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Vocabulary Builder Reference from...

Neri Oxman: Design at the intersection of technology and biology | TED Talk

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

Advanced Words Only

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Session 1: Word List

chisel

n. a tool with a sharpened edge at one end used for shaping wood, stone, or metal; (verb) to engage in deceitful behavior

synonym : gouge, bevel, plane

(1) sharpen **chisel**, (2) **chisel** some money

The archaeologist used a small **chisel** to excavate the ancient artifact.

rigor

n. strictness or severity in opinion, temper, or judgment

synonym : strictness, exactness, accuracy

(1) the **rigor** of the law, (2) academic **rigor**

When the dead body was found, **rigor** mortis had already begun.

dictate

v. to state or give order with total authority; to say or read aloud for somebody else to write down or to be recorded

synonym : read out, prescribe, order

(1) **dictate** a letter to secretary, (2) **dictate** to the associate

The allies **dictated** the terms of surrender to the country.

elasticity

n. the ability of a material to return to its original shape after being stretched or compressed; flexibility; adaptability to change

synonym: flexibility, pliability, suppleness

(1) **elasticity** coefficient, (2) skin **elasticity**

The **elasticity** of the rubber band allowed it to stretch without breaking.

worldview

n. a particular philosophy or cognitive orientation of life or conception of the world

synonym: perspective, position, viewpoint

(1) mainstream **worldview**, (2) the **worldview** of the ancient civilization

The war between the two countries was also a battle between competing **worldviews**.

confluence

n. the point at which two or more streams or rivers come together; a gathering of people or things at a particular location or moment

synonym: merging, convergence, meeting

(1) arterial **confluence**, (2) **confluence** of ideas

A **confluence** of two smaller streams formed the river.

carving

n. the act or process of cutting or shaping a hard material, such as wood or stone, into a specific form or design

synonym: sculpture, engraving, sculpture

(1) a wood **carving**, (2) **carving** instrument

The intricate **carving** on the wooden box was the work of a master craftsman.

robotic

adj. of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots

synonym: automated, mechanical, laborsaving

(1) **robotic** arm, (2) **robotic** guide operation

The surgeon removed the tumor using **robotic** video assistance.

nanoscale

adj. on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale

(1) **nanoscale** device, (2) things at the **nanoscale**

This process improves the strength of the metal by controlling the **nanoscale** lattice structure of the metal.

microorganism

n. a very small living thing that may exist in its single-celled form or as a colony of cells and is too small to be seen without a microscope

synonym: germ, microbe, bacterium

(1) pathogenic **microorganism**, (2) **microorganisms** in his gut

This **microorganism** is a producer of respiratory disease.

reimagine

v. to imagine or conceive of something in a new or different way

synonym: re-conceptualize, re-envision, re-create

(1) **reimagine** the future, (2) **reimagine** the possibilities

The company is trying to **reimagine** its business model to stay competitive.

archetype

n. a very typical example of a certain person or thing; a recurrent symbol or motif in literature, art, or mythology that represents a universal pattern of human nature

synonym: prototype, model, paradigm

(1) **archetype** symbol, (2) feminine **archetype**

The hero's journey is a common **archetype** in many myths and stories.

Arabic

n. the Semitic language of the Arab people, widely spoken throughout the Middle East and North Africa; of or relating to Arab peoples, culture, or language

(1) **Arabic** cuisine, (2) **Arabic** language

I'm studying **Arabic** calligraphy as part of my art class.

iris

n. the colored part of the eye that surrounds the pupil; a flower with showy petals, named for its resemblance to the eye's iris

synonym: pupil, diaphragm, aperture

(1) blue **iris**, (2) **iris** pattern

The **iris** of the eye contracts and expands to control the amount of light that enters.

seam

n. a line of stitching or joining where two pieces of fabric or material are united; also, a narrow furrow or fissure in rock or soil

synonym: stitch, seam, joint

(1) uneven **seam**, (2) the **seam** on the shoulder

She took the dress to the tailor to fix the torn **seam**.

rigidity

n. the state or quality of being rigid or inflexible; the inability to adapt to change or new circumstances; the condition of being stiff or unyielding

synonym: stiffness, inflexibility, firmness

(1) mental **rigidity**, (2) legal **rigidity**

The **rigidity** of the school's dress code policy caused much controversy among the students and parents.

opacity

n. the quality or state of being opaque (= not allowing light to pass through); a lack of transparency or clarity in a person's behavior, motives, or communication

synonym: translucency, cloudiness, opaqueness

(1) light **opacity**, (2) **opacity** level

The **opacity** of the company's financial statements raised suspicions of fraud.

