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## Vocabulary Builder Reference from...

*David Baker: 5 challenges we could solve by designing new proteins | TED Talk*

[https://www.ted.com/talks/david\\_baker\\_5\\_challenges\\_we\\_could\\_solve\\_by\\_designing\\_new\\_proteins](https://www.ted.com/talks/david_baker_5_challenges_we_could_solve_by_designing_new_proteins)

### Advanced Words Only

#### IMPORTANT

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## Session 1: Word List

### neuron

*n.* a cell that is specialized to carry information within the brain and between the brain and other parts of the body

*synonym* : nerve cell

(1) excite the **neurons**, (2) **neuron** cell body

Our body transfers information along each **neuron** using an electrical impulse.

### hemoglobin

*n.* a protein-based molecule found in red blood cells that transports oxygen throughout the body

*synonym* : red cell pigment, oxygen carrier

(1) **hemoglobin** level, (2) abnormal **hemoglobin**

The **hemoglobin** gene mutation can cause genetic disorders such as sickle cell disease.

### 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.

### uncover

*v.* to remove the cover from something; to discover something previously unseen or hidden

*synonym* : disclose, reveal, unveil

(1) **uncover** a potential problem, (2) **uncover** the truth  
He continued his investigation and soon **uncovered** another crime.

## aerodynamics

*n.* the study of the motion of air, particularly its interaction with solid objects moving through it, such as aircraft or cars

*synonym*: aeromechanics, aeronautics, airflow

(1) **aerodynamics** research, (2) **aerodynamics** design  
The **aerodynamics** of the car allowed it to glide smoothly through the air.

## determinant

*n.* a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result

*synonym*: cause, factor, element

(1) environmental **determinant**, (2) a **determinant** of crop yields

One **determinant** of success is having a positive attitude and a strong work ethic.

## imaginable

*adj.* capable of being imagined

*synonym*: conceivable, plausible, possible

(1) easily **imaginable**, (2) worst **imaginable** case

This is the only **imaginable** strategy.

## pollute

*v.* to make an area or substance, such as land, air, water, etc., dirty or harmful to living things by adding waste matter or harmful chemicals

*synonym*: contaminate, corrupt, degrade

(1) **pollute** the air, (2) **pollute** the thread

We should do our best not to **pollute** the environment.

## audacious

*adj.* showing a willingness to take bold risks or to do something that is considered unconventional or daring; marked by originality, creativity, or boldness

*synonym*: bold, daring, fearless

(1) **audacious** stunt, (2) **audacious** decision

The young entrepreneur had an **audacious** plan to start his own company.

## stimming

*n.* a behavior often exhibited by individuals on the autism spectrum characterized by repetitive bodily movements or sounds, such as hand flapping or rocking, often used as a form of self-regulation or sensory stimulation

*synonym*: self-stimulation, repetitive behaviors

(1) autistic **stimming**, (2) **stimming** therapy

Autistic children may engage in **stimming** behaviors, such as rocking or hand flapping, to self-regulate.

## pathogen

*n.* a bacterium, virus, or other microorganism that causes disease

*synonym*: germ, microbe, bacterium

(1) plant **pathogen**, (2) the **pathogen** in the air

mRNA vaccines are approved faster because they do not contain inactivated **pathogens**.

## fuse

*n.* a small part in an electrical device or machinery that can interrupt the flow of electrical current when it is overloaded; (verb) to become plastic or fluid or liquefied from heat

*synonym*: (verb) melt, (verb) blend

(1) **fuse** blows, (2) **fuse** with one another

He has a short **fuse**.

## bristle

*n.* a stiff, short hair on a mammal's skin or a natural or artificial brush; a stiff, sharp point on a plant such as a thorn or a prickle; (verb) to react defensively to something; to stand up stiffly and be rigid

*synonym*: spike, prickle, hair

(1) **bristle** brush, (2) **bristle** with anger

The dog's **bristle** on its back stood up as it growled at the mailman.

## gluten

*n.* a protein found in wheat, barley, and rye that is responsible for the elastic texture of the dough

*synonym*: wheat protein, wheat starch

(1) **gluten-free** diets, (2) **gluten** intolerance

Many people with celiac disease must avoid **gluten** in their diet.

## celiac

*n.* relating to a condition in which the body's immune system reacts to gluten, a protein found in wheat, barley, and rye; of or in or belonging to the cavity of the abdomen

*synonym*: gluten intolerance, gastric, stomachic

(1) **celiac** treatment, (2) **celiac** artery

His **celiac** disorder required him to follow a strict gluten-free diet.

