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Vocabulary Builder Reference from...

Sam Kean: What happens when you remove the hippocampus? | TED Talk

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

Advanced Words Only

IMPORTANT

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Session 1: Word List

crank

n. a mechanical device that converts rotary motion into linear motion or vice versa; an eccentric or unpredictable person

synonym: eccentric, oddball, kook

(1) **crank** handle, (2) **crank** caller

The fishing reel had a **crank** that made it easy to reel in the catch.

gruesome

adj. causing horror or disgust

synonym: appalling, horrific, terrible

(1) hear **gruesome** details, (2) **gruesome** accident

The **gruesome** crime scene was difficult for the detectives to stomach.

neurosurgeon

n. a medical doctor who specializes in the surgical treatment of conditions affecting the nervous system, including the brain, spinal cord, and peripheral nerves

synonym: brain surgeon, neurologist, surgical specialist

(1) skilled **neurosurgeon**, (2) leading **neurosurgeon**

The hospital recruited experienced **neurosurgeons** worldwide to treat complex neurological disorders comprehensively.

daredevil

n. a person who takes unnecessary risks, especially involving physical feats or dangerous activities, often for entertainment or thrill-seeking purposes; someone who is fearless and daring

synonym: adventurer, risk-taker, hothead

(1) reckless **daredevil**, (2) **daredevil** acrobat

The **daredevil's** death-defying stunt left the audience in awe.

lobotomy

n. a surgical procedure in which a section of the brain is removed or disconnected from the rest of the brain, often used as a treatment for mental illness in the past

synonym: brain surgery, prefrontal lobotomy, psychosurgery

(1) **lobotomy** procedure, (2) prefrontal **lobotomy**

Lobotomy surgery was once a common treatment for mental illness, but it is now considered unethical.

psychotic

adj. relating to or characterized by a loss of touch with reality; exhibiting or suffering from a severe mental disorder characterized by delusions, hallucinations, or disordered thinking

synonym: deranged, unstable, certifiable

(1) **psychotic** medication, (2) **psychotic** episode

Her husband's death caused her to experience a **psychotic** break.

hippocampus

n. a major component of the brain of humans and other vertebrates that is part of the limbic system and is vital for memory

(1) involvement of the **hippocampus**, (2) neurons in the **hippocampus**

The **hippocampus** is crucial for learning and memory storage.

limbic

adj. of or relating to the system of the brain that supports a variety of functions, including emotion, behavior, long-term memory, and olfaction

(1) **limbic** cortex, (2) **limbic** epilepsy

The **limbic** brain region responded readily to negative or sad sounds.

improvisation

n. the act of making something up on the spot or creating or performing something without preparation

synonym: spontaneity, ad-lib, extemporization

(1) **improvisation** on stage, (2) jazz **improvisation**

He created a beautiful piece of music using only **improvisation**.

redefine

v. to change the meaning or interpretation of something; to make people think about something in a new or different way

synonym: reconsider, reformulate, alter

(1) **redefine** customer experience, (2) **redefine** our role

The video telephony application has **redefined** the way we work.

monolithic

adj. characterized by massiveness, rigidity, and uniformity

synonym: massive, monumental, hulking

(1) **monolithic** block, (2) **monolithic** system

Big technology companies try to integrate customers' data into **monolithic** applications.

transcribe

v. to copy or reproduce something in written or printed form; to translate spoken language into written text

synonym: copy, record, transliterate

(1) **transcribe** notes, (2) **transcribe** documents

She needs to **transcribe** the interview recording to write the article for the magazine.

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.

cortical

adj. relating to or located in the outer layer of an organ or body structure, particularly the cortex of the brain

(1) **cortical** neurons, (2) **cortical** activity

The MRI showed activity in the **cortical** region of the patient's brain.

synapse

n. the fact or state of failing to finish an activity and of stopping using, making, or doing it

(1) **synapse** circuit, (2) end at a **synapse**

Animals transmit nerve impulses through **synapses**.

erode

v. to gradually wear away or break down (rock, soil, or other material) through the action of wind, water, or other natural agents; to gradually weaken or undermine (something) over time

synonym: wear away, deteriorate, corrode

(1) **erode** coast, (2) **erode** trust

The ongoing budget cuts have **eroded** the quality of education in many schools.