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.

recount

v. to describe what happened or to narrate a story

synonym: narrate, tell, report

(1) **recount** the adventure, (2) **recount** a conversation with

him

They **recount** events that have already occurred.

chitin

n. a tough, protective polysaccharide compound that forms the exoskeleton of arthropods and the cell walls of some fungi

synonym: exoskeleton material, insect shell

(1) **chitin** structure, (2) **chitin** synthesis

The lobster's **chitin-based** shell turns red when cooked due to heat-induced chemical changes.

scorpion

n. a small creature similar to an insect with a segmented body, a pair of pincers, and a long, thin tail that ends in a venomous sting

synonym: arachnid, stinger

(1) **scorpion** fish, (2) poisonous **scorpion**

The **scorpion's** venom can be lethal to humans.

grind

v. to reduce something to small particles or powder by crushing or rubbing it; to work hard over a long period of time

synonym: mill, crush, grate

(1) **grind** away at my work, (2) **grind** your teeth

She had to **grind** the coffee beans before making a fresh cup.

chitosan

n. a derivative of chitin (= a tough, protective polysaccharide compound), obtained by removing the acetyl groups from chitin, often used in various applications such as medicine, agriculture, and industry

synonym: biopolymer, dietary fiber, wound-healing agent

(1) **chitosan** supplement, (2) **chitosan** extraction

The **chitosan** nanoparticles are used for targeted drug delivery in cancer treatments.

opaque

adj. not transparent; not allowing light to pass through; not permitting a clear view

synonym : impenetrable, obscure, cloudy

(1) **opaque** material, (2) **opaque** color

The curtains were made of **opaque** fabric that blocked out all light.

extrude

v. to force, push, or press out through a narrow opening or nozzle, often in a continuous fashion; to shape materials by squeezing them through a die or mold

synonym : squeeze, force, press out

(1) **extrude** rubber, (2) **extrude** metal

The artist used a pasta machine to **extrude** clay into intricate shapes.

nozzle

n. a tube or spout through which a liquid or gas is discharged, particularly one attached to a hose, pump, or spray gun

synonym : spout, sprayer, tube

(1) **nozzle** attachment, (2) fuel **nozzle**

The car wash **nozzle** sprayed a powerful stream of soapy water onto the vehicle.

recyclability

n. the degree to which a material or product can be reused or repurposed after it has served its original function, without requiring significant modifications or environmental harm

synonym : reusability, sustainability, renewability

(1) **recyclability** rate, (2) low **recyclability** problem

The **recyclability** of electronic devices is a significant challenge due to the complexity of their components.

byproduct

n. a secondary or incidental product produced in the manufacture or synthesis of something else

synonym : side effect, spinoff, outgrowth

(1) toxic **byproducts**, (2) **byproduct** of technology

The **byproduct** of the energy production process is a large amount of carbon dioxide emissions.

photosynthesis

n. the process through which plants and other organisms transform light energy into chemical energy, which is then released through cellular respiration to power the organism's activities.