## transistor

*n.* a semiconductor device that can be used to amplify or switch electronic signals and power which is an essential component in modern electronics

*synonym*: semiconductor, microchip, circuit

(1) **transistor** radio, (2) **transistor** circuit

The invention of the **transistor** revolutionized the field of electronics.

## 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.

## autoimmune

*adj.* relating to a condition in which the body's immune system attacks and destroys healthy body tissue, mistaking it for harmful foreign substances

(1) insulin **autoimmune** syndrome, (2) **autoimmune** disorder

The presence of certain substances triggered the **autoimmune** response.

## abalone

*n.* a type of marine mollusk or sea snail that is highly valued for its meat and attractive, iridescent shell, which is often used for decorative or jewelry-making purposes

*synonym* : sea snail, mollusk, shellfish

(1) the **abalone** divers, (2) **abalone** meat

She was wearing a beautiful necklace made from an **abalone** shell.

## android

*n.* a robot with a human appearance; (operating system) Google's mobile operating system

*synonym* : droid, cyborg

(1) household **android**, (2) **Android** tablet

The lab is developing an **android** robot that assists in dangerous construction work.

## smartphone

*n.* a mobile phone that functions as a computer and connects to the Internet

(1) **smartphone** app developer, (2) **smartphone** addict

Internet traffic volumes have increased significantly with the advent of **smartphones**.

## excite

*v.* to make someone feel suddenly enthusiastic or eager

*synonym* : thrill, exhilarate, animate

(1) **excite** the crowd, (2) **excite** rebellion

The news of her promotion **excited** her.

## Session 2: Spelling

1. po\_\_\_\_\_e the air  
*v.* to make an area or substance, such as land, air, water, etc., dirty or harmful to living things by adding waste matter or harmful chemicals
2. aer\_\_\_\_\_ics design  
*n.* the study of the motion of air, particularly its interaction with solid objects moving through it, such as aircraft or cars
3. autistic st\_\_\_\_\_ng  
*n.* a behavior often exhibited by individuals on the autism spectrum characterized by repetitive bodily movements or sounds, such as hand flapping or rocking, often used as a form of self-regulation or sensory stimulation
4. f\_\_e with one another  
*n.* a small part in an electrical device or machinery that can interrupt the flow of electrical current when it is overloaded; (verb) to become plastic or fluid or liquefied from heat
5. plant pa\_\_\_\_\_en  
*n.* a bacterium, virus, or other microorganism that causes disease
6. traditional me\_\_\_\_\_al  
*adj.* of or relating to the treatment or cure of disease
7. earliest human an\_\_\_\_\_or  
*n.* a person from whom one is descended; a forefather
8. tra\_\_\_\_\_or circuit  
*n.* a semiconductor device that can be used to amplify or switch electronic signals and power which is an essential component in modern electronics

ANSWERS: 1. pollute, 2. aerodynamics, 3. stimming, 4. fuse, 5. pathogen, 6. medicinal, 7. ancestor, 8. transistor

9. sma\_\_\_\_\_ne addict *n.* a mobile phone that functions as a computer and connects to the Internet
10. ce\_\_\_c artery *n.* relating to a condition in which the body's immune system reacts to gluten, a protein found in wheat, barley, and rye; of or in or belonging to the cavity of the abdomen
11. me\_\_\_\_\_al chemistry *adj.* of or relating to the treatment or cure of disease
12. au\_\_\_\_\_us stunt *adj.* showing a willingness to take bold risks or to do something that is considered unconventional or daring; marked by originality, creativity, or boldness
13. the pa\_\_\_\_\_en in the air *n.* a bacterium, virus, or other microorganism that causes disease
14. environmental det\_\_\_\_\_nt *n.* a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result
15. household an\_\_\_\_\_d *n.* a robot with a human appearance; (operating system) Google's mobile operating system
16. ne\_\_\_n cell body *n.* a cell that is specialized to carry information within the brain and between the brain and other parts of the body
17. aut\_\_\_\_\_ne disorder *adj.* relating to a condition in which the body's immune system attacks and destroys healthy body tissue, mistaking it for harmful foreign substances

ANSWERS: 9. smartphone, 10. celiac, 11. medicinal, 12. audacious, 13. pathogen, 14. determinant, 15. android, 16. neuron, 17. autoimmune

