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## Vocabulary Builder Reference from...

*Cynthia Kenyon: Experiments that hint of longer lives*  
| TED Talk

[https://www.ted.com/talks/cynthia\\_kenyon\\_experiments\\_that\\_hint\\_of\\_longer\\_lives](https://www.ted.com/talks/cynthia_kenyon_experiments_that_hint_of_longer_lives)

### Advanced Words Only

#### IMPORTANT

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## Session 1: Word List

### lifespan

*n.* the length of time for which a person, animal lives, or thing exists

*synonym*: duration, lifetime, continuance

(1) **lifespan** extension, (2) **lifespan** retrieval curve

Generally speaking, men have a shorter **lifespan** than women.

### fertile

*adj.* capable of producing abundant vegetation or crops; intellectually productive

*synonym*: fruitful, productive, rich

(1) **fertile** ground, (2) **fertile** market

Herbs require **fertile** soil in a sunny, sheltered location.

### progeny

*n.* the descendants or offspring of a person, animal, or plant

*synonym*: offspring, children, descendants

(1) **progeny** viral DNA, (2) **progeny** of plants

The royal family has much **progeny** scattered across the globe.

### handkerchief

*n.* a small square or rectangular piece of cloth, typically carried or kept in one's pocket or purse for various purposes, such as wiping one's face or hands, or as a

fashion accessory

*synonym* : hankie, pocket square

(1) **handkerchief** embroidery, (2) patterned **handkerchief**

She used her silk **handkerchief** to wipe away her tears.

## deteriorate

*v.* to become worse in quality; to decline or degenerate

*synonym* : decline, degenerate, regress

(1) **deteriorate** at a slow pace, (2) **deteriorate** condition

The patient's health **deteriorated** rapidly after being diagnosed with the disease.

## reaper

*n.* a person or machine that harvests crops; death personified as a figure in art or literature

*synonym* : harvester, cutter, mower

(1) Grim **Reaper**, (2) a skillful **reaper**

The **reaper** machine harvested the crops in the field.

## adrenaline

*n.* (also "epinephrine") a substance secreted by the adrenal medulla in response to stress, which makes the heart beat faster and prepares the body to react to danger

*synonym* : epinephrine

(1) **adrenaline** receptor, (2) **adrenaline** addiction

The band has released a lot of **adrenaline-pumping** rock music.

## Jewish

*adj.* of or relating to people whose traditional religion is Judaism

*synonym* : Judaic

(1) **Jewish** history, (2) **Jewish** culture

My friend is a **Jewish** woman who celebrates Hanukkah every year.

## Alzheimer

*n.* a neurodegenerative disease that causes memory loss, cognitive decline, and behavioral issues; is the most common cause of dementia in older adults

*synonym* :

dementia, memory loss, cognitive decline

(1) **Alzheimer's** brain, (2) **Alzheimer's** risk factors

My grandmother has **Alzheimer's** disease requires special care and attention from her caregivers.

## antioxidant

*n.* a substance that inhibits oxidation, especially one used to counteract the deterioration of stored food products

(1) high levels of **antioxidants**, (2) **antioxidant** behavior

Fruits and vegetables are good sources of **antioxidants**.

## recycle

*v.* to sort and collect things to process them and produce valuable materials that can be used again

*synonym*: reclaim, reuse, reprocess

(1) **recycle** the cardboard boxes, (2) **recycle** milk packaging into new paper

We largely **recycle** the circuit board of cell phones because they contain a lot of valuable metals.

## latent

*adj.* existing but not yet expressed, active, or visible; hidden or dormant

*synonym*: dormant, inactive, potential

(1) **latent** desire, (2) **latent** threat

Many people have **latent** talents they are not aware of.

## 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**.

## fortify

*v.* to make something stronger or more resistant to attack or damage; to give someone or something more strength or support

*synonym*: strengthen, reinforce, bolster

(1) **fortify** a building, (2) **fortify** an immune system

He drank a protein shake to **fortify** his muscles before the marathon.