scrawl

v. to write or draw something in a careless or untidy way, often with difficulty or haste

synonym: scribble, scratch, squiggle

(1) **scrawl** my signature, (2) **scrawl** a message

She quickly **scrawled** her phone number on paper before running out the door.

concentric

adj. having a common center, with circles or spheres that share a common center point; having shapes or forms that are aligned or nested within one another

synonym: homocentric, nested, circular

(1) **concentric** design, (2) **concentric** shades of color

Concentric circles surrounded the target on the shooting range.

declarative

adj. relating to or functioning as a statement or assertion; making a declaration or assertion

synonym: assertive, conclusive, indicative

(1) **declarative** statement, (2) **declarative** programming language

Using a **declarative** tone, the teacher clarified that cheating was not tolerated.

basal

adj. forming or belonging to a bottom layer or base of something

synonym: beginning, rudimentary, introductory

(1) **basal** activity, (2) **basal** cells in the skin

The patient has to keep a record of **basal** body temperature.

ganglion

n. a group of nerve cells located outside the brain and spinal cord, often forming a swelling or knot; responsible for controlling certain bodily functions or movements

synonym: nerve center, nervous system

(1) **ganglion** cyst, (2) spinal **ganglion**

The patient's **ganglion** was causing severe pain in their wrist.

cerebellum

n. the part of the brain at the back of the head that plays an important role in motor control, balance, and coordination

(1) **cerebellum** function, (2) development of **cerebellum**

An injury to the **cerebellum** can cause difficulty with walking, speaking, and maintaining posture.

underpin

v. to support or strengthen the foundations of something

synonym: support, foundation, base

(1) **underpin** a structure, (2) **underpin** democratization

The research findings **underpin** the theory that human activities cause global warming.

neuroscience

n. the scientific study of the function, structure, and disorder of the brain and the nervous system

(1) the branch of **neuroscience**, (2) a theoretical concept in

neuroscience

Our university is famous for its professors, who are well-versed in behavioral **neuroscience**.

Session 2: Spelling

1. jazz imp_____ion *n.* the act of making something up on the spot or creating or performing something without preparation
2. ps_____ic episode *adj.* relating to or characterized by a loss of touch with reality; exhibiting or suffering from a severe mental disorder characterized by delusions, hallucinations, or disordered thinking
3. co_____al neurons *adj.* relating to or located in the outer layer of an organ or body structure, particularly the cortex of the brain
4. hear gr_____me details *adj.* causing horror or disgust
5. imp_____ion on stage *n.* the act of making something up on the spot or creating or performing something without preparation
6. end at a sy_____e *n.* the fact or state of failing to finish an activity and of stopping using, making, or doing it
7. lo_____my procedure *n.* a surgical procedure in which a section of the brain is removed or disconnected from the rest of the brain, often used as a treatment for mental illness in the past
8. sc_____l my signature *v.* to write or draw something in a careless or untidy way, often with difficulty or haste
9. neurons in the hip_____us *n.* a major component of the brain of humans and other vertebrates that is part of the limbic system and is vital for memory

ANSWERS: 1. improvisation, 2. psychotic, 3. cortical, 4. gruesome, 5. improvisation, 6. synapse, 7. lobotomy, 8. scrawl, 9. hippocampus

10. sy____e circuit *n.* the fact or state of failing to finish an activity and of stopping using, making, or doing it
11. er__e coast *v.* to gradually wear away or break down (rock, soil, or other material) through the action of wind, water, or other natural agents; to gradually weaken or undermine (something) over time
12. the branch of neu____nce *n.* the scientific study of the function, structure, and disorder of the brain and the nervous system
13. 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
14. dec____ve statement *adj.* relating to or functioning as a statement or assertion; making a declaration or assertion
15. cr__k caller *n.* a mechanical device that converts rotary motion into linear motion or vice versa; an eccentric or unpredictable person
16. mon____ic system *adj.* characterized by massiveness, rigidity, and uniformity
17. a theoretical concept in neu____nce *n.* the scientific study of the function, structure, and disorder of the brain and the nervous system
18. li____c cortex *adj.* of or relating to the system of the brain that supports a variety of functions, including emotion, behavior, long-term memory, and olfaction

