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Vocabulary Builder Reference from...

Colm Kelleher: *The science of symmetry* | TED Talk
https://www.ted.com/talks/colm_kelleher_the_science_of_symmetry

Advanced Words Only

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Session 1: Word List

modulate

v. to change the key, style, loudness, etc., of something in music to create a particular effect; to fix or adjust the time, amount, degree, or rate of something

synonym: regulate, inflect, adjust

(1) **modulate** the function, (2) **modulate** from one key to another

These chemicals **modulate** the effect of metabolism.

concerto

n. a composition for one or more solo instruments and an orchestra, typically in three movements

synonym: symphony, composition, piece

(1) piano **concerto**, (2) violin **concerto**

A renowned symphony orchestra performed the piano **concerto**.

effortless

adj. requiring little or no effort; not difficult or strenuous; easy to accomplish

synonym: easy, simple, uncomplicated

(1) **effortless** victory, (2) **effortless** beauty

The dancer made her performance look **effortless** and graceful.

prima

adj. of the highest quality or importance; primary or first in rank or position

synonym : primary, first-rate, top-notch

(1) **prima** facie, (2) **prima** donna

The **prima** ballerina wowed the audience with her graceful performance.

ballerina

n. a female ballet (= a type of performance dance that tells a dramatic story or expresses an idea with music but no talking or singing) dancer

synonym : dancer, danseuse

(1) classical **ballerina**, (2) famous **ballerina**

The **ballerina's** graceful movements were a joy to watch.

unpack

v. to open and remove stored items from a container or package; to analyze or examine something in detail, often to clarify or understand it better

synonym : dissect, unwrap, unbox

(1) **unpack** a crate, (2) **unpack** a concept

I need to **unpack** my suitcase and put my clothes away.

equilateral

adj. characterized by having all sides of equal length, typically used to describe a geometric shape, usually a triangle

synonym : equal-sided, regular, isosceles

(1) **equilateral** polygon, (2) **equilateral** shape

An **equilateral** triangle has three equal sides and three equal angles.

rot

v. to decay, or cause something to decay, naturally and gradually

synonym : perish, decay, corrode

(1) begin to **rot**, (2) **rot** with age

Please refrigerate the meat, or it will **rot**.

beetle

n. an insect having a hard shell-like back covering its wings

(1) **beetle** brows, (2) a **beetle** larva

In ancient civilizations, the scarab **beetle** was worshiped as a

sacred creature.

orchid

n. a plant with showy or unusual flowers, typically having either a single, complex flower or a cluster of small flowers, many of which are prized for their beauty and often cultivated as ornamental plants

(1) **orchid** garden, (2) **orchid** species

The **orchid** blooms were so delicate and beautiful.

urchin

n. a poor and mischievous young child, usually living on the street or in a disadvantaged community; a small, spiny marine animal with a round body and long, pointed spines

synonym: mischief, waif, guttersnipe

(1) **urchin** child, (2) street **urchin**

The young boy was an **urchin** wandering the streets without a home.

starfish

n. marine invertebrate that belongs to the phylum Echinodermata, characterized by a five-armed body shape that resembles a star, typically found on or near the seafloor

synonym: sea star, echinoderm, asteroid

(1) **starfish** arm, (2) **starfish** habitat

The **starfish's** unique shape helps it to escape from predators quickly.

jellyfish

n. a marine creature with a soft, jelly-like body and tentacles for stinging

synonym: medusa, sea nettle, moon jelly

(1) spineless **jellyfish**, (2) **jellyfish** sting

The beach was filled with hundreds of **jellyfish**, so swimming was not recommended.

anemone

n. a type of flowering plant that has bright, showy flowers and typically blooms in the spring; a marine creature that resembles flowers but has oral rings of tentacles

synonym:

flower, blossom

(1) **anemone** flower, (2) European **anemone**

The beautiful **anemones** swayed gently in the ocean current.

asymmetric

adj. lacking symmetry or balance; not corresponding in size, shape, or degree; characterized by an uneven or unequal distribution or arrangement

synonym: uneven, lopsided, unbalanced

(1) **asymmetric** warfare, (2) **asymmetric** information

The **asymmetric** design of the building made it stand out in the city skyline.

streamline

v. to simplify or make more efficient by eliminating unnecessary parts or steps

synonym: simplify, optimize, make more efficient

(1) **streamline** administrative activities, (2) **streamline** workflow

The government plans to **streamline** the tax collection process to make it more efficient.