(1) oxygenic **photosynthesis**, (2) process of **photosynthesis**

In **photosynthesis**, plants use carbon dioxide to feed themselves.

biodegrade

v. to decay naturally by microorganisms, such as bacteria and fungi

(1) **biodegrade** by the microorganism, (2) bioplastic designed to **biodegrade**

The company's plastic products are easily **biodegraded** thanks to a unique manufacturing process.

nourish

v. to provide a person, an animal, or plant with food to make them grow and stay healthy

synonym: feed, sustain, nurture

(1) **nourish** damaged skin, (2) **nourish** hope

The mother used her breast milk to **nourish** the baby.

interplanetary

adj. relating to or occurring between planets, particularly regarding space travel or communication

synonym: interstellar, planetary, celestial

(1) **interplanetary** debris, (2) **interplanetary** exploration

Scientists are working on developing **interplanetary** travel to explore other planets in our solar system.

augment

v. to increase the size, extent, quantity, etc. of something by adding something to it

synonym: boost, increase, expand

(1) **augment** the reality, (2) **augment** immunity

Economic factors and monetary policy **augmented** inflation.

alchemy

n. a medieval chemical philosophy and speculative theory that aimed to transform base metals into gold or produce

a universal elixir that could cure all diseases and grant immortality; a process of transformation or creation that appears magical or mysterious

synonym: sorcery, magic, transmutation

(1) **alchemy** experiment, (2) **alchemy** of emotions

Today, the study of **alchemy** remains an important part of the history of science and philosophy

transmute

v. to change or convert from one form or substance to another, often in a transformative or profound way

synonym: transform, convert, change

(1) **transmute** energy, (2) **transmute** struggle into growth

Some alchemists believed in the ability to **transmute** base metals into gold.

synthesize

v. to combine a substance to make a more complex product or compound

synonym: incorporate, amalgamate

(1) **synthesize** molecules, (2) **synthesize** information

The spider can **synthesize** multiple different silk proteins.

cyanobacteria

n. a group of photosynthetic bacteria that possess chlorophyll and blue pigments and are characteristically found in aquatic environments; also known as blue-green algae

synonym: blue-green algae, blue-green bacteria, pond scum

(1) **cyanobacteria** blooms, (2) marine **cyanobacteria**

The toxic algae bloom in the lake was caused by an overgrowth of **cyanobacteria**.

coli

n. a bacterium of the genus *Escherichia* that is commonly found in the human gut and is used as a model organism in molecular biology and biochemistry

(1) *E. coli* bacteria strain, (2) **coli** cells

The study of *Escherichia coli* has led to important advancements in areas such as antibiotic resistance, gut

microbiome, and synthetic biology.

inhabit

v. to live in a specific location; to reside

synonym : settle, occupy, populate

(1) **inhabit** a cave, (2) **inhabit** the stomach

I have no idea what sort of folks **inhabit** the neighborhood.

biofuel

n. a fuel produced from organic matter, such as crops or waste material, that can be used to replace or supplement traditional fossil fuels

synonym : renewable energy, green fuel, alternative fuel

(1) **biofuel** production, (2) **biofuel** technology

The airplane was powered by a **biofuel** made from plant-based materials.

digestive

adj. relating to or capable of causing or promoting digestion of food

(1) **digestive** juices, (2) a **digestive** enzyme

A nutritious diet improves **digestive** functions.

intestine

n. a long, tube-like organ in the digestive system that is responsible for absorbing nutrients from food and eliminating waste products

synonym : gut, bowel, tract

(1) large **intestine**, (2) **intestine** wall

The small **intestine** is responsible for absorbing most of the nutrients from food.

unveil

v. to reveal or make something publicly known, especially for the first time

synonym : reveal, uncover, expose

(1) **unveil** a monument, (2) **unveil** a comprehensive plan

The company plans to **unveil** its new product at the trade show next week.

glowing

adj. highly enthusiastic; greatly praised

synonym : burning, bright, flaming

(1) **glowing** reviews, (2) **glowing** cheeks
The western sky was **glowing** pink.

microbiome

n. the community of microorganisms (= living things too small to be seen) that can usually be found living together in any given environment or the human body
synonym: flora

(1) skin **microbiome**, (2) have a diverse **microbiome**
The gut **microbiome** is a major producer of serotonin, which is necessary for human mental stability.

opportune

adj. suitable or happening at a time that is suitable or convenient for a particular purpose
synonym: suitable, timely, practical

(1) **opportune** occasion, (2) an **opportune** remark
The phone rang at the most **opportune** time.

speculate

v. to form a theory or conjecture or guess about a subject without solid evidence
synonym: assume, conjecture, infer