ANSWERS: 10. synapse, 11. erode, 12. neuroscience, 13. neuron, 14. declarative, 15. crank, 16. monolithic, 17. neuroscience, 18. limbic

19. development of cer_____um *n.* the part of the brain at the back of the head that plays an important role in motor control, balance, and coordination
20. tra_____be notes *v.* to copy or reproduce something in written or printed form; to translate spoken language into written text
21. da_____il acrobat *n.* a person who takes unnecessary risks, especially involving physical feats or dangerous activities, often for entertainment or thrill-seeking purposes; someone who is fearless and daring
22. cer_____um function *n.* the part of the brain at the back of the head that plays an important role in motor control, balance, and coordination
23. involvement of the hip_____us *n.* a major component of the brain of humans and other vertebrates that is part of the limbic system and is vital for memory
24. un_____in a structure *v.* to support or strengthen the foundations of something
25. 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
26. ba__l activity *adj.* forming or belonging to a bottom layer or base of something
27. ba__l cells in the skin *adj.* forming or belonging to a bottom layer or base of something

ANSWERS: 19. cerebellum, 20. transcribe, 21. daredevil, 22. cerebellum, 23. hippocampus, 24. underpin, 25. neuron, 26. basal, 27. basal

28. cr__k handle *n.* a mechanical device that converts rotary motion into linear motion or vice versa; an eccentric or unpredictable person
29. re____ne our role *v.* to change the meaning or interpretation of something; to make people think about something in a new or different way
30. skilled neu______eon *n.* a medical doctor who specializes in the surgical treatment of conditions affecting the nervous system, including the brain, spinal cord, and peripheral nerves
31. dec____ve programming language *adj.* relating to or functioning as a statement or assertion; making a declaration or assertion
32. con____ic design *adj.* having a common center, with circles or spheres that share a common center point; having shapes or forms that are aligned or nested within one another
33. er__e trust *v.* to gradually wear away or break down (rock, soil, or other material) through the action of wind, water, or other natural agents; to gradually weaken or undermine (something) over time
34. leading neu______eon *n.* a medical doctor who specializes in the surgical treatment of conditions affecting the nervous system, including the brain, spinal cord, and peripheral nerves

ANSWERS: 28. crank, 29. redefine, 30. neurosurgeon, 31. declarative, 32. concentric, 33. erode, 34. neurosurgeon

35. sc___l a message *v.* to write or draw something in a careless or untidy way, often with difficulty or haste
36. re____ne customer experience *v.* to change the meaning or interpretation of something; to make people think about something in a new or different way
37. tra_____be documents *v.* to copy or reproduce something in written or printed form; to translate spoken language into written text
38. un_____in democratization *v.* to support or strengthen the foundations of something
39. gr_____me accident *adj.* causing horror or disgust
40. ps_____ic medication *adj.* relating to or characterized by a loss of touch with reality; exhibiting or suffering from a severe mental disorder characterized by delusions, hallucinations, or disordered thinking
41. mon_____ic block *adj.* characterized by massiveness, rigidity, and uniformity
42. co_____al activity *adj.* relating to or located in the outer layer of an organ or body structure, particularly the cortex of the brain
43. prefrontal lo_____my *n.* a surgical procedure in which a section of the brain is removed or disconnected from the rest of the brain, often used as a treatment for mental illness in the past
44. ga_____on cyst *n.* a group of nerve cells located outside the brain and spinal cord, often forming a swelling or knot; responsible for controlling certain bodily functions or movements

ANSWERS: 35. scrawl, 36. redefine, 37. transcribe, 38. underpin, 39. gruesome, 40. psychotic, 41. monolithic, 42. cortical, 43. lobotomy, 44. ganglion

45. reckless da_____il *n.* a person who takes unnecessary risks, especially involving physical feats or dangerous activities, often for entertainment or thrill-seeking purposes; someone who is fearless and daring
46. li___c epilepsy *adj.* of or relating to the system of the brain that supports a variety of functions, including emotion, behavior, long-term memory, and olfaction
47. spinal ga_____on *n.* a group of nerve cells located outside the brain and spinal cord, often forming a swelling or knot; responsible for controlling certain bodily functions or movements
48. con_____ic shades of color *adj.* having a common center, with circles or spheres that share a common center point; having shapes or forms that are aligned or nested within one another