## tweak

*v.* to pinch or squeeze something sharply; to adjust something finely

*synonym* : nip, pinch, fine-tune

(1) **tweak** his cheek, (2) **tweak** the economy

He didn't **tweak** the plan, even though he had time.

## longevity

*n.* the property of being long-lived; significant duration of service

*synonym* : seniority, endurance

(1) **longevity** crisis, (2) **longevity** genes

He is proud of the **longevity** of the business.

## tor

*n.* a peak or rocky outcrop on a hill or mountain; a high, craggy hill or rocky mountain

*synonym* : rock, peak, crag

(1) **tor** hill, (2) rocky **tor**

We had an excellent view of the surrounding landscape from the top of the granite **tor**.

## rapamycin

*n.* a naturally occurring compound derived from bacteria that is used as an immunosuppressive drug, especially in organ transplantation, which is studied for its potential anti-cancer and anti-aging properties

(1) **rapamycin** treatment, (2) **rapamycin** resistance

The **rapamycin** mechanism of action targets the mTOR pathway, influencing cellular growth and metabolism.

## matte

*adj.* having a surface without a shine, luster; non-glossy

*synonym* : dull, flat, lusterless

(1) **matte** coating, (2) photo with a **matte** finish

The body of his car has a **matte** finish.

## negligible

*adj.* so small or insignificant as to be not worth considering; negligible amounts or effects are too minor or

unimportant to have any major impact

*synonym* : insignificant, trivial, minor

(1) **negligible** impact, (2) a **negligible** amount of time

The cost of the repairs was **negligible** compared to the value of the antique car.

## senescence

*n.* the process of aging or growing old; the gradual deterioration of biological functions and loss of vitality associated with old age

*synonym* : aging, agedness, decline

(1) **senescence** in plants, (2) premature **senescence**

The study aimed to investigate the molecular mechanisms involved in cellular **senescence**.

## tortoise

*n.* a slow-moving, herbivorous reptile characterized by a hard shell that protects its body; many species of tortoise are long-lived and have lifespans of over 100 years

*synonym* : turtle, chelonian

(1) giant **tortoise**, (2) **tortoise** shell

The Galapagos **tortoise** is a fascinating creature with a long lifespan.

## scout

*n.* a person or group sent out to obtain information, gather intelligence, or make observations, typically in a military context; a person or group sent out to explore or prospect for new opportunities, resources, or locations

*synonym* : scoutmaster, explorer, surveyor

(1) boy **scout**, (2) **scout** troop

The company sent a **scout** to explore new business opportunities in the overseas market.

## peroxide

*n.* a compound containing an oxygen-oxygen single bond or the anion  $O_2^{2-}$ , often associated with hydrogen peroxide ( $H_2O_2$ ), a common antiseptic

*synonym* : bleach, hydrogen peroxide, hair dye

(1) **peroxide-based** cleaner, (2) **peroxide** bleach

She applied hydrogen **peroxide** to the wound to clean it.

## Session 2: Spelling

- |                                           |                                                                                                                                                                                                                                          |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. lo_____ty genes                        | <i>n.</i> the property of being long-lived; significant duration of service                                                                                                                                                              |
| 2. ma__e coating                          | <i>adj.</i> having a surface without a shine, luster; non-glossy                                                                                                                                                                         |
| 3. boy sc__t                              | <i>n.</i> a person or group sent out to obtain information, gather intelligence, or make observations, typically in a military context; a person or group sent out to explore or prospect for new opportunities, resources, or locations |
| 4. ant_____nt behavior                    | <i>n.</i> a substance that inhibits oxidation, especially one used to counteract the deterioration of stored food products                                                                                                               |
| 5. t_r hill                               | <i>n.</i> a peak or rocky outcrop on a hill or mountain; a high, craggy hill or rocky mountain                                                                                                                                           |
| 6. Je___h history                         | <i>adj.</i> of or relating to people whose traditional religion is Judaism                                                                                                                                                               |
| 7. li_____an extension                    | <i>n.</i> the length of time for which a person, animal lives, or thing exists                                                                                                                                                           |
| 8. re_____e milk packaging into new paper | <i>v.</i> to sort and collect things to process them and produce valuable materials that can be used again                                                                                                                               |
| 9. fe_____e market                        | <i>adj.</i> capable of producing abundant vegetation or crops; intellectually productive                                                                                                                                                 |