(1) **speculate** about the reason, (2) **speculate** on the outcome
He **speculated** that this investment would lead to success.

symbiosis

n. a close, prolonged association between two or more different species of organisms, typically to the advantage of all
synonym: cooperation, interdependence, mutualism

(1) industrial **symbiosis**, (2) **symbiosis** establishment
The **symbiosis** between the coral and the algae is an important example of mutualism.

sophistication

n. the quality or state of having a great deal of worldly experience; the quality or state of being intellectually or culturally refined
synonym: refinement, culture, elegance

(1) cultural **sophistication**, (2) linguistic **sophistication**

The new technology added a level of **sophistication** to the manufacturing process.

silkworm

n. the larva of a moth of the Bombyx genus that spins a cocoon of silk to encase itself while it transforms into a pupa; the silk fibers can be harvested and used to make fabric, such as silk

synonym : silk spinner

(1) **silkworm** larvae, (2) **silkworm** breeding

The **silkworm's** cocoon contains the silk fibers used to make luxurious fabrics.

cocoon

n. a protective covering spun by some insects and other invertebrates

synonym : chrysalis, pupa, case

(1) **cocoon** silk, (2) a dried **cocoon**

The caterpillar spins a **cocoon** around itself before turning into a butterfly.

metamorphosis

n. a profound or dramatic change in form, structure, or condition; a transformation; the process by which an animal or insect undergoes a physical transformation, such as growth, development, or maturation

synonym : transformation, change, evolution

(1) **metamorphosis** process, (2) undergo a **metamorphosis**

The butterfly's **metamorphosis** from a caterpillar to a winged creature is a wonder of nature.

attache

n. a person who works at an embassy, usually having a specialized area of responsibility; a shallow and rectangular briefcase

synonym : diplomat, envoy, briefcase

(1) a commercial **attache**, (2) black **attache** case

A prime minister talked with a military **attache** of the country's embassy.

tensile

adj. relating to the ability of a material or structure to stretch or bend without breaking or losing its shape; having great strength or flexibility under tension

synonym : flexible, pliable, ductile

(1) **tensile** deformation, (2) **tensile** properties

The engineer tested the **tensile** strength of the metal to determine its durability.

compress

v. to press or squeeze together to make something take up less space

synonym : condense, constrict, squeeze

(1) **compress** the chest, (2) **compress** gas

She **compressed** the files into a single ZIP archive to save space on her computer.

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.

scaffold

n. a temporary platform or structure used to support workers and materials during construction or maintenance work

synonym : platform, staging, framework

(1) **scaffold** construction, (2) go to the **scaffold**

The construction workers set up the **scaffold** to reach the top of the building.

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.

industrious

adj. hardworking, diligent, and persistent in effort

synonym : diligent, hardworking, assiduous

(1) **industrious** worker, (2) **industrious** student

He was known to be very **industrious** and would often work late into the night.

rev

n. a measure of the rate at which an engine or motor rotates, often expressed in revolutions per minute (RPM); (verb) to increase the number of rotations per minute

synonym : revolution, RPM, speed

(1) low- **rev** engine, (2) **rev** up the crowd

He stepped on the gas pedal, and the engine released a loud **rev**.

caterpillar

n. the wormlike larva of a butterfly or moth

synonym : larva, grub, worm

(1) **caterpillar** of a butterfly, (2) **caterpillar** in a cocoon

The wooly bear **caterpillar** munched on leaves all day.

pupa

n. the intermediate stage in the development of an insect between the larva and the adult

synonym : chrysalis, cocoon, pupae

(1) **pupa** stage, (2) emerge from a **pupa**

The **pupa** of the moth was hidden deep inside the cocoon.

pavilion

n. a large, often ornate tent or booth, often used for entertainment or public events; a building or structure, often in a park or other public space, used for meetings, exhibitions, or social gatherings

synonym : gazebo, kiosk, pagoda

(1) garden **pavilion**, (2) beach **pavilion**

The outdoor wedding reception was held in a beautiful **pavilion** overlooking the lake.

moth

n. an insect with wings similar to a butterfly that travels at night and is attracted to light

(1) **moth** larva, (2) **moth** attracted to the light
The **moth** is a serious threat to the farm's output.

hatch

v. to cause an egg to break to allow a young animal to come out; to produce and expand something that is in an early stage

synonym: incubate, breed, produce

(1) **hatch** a plan, (2) **hatch** a baby chick

The eggs began to **hatch**, and the small chicks emerged.