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.

larva

n. the immature free-living form of insect or an animal, which at hatching from the egg, is fundamentally unlike its parent and must metamorphose

synonym: caterpillar, grub, maggot

(1) **larva** of a butterfly, (2) a moth **larva**

The butterfly emerged from its **larva** stage.

reconstruct

v. to build or form something again that has been damaged or destroyed

synonym: rebuild, revamp, reorganize

(1) **reconstruct** an image, (2) **reconstruct** the original text

They've decided to **reconstruct** a ruined castle.

diverge

v. to move or extend in different directions from a common point; to branch off or deviate from a path or course

synonym: separate, split, part

(1) **diverge** from tradition, (2) **diverge** from the main topic

As tectonic plates **diverge**, new oceanic crust is formed along mid-ocean ridges.

Session 2: Spelling

- | | |
|---|--|
| 1. famous ba_____na | <i>n.</i> a female ballet (= a type of performance dance that tells a dramatic story or expresses an idea with music but no talking or singing) dancer |
| 2. or___d garden | <i>n.</i> a plant with showy or unusual flowers, typically having either a single, complex flower or a cluster of small flowers, many of which are prized for their beauty and often cultivated as ornamental plants |
| 3. la__a of a butterfly | <i>n.</i> the immature free-living form of insect or an animal, which at hatching from the egg, is fundamentally unlike its parent and must metamorphose |
| 4. str_____ne workflow | <i>v.</i> to simplify or make more efficient by eliminating unnecessary parts or steps |
| 5. a be___e larva | <i>n.</i> an insect having a hard shell-like back covering its wings |
| 6. str_____ne administrative activities | <i>v.</i> to simplify or make more efficient by eliminating unnecessary parts or steps |
| 7. violin co_____to | <i>n.</i> a composition for one or more solo instruments and an orchestra, typically in three movements |
| 8. un___k a crate | <i>v.</i> to open and remove stored items from a container or package; to analyze or examine something in detail, often to clarify or understand it better |

ANSWERS: 1. ballerina, 2. orchid, 3. larva, 4. streamline, 5. beetle, 6. streamline, 7. concerto, 8. unpack

9. eff_____ss victory *adj.* requiring little or no effort; not difficult or strenuous; easy to accomplish
10. un___k a concept *v.* to open and remove stored items from a container or package; to analyze or examine something in detail, often to clarify or understand it better
11. spineless je_____sh *n.* a marine creature with a soft, jelly-like body and tentacles for stinging
12. 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
13. di_____e from tradition *v.* to move or extend in different directions from a common point; to branch off or deviate from a path or course
14. asy_____ic information *adj.* lacking symmetry or balance; not corresponding in size, shape, or degree; characterized by an uneven or unequal distribution or arrangement
15. mo_____te the function *v.* to change the key, style, loudness, etc., of something in music to create a particular effect; to fix or adjust the time, amount, degree, or rate of something
16. be___e brows *n.* an insect having a hard shell-like back covering its wings
17. begin to r_t *v.* to decay, or cause something to decay, naturally and gradually
18. equ_____al shape *adj.* characterized by having all sides of equal length, typically used to describe a geometric shape, usually a triangle

ANSWERS: 9. effortless, 10. unpack, 11. jellyfish, 12. aerodynamics, 13. diverge, 14. asymmetric, 15. modulate, 16. beetle, 17. rot, 18. equilateral

19. di_____e from the main topic *v.* to move or extend in different directions from a common point; to branch off or deviate from a path or course
20. st_____sh arm *n.* marine invertebrate that belongs to the phylum Echinodermata, characterized by a five-armed body shape that resembles a star, typically found on or near the seafloor
21. equ_____al polygon *adj.* characterized by having all sides of equal length, typically used to describe a geometric shape, usually a triangle
22. mo_____te from one key to another *v.* to change the key, style, loudness, etc., of something in music to create a particular effect; to fix or adjust the time, amount, degree, or rate of something
23. European an_____e *n.* a type of flowering plant that has bright, showy flowers and typically blooms in the spring; a marine creature that resembles flowers but has oral rings of tentacles
24. pr__a facie *adj.* of the highest quality or importance; primary or first in rank or position
25. st_____sh habitat *n.* marine invertebrate that belongs to the phylum Echinodermata, characterized by a five-armed body shape that resembles a star, typically found on or near the seafloor
26. eff_____ss beauty *adj.* requiring little or no effort; not difficult or strenuous; easy to accomplish
27. r_t with age *v.* to decay, or cause something to decay, naturally and gradually

ANSWERS: 19. diverge, 20. starfish, 21. equilateral, 22. modulate, 23. anemone, 24. prima, 25. starfish, 26. effortless, 27. rot