ANSWERS: 1. longevity, 2. matte, 3. scout, 4. antioxidant, 5. tor, 6. Jewish, 7. lifespan, 8. recycle, 9. fertile

10. fe\_\_\_\_e ground *adj.* capable of producing abundant vegetation or crops; intellectually productive
11. high levels of ant\_\_\_\_\_nts *n.* a substance that inhibits oxidation, especially one used to counteract the deterioration of stored food products
12. Je\_\_\_\_h culture *adj.* of or relating to people whose traditional religion is Judaism
13. pe\_\_\_\_de bleach *n.* a compound containing an oxygen-oxygen single bond or the anion  $O_2^{2-}$ , often associated with hydrogen peroxide ( $H_2O_2$ ), a common antiseptic
14. premature sen\_\_\_\_\_ce *n.* the process of aging or growing old; the gradual deterioration of biological functions and loss of vitality associated with old age
15. patterned han\_\_\_\_\_ief *n.* a small square or rectangular piece of cloth, typically carried or kept in one's pocket or purse for various purposes, such as wiping one's face or hands, or as a fashion accessory
16. imp\_\_\_\_\_ion on stage *n.* the act of making something up on the spot or creating or performing something without preparation
17. giant to\_\_\_\_se *n.* a slow-moving, herbivorous reptile characterized by a hard shell that protects its body; many species of tortoise are long-lived and have lifespans of over 100 years
18. fo\_\_\_\_y an immune system *v.* to make something stronger or more resistant to attack or damage; to give someone or something more strength or support

ANSWERS: 10. fertile, 11. antioxidant, 12. Jewish, 13. peroxide, 14. senescence, 15. handkerchief, 16. improvisation, 17. tortoise, 18. fortify



19. rocky t\_r *n.* a peak or rocky outcrop on a hill or mountain; a high, craggy hill or rocky mountain
20. photo with a ma\_\_e finish *adj.* having a surface without a shine, luster; non-glossy
21. a skillful re\_\_\_r *n.* a person or machine that harvests crops; death personified as a figure in art or literature
22. adr\_\_\_\_\_ne receptor *n.* (also "epinephrine") a substance secreted by the adrenal medulla in response to stress, which makes the heart beat faster and prepares the body to react to danger
23. re\_\_\_\_\_e the cardboard boxes *v.* to sort and collect things to process them and produce valuable materials that can be used again
24. Al\_\_\_\_\_er's risk factors *n.* a neurodegenerative disease that causes memory loss, cognitive decline, and behavioral issues; is the most common cause of dementia in older adults
25. pe\_\_\_\_\_de-based cleaner *n.* a compound containing an oxygen-oxygen single bond or the anion  $O_2^{2-}$ , often associated with hydrogen peroxide ( $H_2O_2$ ), a common antiseptic
26. Al\_\_\_\_\_er's brain *n.* a neurodegenerative disease that causes memory loss, cognitive decline, and behavioral issues; is the most common cause of dementia in older adults

ANSWERS: 19. tor, 20. matte, 21. reaper, 22. adrenaline, 23. recycle, 24. Alzheimer, 25. peroxide, 26. Alzheimer