Session 2: Spelling

1. sc_____ld construction *n.* a temporary platform or structure used to support workers and materials during construction or maintenance work
2. gl_____g cheeks *adj.* highly enthusiastic; greatly praised
3. co_____ss gas *v.* to press or squeeze together to make something take up less space
4. syn_____ze information *v.* to combine a substance to make a more complex product or compound
5. an op_____ne remark *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
6. fuel no_____e *n.* a tube or spout through which a liquid or gas is discharged, particularly one attached to a hose, pump, or spray gun
7. ch_____an extraction *n.* a derivative of chitin (= a tough, protective polysaccharide compound), obtained by removing the acetyl groups from chitin, often used in various applications such as medicine, agriculture, and industry
8. un_____l a comprehensive plan *v.* to reveal or make something publicly known, especially for the first time
9. process of pho_____sis *n.* the process through which plants and other organisms transform light energy into chemical energy, which is then released through cellular respiration to power the organism's activities.

ANSWERS: 1. scaffold, 2. glowing, 3. compress, 4. synthesize, 5. opportune, 6. nozzle, 7. chitosan, 8. unveil, 9. photosynthesis

10. int_____ary exploration *adj.* relating to or occurring between planets, particularly regarding space travel or communication
11. poisonous sc_____on *n.* a small creature similar to an insect with a segmented body, a pair of pincers, and a long, thin tail that ends in a venomous sting
12. op___e color *adj.* not transparent; not allowing light to pass through; not permitting a clear view
13. un_____l a plot *v.* undo twisted, knitted, or woven threads by separating it
14. na_____le device *adj.* on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale
15. mainstream wo_____ew *n.* a particular philosophy or cognitive orientation of life or conception of the world
16. the wo_____ew of the ancient civilization *n.* a particular philosophy or cognitive orientation of life or conception of the world
17. p__a stage *n.* the intermediate stage in the development of an insect between the larva and the adult
18. a wood ca_____g *n.* the act or process of cutting or shaping a hard material, such as wood or stone, into a specific form or design
19. si_____rm breeding *n.* the larva of a moth of the Bombyx genus that spins a cocoon of silk to encase itself while it transforms into a pupa; the silk fibers can be harvested and used to make fabric, such as silk

ANSWERS: 10. interplanetary, 11. scorpion, 12. opaque, 13. unravel, 14. nanoscale, 15. worldview, 16. worldview, 17. pupa, 18. carving, 19. silkworm

20. feminine ar_____pe *n.* a very typical example of a certain person or thing; a recurrent symbol or motif in literature, art, or mythology that represents a universal pattern of human nature
21. r_v up the crowd *n.* a measure of the rate at which an engine or motor rotates, often expressed in revolutions per minute (RPM); (verb) to increase the number of rotations per minute
22. bi_____l technology *n.* a fuel produced from organic matter, such as crops or waste material, that can be used to replace or supplement traditional fossil fuels
23. in_____ne wall *n.* a long, tube-like organ in the digestive system that is responsible for absorbing nutrients from food and eliminating waste products
24. con_____ce of ideas *n.* the point at which two or more streams or rivers come together; a gathering of people or things at a particular location or moment
25. si_____rm larvae *n.* the larva of a moth of the Bombyx genus that spins a cocoon of silk to encase itself while it transforms into a pupa; the silk fibers can be harvested and used to make fabric, such as silk
26. Je____h culture *adj.* of or relating to people whose traditional religion is Judaism
27. a di_____ve enzyme *adj.* relating to or capable of causing or promoting digestion of food

ANSWERS: 20. archetype, 21. rev, 22. biofuel, 23. intestine, 24. confluence, 25. silkworm, 26. Jewish, 27. digestive