28. je_____sh sting *n.* a marine creature with a soft, jelly-like body and tentacles for stinging
29. rec_____ct an image *v.* to build or form something again that has been damaged or destroyed
30. street ur____n *n.* a poor and mischievous young child, usually living on the street or in a disadvantaged community; a small, spiny marine animal with a round body and long, pointed spines
31. or____d species *n.* a plant with showy or unusual flowers, typically having either a single, complex flower or a cluster of small flowers, many of which are prized for their beauty and often cultivated as ornamental plants
32. classical ba_____na *n.* a female ballet (= a type of performance dance that tells a dramatic story or expresses an idea with music but no talking or singing) dancer
33. piano co_____to *n.* a composition for one or more solo instruments and an orchestra, typically in three movements
34. asy_____ic warfare *adj.* lacking symmetry or balance; not corresponding in size, shape, or degree; characterized by an uneven or unequal distribution or arrangement
35. 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

ANSWERS: 28. jellyfish, 29. reconstruct, 30. urchin, 31. orchid, 32. ballerina, 33. concerto, 34. asymmetric, 35. aerodynamics

36. an____e flower *n.* a type of flowering plant that has bright, showy flowers and typically blooms in the spring; a marine creature that resembles flowers but has oral rings of tentacles
37. pr__a donna *adj.* of the highest quality or importance; primary or first in rank or position
38. a moth la__a *n.* the immature free-living form of insect or an animal, which at hatching from the egg, is fundamentally unlike its parent and must metamorphose
39. ur____n child *n.* a poor and mischievous young child, usually living on the street or in a disadvantaged community; a small, spiny marine animal with a round body and long, pointed spines
40. rec_____ct the original text *v.* to build or form something again that has been damaged or destroyed

ANSWERS: 36. anemone, 37. prima, 38. larva, 39. urchin, 40. reconstruct

Session 3: Fill in the Blanks

1. The _____ blooms were so delicate and beautiful.
n. a plant with showy or unusual flowers, typically having either a single, complex flower or a cluster of small flowers, many of which are prized for their beauty and often cultivated as ornamental plants
2. The beautiful _____ swayed gently in the ocean current.
n. a type of flowering plant that has bright, showy flowers and typically blooms in the spring; a marine creature that resembles flowers but has oral rings of tentacles
3. A renowned symphony orchestra performed the piano _____.
n. a composition for one or more solo instruments and an orchestra, typically in three movements
4. The _____ graceful movements were a joy to watch.
n. a female ballet (= a type of performance dance that tells a dramatic story or expresses an idea with music but no talking or singing) dancer
5. The beach was filled with hundreds of _____ so swimming was not recommended.
n. a marine creature with a soft, jelly-like body and tentacles for stinging
6. The _____ ballerina wowed the audience with her graceful performance.
adj. of the highest quality or importance; primary or first in rank or position
7. An _____ triangle has three equal sides and three equal angles.
adj. characterized by having all sides of equal length, typically used to describe a geometric shape, usually a triangle

ANSWERS: 1. orchid, 2. anemones, 3. concerto, 4. ballerina's, 5. jellyfish, 6. prima, 7. equilateral

8. As tectonic plates _____ new oceanic crust is formed along mid-ocean ridges.
- v. to move or extend in different directions from a common point; to branch off or deviate from a path or course
9. 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
10. The government plans to _____ the tax collection process to make it more efficient.
- v. to simplify or make more efficient by eliminating unnecessary parts or steps
11. The _____ unique shape helps it to escape from predators quickly.
- n. marine invertebrate that belongs to the phylum Echinodermata, characterized by a five-armed body shape that resembles a star, typically found on or near the seafloor
12. The _____ design of the building made it stand out in the city skyline.
- adj. lacking symmetry or balance; not corresponding in size, shape, or degree; characterized by an uneven or unequal distribution or arrangement
13. The dancer made her performance look _____ and graceful.
- adj. requiring little or no effort; not difficult or strenuous; easy to accomplish
14. Please refrigerate the meat, or it will _____.
- v. to decay, or cause something to decay, naturally and gradually
15. They've decided to _____ a ruined castle.
- v. to build or form something again that has been damaged or destroyed

ANSWERS: 8. diverge, 9. aerodynamics, 10. streamline, 11. starfish's, 12. asymmetric, 13. effortless, 14. rot, 15. reconstruct

16. In ancient civilizations, the scarab _____ was worshiped as a sacred creature.
n. an insect having a hard shell-like back covering its wings
17. The young boy was an _____ wandering the streets without a home.
n. a poor and mischievous young child, usually living on the street or in a disadvantaged community; a small, spiny marine animal with a round body and long, pointed spines
18. I need to _____ my suitcase and put my clothes away.
v. to open and remove stored items from a container or package; to analyze or examine something in detail, often to clarify or understand it better
19. The butterfly emerged from its _____ stage.
n. the immature free-living form of insect or an animal, which at hatching from the egg, is fundamentally unlike its parent and must metamorphose
20. These chemicals _____ the effect of metabolism.
v. to change the key, style, loudness, etc., of something in music to create a particular effect; to fix or adjust the time, amount, degree, or rate of something

ANSWERS: 16. beetle, 17. urchin, 18. unpack, 19. larva, 20. modulate