27. det\_\_\_\_\_te at a slow pace      *v.* to become worse in quality; to decline or degenerate
28. tw\_\_k his cheek      *v.* to pinch or squeeze something sharply; to adjust something finely
29. sen\_\_\_\_\_ce in plants      *n.* the process of aging or growing old; the gradual deterioration of biological functions and loss of vitality associated with old age
30. fo\_\_\_\_\_y a building      *v.* to make something stronger or more resistant to attack or damage; to give someone or something more strength or support
31. ra\_\_\_\_\_in resistance      *n.* a naturally occurring compound derived from bacteria that is used as an immunosuppressive drug, especially in organ transplantation, which is studied for its potential anti-cancer and anti-aging properties
32. a neg\_\_\_\_\_le amount of time      *adj.* so small or insignificant as to be not worth considering; negligible amounts or effects are too minor or unimportant to have any major impact
33. neg\_\_\_\_\_le impact      *adj.* so small or insignificant as to be not worth considering; negligible amounts or effects are too minor or unimportant to have any major impact
34. lo\_\_\_\_\_ty crisis      *n.* the property of being long-lived; significant duration of service
35. pr\_\_\_\_\_y viral DNA      *n.* the descendants or offspring of a person, animal, or plant

ANSWERS: 27. deteriorate, 28. tweak, 29. senescence, 30. fortify, 31. rapamycin, 32. negligible, 33. negligible, 34. longevity, 35. progeny

36. tw\_\_k the economy      *v.* to pinch or squeeze something sharply; to adjust something finely
37. sc\_\_t troop      *n.* a person or group sent out to obtain information, gather intelligence, or make observations, typically in a military context; a person or group sent out to explore or prospect for new opportunities, resources, or locations
38. to\_\_\_\_se shell      *n.* a slow-moving, herbivorous reptile characterized by a hard shell that protects its body; many species of tortoise are long-lived and have lifespans of over 100 years
39. la\_\_\_t threat      *adj.* existing but not yet expressed, active, or visible; hidden or dormant
40. li\_\_\_\_an retrieval curve      *n.* the length of time for which a person, animal lives, or thing exists
41. jazz imp\_\_\_\_\_ion      *n.* the act of making something up on the spot or creating or performing something without preparation
42. pr\_\_\_\_y of plants      *n.* the descendants or offspring of a person, animal, or plant
43. han\_\_\_\_\_ief embroidery      *n.* a small square or rectangular piece of cloth, typically carried or kept in one's pocket or purse for various purposes, such as wiping one's face or hands, or as a fashion accessory
44. la\_\_\_t desire      *adj.* existing but not yet expressed, active, or visible; hidden or dormant

ANSWERS: 36. tweak, 37. scout, 38. tortoise, 39. latent, 40. lifespan, 41. improvisation, 42. progeny, 43. handkerchief, 44. latent

45. Grim Re\_\_\_r *n.* a person or machine that harvests crops; death personified as a figure in art or literature
46. ra\_\_\_\_\_in treatment *n.* a naturally occurring compound derived from bacteria that is used as an immunosuppressive drug, especially in organ transplantation, which is studied for its potential anti-cancer and anti-aging properties
47. adr\_\_\_\_\_ne addiction *n.* (also "epinephrine") a substance secreted by the adrenal medulla in response to stress, which makes the heart beat faster and prepares the body to react to danger
48. det\_\_\_\_\_te condition *v.* to become worse in quality; to decline or degenerate

ANSWERS: 45. reaper, 46. rapamycin, 47. adrenaline, 48. deteriorate

## Session 3: Fill in the Blanks

1. The \_\_\_\_\_ machine harvested the crops in the field.  
*n.* a person or machine that harvests crops; death personified as a figure in art or literature
2. Many people have \_\_\_\_\_ talents they are not aware of.  
*adj.* existing but not yet expressed, active, or visible; hidden or dormant
3. She applied hydrogen \_\_\_\_\_ to the wound to clean it.  
*n.* a compound containing an oxygen-oxygen single bond or the anion  $O_2^{2-}$ , often associated with hydrogen peroxide ( $H_2O_2$ ), a common antiseptic
4. We had an excellent view of the surrounding landscape from the top of the granite \_\_\_\_\_.  
*n.* a peak or rocky outcrop on a hill or mountain; a high, craggy hill or rocky mountain
5. The body of his car has a \_\_\_\_\_ finish.  
*adj.* having a surface without a shine, luster; non-glossy
6. He didn't \_\_\_\_\_ the plan, even though he had time.  
*v.* to pinch or squeeze something sharply; to adjust something finely
7. The cost of the repairs was \_\_\_\_\_ compared to the value of the antique car.  
*adj.* so small or insignificant as to be not worth considering; negligible amounts or effects are too minor or unimportant to have any major impact

