____ on the issue.
- v.* to have a meeting or discussion to come to a decision or agreement or exchange ideas; to bestow something
18. He has an _____ spirit and is unafraid of risks.
- adj.* willing to take risks and try new or difficult things
19. My grandfather is seeing a _____ to monitor his heart condition.
- n.* a medical doctor who specializes in the study and treatment of the heart and the circulatory system
20. The invention of the smartphone _____ the way we communicate with each other.
- v.* to bring about a complete or radical change in something, often through the introduction of new methods or ideas
21. The _____ of smoke rising from the building signaled a massive fire.
- n.* a tall, vertical column or support structure that helps to hold up other parts of a building or structure; a person or thing regarded as providing essential support or core strength to something

ANSWERS: 15. angiography, 16. specie, 17. confer, 18. adventurous, 19. cardiologist, 20. revolutionized, 21. pillar

22. Einstein was an outstanding and famous _____ of the 20th century.
n. a scientist who specializes in the field of physics
23. _____ engineering focuses on developing new medical technologies and innovations to improve patient health outcomes.
adj. relating to the application of the natural sciences, especially biology, and physiology, to clinical medicine and healthcare
24. The only _____ left of the ancient civilization was the crumbling ruins of their temples.
n. a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something
25. The _____ explosion created a bright new star in the night sky.
n. a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant
26. Detectives are still attempting to _____ the mystery of his death.
v. undo twisted, knitted, or woven threads by separating it
27. The magician's tricks _____ the audience.
v. to fill with wonder, surprise, or admiration

ANSWERS: 22. physicist, 23. Biomedical, 24. remnant, 25. supernova, 26. unravel, 27. amazed