18. gl\_\_\_n intolerance *n.* a protein found in wheat, barley, and rye that is responsible for the elastic texture of the dough
19. a det\_\_\_\_\_nt of crop yields *n.* a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result
20. an\_\_\_\_\_or language *n.* a person from whom one is descended; a forefather
21. easily ima\_\_\_\_\_le *adj.* capable of being imagined
22. the ab\_\_\_\_\_e divers *n.* a type of marine mollusk or sea snail that is highly valued for its meat and attractive, iridescent shell, which is often used for decorative or jewelry-making purposes
23. abnormal hem\_\_\_\_\_in *n.* a protein-based molecule found in red blood cells that transports oxygen throughout the body
24. f\_\_e blows *n.* a small part in an electrical device or machinery that can interrupt the flow of electrical current when it is overloaded; (verb) to become plastic or fluid or liquefied from heat
25. po\_\_\_\_\_e the thread *v.* to make an area or substance, such as land, air, water, etc., dirty or harmful to living things by adding waste matter or harmful chemicals
26. gl\_\_\_n-free diets *n.* a protein found in wheat, barley, and rye that is responsible for the elastic texture of the dough

ANSWERS: 18. gluten, 19. determinant, 20. ancestor, 21. imaginable, 22. abalone, 23. hemoglobin, 24. fuse, 25. pollute, 26. gluten



27. An\_\_\_\_\_d tablet *n.* a robot with a human appearance; (operating system) Google's mobile operating system
28. sma\_\_\_\_\_ne app developer *n.* a mobile phone that functions as a computer and connects to the Internet
29. un\_\_\_\_\_r the truth *v.* to remove the cover from something; to discover something previously unseen or hidden
30. aer\_\_\_\_\_ics research *n.* the study of the motion of air, particularly its interaction with solid objects moving through it, such as aircraft or cars
31. br\_\_\_\_\_e with anger *n.* a stiff, short hair on a mammal's skin or a natural or artificial brush; a stiff, sharp point on a plant such as a thorn or a prickle; (verb) to react defensively to something; to stand up stiffly and be rigid
32. ce\_\_\_\_c treatment *n.* relating to a condition in which the body's immune system reacts to gluten, a protein found in wheat, barley, and rye; of or in or belonging to the cavity of the abdomen
33. au\_\_\_\_\_us decision *adj.* showing a willingness to take bold risks or to do something that is considered unconventional or daring; marked by originality, creativity, or boldness
34. ex\_\_\_\_e rebellion *v.* to make someone feel suddenly enthusiastic or eager
35. st\_\_\_\_\_ng therapy *n.* a behavior often exhibited by individuals on the autism spectrum characterized by repetitive bodily movements or sounds, such as hand flapping or rocking, often used as a form of self-regulation or sensory stimulation

ANSWERS: 27. android, 28. smartphone, 29. uncover, 30. aerodynamics, 31. bristle, 32. celiac, 33. audacious, 34. excite, 35. stimming

36. worst ima\_\_\_\_\_le case *adj.* capable of being imagined
37. un\_\_\_\_\_r a potential problem *v.* to remove the cover from something; to discover something previously unseen or hidden
38. excite the ne\_\_\_\_\_ns *n.* a cell that is specialized to carry information within the brain and between the brain and other parts of the body
39. insulin aut\_\_\_\_\_ne syndrome *adj.* relating to a condition in which the body's immune system attacks and destroys healthy body tissue, mistaking it for harmful foreign substances
40. ex\_\_\_\_\_e the crowd *v.* to make someone feel suddenly enthusiastic or eager
41. tra\_\_\_\_\_or radio *n.* a semiconductor device that can be used to amplify or switch electronic signals and power which is an essential component in modern electronics
42. ab\_\_\_\_\_e meat *n.* a type of marine mollusk or sea snail that is highly valued for its meat and attractive, iridescent shell, which is often used for decorative or jewelry-making purposes
43. hem\_\_\_\_\_in level *n.* a protein-based molecule found in red blood cells that transports oxygen throughout the body
44. br\_\_\_\_\_e brush *n.* a stiff, short hair on a mammal's skin or a natural or artificial brush; a stiff, sharp point on a plant such as a thorn or a prickle; (verb) to react defensively to something; to stand up stiffly and be rigid

ANSWERS: 36. imaginable, 37. uncover, 38. neuron, 39. autoimmune, 40. excite, 41. transistor, 42. abalone, 43. hemoglobin, 44. bristle

ANSWERS:

## Session 3: Fill in the Blanks

1. Many people with celiac disease must avoid \_\_\_\_\_ in their diet.
  - n.* a protein found in wheat, barley, and rye that is responsible for the elastic texture of the dough
  
2. His \_\_\_\_\_ disorder required him to follow a strict gluten-free diet.
  - n.* relating to a condition in which the body's immune system reacts to gluten, a protein found in wheat, barley, and rye; of or in or belonging to the cavity of the abdomen
  
3. The news of her promotion \_\_\_\_\_ her.
  - v.* to make someone feel suddenly enthusiastic or eager
  
4. The invention of the \_\_\_\_\_ revolutionized the field of electronics.
  - n.* a semiconductor device that can be used to amplify or switch electronic signals and power which is an essential component in modern electronics
  
5. The dog's \_\_\_\_\_ on its back stood up as it growled at the mailman.
  - n.* a stiff, short hair on a mammal's skin or a natural or artificial brush; a stiff, sharp point on a plant such as a thorn or a prickle; (verb) to react defensively to something; to stand up stiffly and be rigid
  
6. He continued his investigation and soon \_\_\_\_\_ another crime.
  - v.* to remove the cover from something; to discover something previously unseen or hidden
  
7. We should do our best not to \_\_\_\_\_ the environment.
  - v.* to make an area or substance, such as land, air, water, etc., dirty or harmful to living things by adding waste matter or harmful chemicals

ANSWERS: 1. gluten, 2. celiac, 3. excited, 4. transistor, 5. bristle, 6. uncovered, 7. pollute

8. The presence of certain substances triggered the \_\_\_\_\_ response.  
*adj.* relating to a condition in which the body's immune system attacks and destroys healthy body tissue, mistaking it for harmful foreign substances
9. Our body transfers information along each \_\_\_\_\_ using an electrical impulse.  
*n.* a cell that is specialized to carry information within the brain and between the brain and other parts of the body
10. Autistic children may engage in \_\_\_\_\_ behaviors, such as rocking or hand flapping, to self-regulate.  
*n.* a behavior often exhibited by individuals on the autism spectrum characterized by repetitive bodily movements or sounds, such as hand flapping or rocking, often used as a form of self-regulation or sensory stimulation
11. The \_\_\_\_\_ gene mutation can cause genetic disorders such as sickle cell disease.  
*n.* a protein-based molecule found in red blood cells that transports oxygen throughout the body
12. mRNA vaccines are approved faster because they do not contain inactivated \_\_\_\_\_.  
*n.* a bacterium, virus, or other microorganism that causes disease
13. Internet traffic volumes have increased significantly with the advent of \_\_\_\_\_.  
*n.* a mobile phone that functions as a computer and connects to the Internet
14. The young entrepreneur had an \_\_\_\_\_ plan to start his own company.  
*adj.* showing a willingness to take bold risks or to do something that is considered unconventional or daring; marked by originality, creativity, or boldness

ANSWERS: 8. autoimmune, 9. neuron, 10. stimming, 11. hemoglobin, 12. pathogens, 13. smartphones, 14. audacious

15. This is the only \_\_\_\_\_ strategy.

*adj.* capable of being imagined

16. The lab is developing an \_\_\_\_\_ robot that assists in dangerous construction work.

*n.* a robot with a human appearance; (operating system) Google's mobile operating system

17. She was wearing a beautiful necklace made from an \_\_\_\_\_ shell.

*n.* a type of marine mollusk or sea snail that is highly valued for its meat and attractive, iridescent shell, which is often used for decorative or jewelry-making purposes

18. One \_\_\_\_\_ of success is having a positive attitude and a strong work ethic.

*n.* a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result

19. He has a short \_\_\_\_\_.

*n.* a small part in an electrical device or machinery that can interrupt the flow of electrical current when it is overloaded; (verb) to become plastic or fluid or liquefied from heat

20. The \_\_\_\_\_ properties of this herb have been known to help with various ailments.

*adj.* of or relating to the treatment or cure of disease

21. My remote \_\_\_\_\_ immigrated to the United States from Ireland in the 1800s.

*n.* a person from whom one is descended; a forefather

ANSWERS: 15. imaginable, 16. android, 17. abalone, 18. determinant, 19. fuse, 20. medicinal, 21. ancestor

22. The \_\_\_\_\_ of the car allowed it to glide smoothly through the air.
- n.* the study of the motion of air, particularly its interaction with solid objects moving through it, such as aircraft or cars

ANSWERS: 22. aerodynamics