ANSWERS: 1. reaper, 2. latent, 3. peroxide, 4. tor, 5. matte, 6. tweak, 7. negligible

8. The study aimed to investigate the molecular mechanisms involved in cellular \_\_\_\_\_.
- n.* the process of aging or growing old; the gradual deterioration of biological functions and loss of vitality associated with old age
9. 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
10. Generally speaking, men have a shorter \_\_\_\_\_ than women.
- n.* the length of time for which a person, animal lives, or thing exists
11. The \_\_\_\_\_ mechanism of action targets the mTOR pathway, influencing cellular growth and metabolism.
- n.* a naturally occurring compound derived from bacteria that is used as an immunosuppressive drug, especially in organ transplantation, which is studied for its potential anti-cancer and anti-aging properties
12. She used her silk \_\_\_\_\_ to wipe away her tears.
- n.* a small square or rectangular piece of cloth, typically carried or kept in one's pocket or purse for various purposes, such as wiping one's face or hands, or as a fashion accessory
13. We largely \_\_\_\_\_ the circuit board of cell phones because they contain a lot of valuable metals.
- v.* to sort and collect things to process them and produce valuable materials that can be used again
14. Herbs require \_\_\_\_\_ soil in a sunny, sheltered location.
- adj.* capable of producing abundant vegetation or crops; intellectually productive

ANSWERS: 8. senescence, 9. improvisation, 10. lifespan, 11. rapamycin, 12. handkerchief, 13. recycle, 14. fertile

15. The band has released a lot of \_\_\_\_\_ rock music.
- n.* (also "epinephrine") a substance secreted by the adrenal medulla in response to stress, which makes the heart beat faster and prepares the body to react to danger
16. My grandmother has \_\_\_\_\_ disease requires special care and attention from her caregivers.
- n.* a neurodegenerative disease that causes memory loss, cognitive decline, and behavioral issues; is the most common cause of dementia in older adults
17. Fruits and vegetables are good sources of \_\_\_\_\_.
- n.* a substance that inhibits oxidation, especially one used to counteract the deterioration of stored food products
18. My friend is a \_\_\_\_\_ woman who celebrates Hanukkah every year.
- adj.* of or relating to people whose traditional religion is Judaism
19. He drank a protein shake to \_\_\_\_\_ his muscles before the marathon.
- v.* to make something stronger or more resistant to attack or damage; to give someone or something more strength or support
20. The royal family has much \_\_\_\_\_ scattered across the globe.
- n.* the descendants or offspring of a person, animal, or plant
21. The company sent a \_\_\_\_\_ to explore new business opportunities in the overseas market.
- n.* a person or group sent out to obtain information, gather intelligence, or make observations, typically in a military context; a person or group sent out to explore or prospect for new opportunities, resources, or locations

ANSWERS: 15. adrenaline-pumping, 16. Alzheimer's, 17. antioxidants, 18. Jewish, 19. fortify, 20. progeny, 21. scout

22. The Galapagos \_\_\_\_\_ is a fascinating creature with a long lifespan.
- n.* a slow-moving, herbivorous reptile characterized by a hard shell that protects its body; many species of tortoise are long-lived and have lifespans of over 100 years
23. He is proud of the \_\_\_\_\_ of the business.
- n.* the property of being long-lived; significant duration of service
24. The patient's health \_\_\_\_\_ rapidly after being diagnosed with the disease.
- v.* to become worse in quality; to decline or degenerate

ANSWERS: 22. tortoise, 23. longevity, 24. deteriorated