ANSWERS: 45. daredevil, 46. limbic, 47. ganglion, 48. concentric

Session 3: Fill in the Blanks

1. 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
2. She needs to _____ the interview recording to write the article for the magazine.
 - v.* to copy or reproduce something in written or printed form; to translate spoken language into written text
3. The MRI showed activity in the _____ region of the patient's brain.
 - adj.* relating to or located in the outer layer of an organ or body structure, particularly the cortex of the brain
4. The _____ brain region responded readily to negative or sad sounds.
 - adj.* of or relating to the system of the brain that supports a variety of functions, including emotion, behavior, long-term memory, and olfaction
5. He created a beautiful piece of music using only _____.
 - n.* the act of making something up on the spot or creating or performing something without preparation
6. The research findings _____ the theory that human activities cause global warming.
 - v.* to support or strengthen the foundations of something
7. Her husband's death caused her to experience a _____ break.
 - adj.* relating to or characterized by a loss of touch with reality; exhibiting or suffering from a severe mental disorder characterized by delusions, hallucinations, or disordered thinking

ANSWERS: 1. neuron, 2. transcribe, 3. cortical, 4. limbic, 5. improvisation, 6. underpin, 7. psychotic

8. The fishing reel had a _____ that made it easy to reel in the catch.
- n.* a mechanical device that converts rotary motion into linear motion or vice versa; an eccentric or unpredictable person
9. An injury to the _____ can cause difficulty with walking, speaking, and maintaining posture.
- n.* the part of the brain at the back of the head that plays an important role in motor control, balance, and coordination
10. The _____ is crucial for learning and memory storage.
- n.* a major component of the brain of humans and other vertebrates that is part of the limbic system and is vital for memory
11. The _____ death-defying stunt left the audience in awe.
- n.* a person who takes unnecessary risks, especially involving physical feats or dangerous activities, often for entertainment or thrill-seeking purposes; someone who is fearless and daring
12. The patient has to keep a record of _____ body temperature.
- adj.* forming or belonging to a bottom layer or base of something
13. _____ surgery was once a common treatment for mental illness, but it is now considered unethical.
- n.* a surgical procedure in which a section of the brain is removed or disconnected from the rest of the brain, often used as a treatment for mental illness in the past
14. She quickly _____ her phone number on paper before running out the door.
- v.* to write or draw something in a careless or untidy way, often with difficulty or haste

ANSWERS: 8. crank, 9. cerebellum, 10. hippocampus, 11. daredevil's, 12. basal, 13. Lobotomy, 14. scrawled

15. _____ circles surrounded the target on the shooting range.
adj. having a common center, with circles or spheres that share a common center point; having shapes or forms that are aligned or nested within one another
16. The patient's _____ was causing severe pain in their wrist.
n. a group of nerve cells located outside the brain and spinal cord, often forming a swelling or knot; responsible for controlling certain bodily functions or movements
17. Big technology companies try to integrate customers' data into _____ applications.
adj. characterized by massiveness, rigidity, and uniformity
18. The hospital recruited experienced _____ worldwide to treat complex neurological disorders comprehensively.
n. a medical doctor who specializes in the surgical treatment of conditions affecting the nervous system, including the brain, spinal cord, and peripheral nerves
19. The video telephony application has _____ the way we work.
v. to change the meaning or interpretation of something; to make people think about something in a new or different way
20. Using a _____ tone, the teacher clarified that cheating was not tolerated.
adj. relating to or functioning as a statement or assertion; making a declaration or assertion
21. Our university is famous for its professors, who are well-versed in behavioral _____.
n. the scientific study of the function, structure, and disorder of the brain and the nervous system

ANSWERS: 15. Concentric, 16. ganglion, 17. monolithic, 18. neurosurgeons, 19. redefined, 20. declarative, 21. neuroscience

22. Animals transmit nerve impulses through _____.

- n.* the fact or state of failing to finish an activity and of stopping using, making, or doing it

23. The _____ crime scene was difficult for the detectives to stomach.

- adj.* causing horror or disgust

24. The ongoing budget cuts have _____ the quality of education in many schools.

- v.* to gradually wear away or break down (rock, soil, or other material) through the action of wind, water, or other natural agents; to gradually weaken or undermine (something) over time

ANSWERS: 22. synapses, 23. gruesome, 24. eroded