28. light op____y
- n.* the quality or state of being opaque (= not allowing light to pass through); a lack of transparency or clarity in a person's behavior, motives, or communication
29. undergo a met_____sis
- n.* a profound or dramatic change in form, structure, or condition; a transformation; the process by which an animal or insect undergoes a physical transformation, such as growth, development, or maturation
30. al____y of emotions
- n.* a medieval chemical philosophy and speculative theory that aimed to transform base metals into gold or produce a universal elixir that could cure all diseases and grant immortality; a process of transformation or creation that appears magical or mysterious
31. bi____l production
- n.* a fuel produced from organic matter, such as crops or waste material, that can be used to replace or supplement traditional fossil fuels
32. gr__d your teeth
- v.* to reduce something to small particles or powder by crushing or rubbing it; to work hard over a long period of time
33. Ar___c language
- n.* the Semitic language of the Arab people, widely spoken throughout the Middle East and North Africa; of or relating to Arab peoples, culture, or language

ANSWERS: 28. opacity, 29. metamorphosis, 30. alchemy, 31. biofuel, 32. grind, 33. Arabic

34. re_____t the adventure *v.* to describe what happened or to narrate a story
35. au_____t the reality *v.* to increase the size, extent, quantity, etc. of something by adding something to it
36. ch_____an supplement *n.* a derivative of chitin (= a tough, protective polysaccharide compound), obtained by removing the acetyl groups from chitin, often used in various applications such as medicine, agriculture, and industry
37. Je____h history *adj.* of or relating to people whose traditional religion is Judaism
38. a commercial at_____e *n.* a person who works at an embassy, usually having a specialized area of responsibility; a shallow and rectangular briefcase
39. emerge from a p__a *n.* the intermediate stage in the development of an insect between the larva and the adult
40. sp_____te on the outcome *v.* to form a theory or conjecture or guess about a subject without solid evidence
41. no_____h hope *v.* to provide a person, an animal, or plant with food to make them grow and stay healthy
42. skin mic_____me *n.* the community of microorganisms (= living things too small to be seen) that can usually be found living together in any given environment or the human body

ANSWERS: 34. recount, 35. augment, 36. chitosan, 37. Jewish, 38. attache, 39. pupa, 40. speculate, 41. nourish, 42. microbiome

43. no___e attachment *n.* a tube or spout through which a liquid or gas is discharged, particularly one attached to a hose, pump, or spray gun
44. tr_____te energy *v.* to change or convert from one form or substance to another, often in a transformative or profound way
45. cat_____ar of a butterfly *n.* the wormlike larva of a butterfly or moth
46. un___l a monument *v.* to reveal or make something publicly known, especially for the first time
47. bioplastic designed to bio_____de *v.* to decay naturally by microorganisms, such as bacteria and fungi
48. ch___n structure *n.* a tough, protective polysaccharide compound that forms the exoskeleton of arthropods and the cell walls of some fungi
49. tr_____te struggle into growth *v.* to change or convert from one form or substance to another, often in a transformative or profound way
50. op___e material *adj.* not transparent; not allowing light to pass through; not permitting a clear view
51. go to the sc_____ld *n.* a temporary platform or structure used to support workers and materials during construction or maintenance work
52. op_____y level *n.* the quality or state of being opaque (= not allowing light to pass through); a lack of transparency or clarity in a person's behavior, motives, or communication

ANSWERS: 43. nozzle, 44. transmute, 45. caterpillar, 46. unveil, 47. biodegrade, 48. chitin, 49. transmute, 50. opaque, 51. scaffold, 52. opacity

53. di_____e a letter to secretary *v.* to state or give order with total authority; to say or read aloud for somebody else to write down or to be recorded
54. rec_____ity rate *n.* the degree to which a material or product can be reused or repurposed after it has served its original function, without requiring significant modifications or environmental harm
55. ro_____c arm *adj.* of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots
56. by_____ct of technology *n.* a secondary or incidental product produced in the manufacture or synthesis of something else
57. sharpen ch____l *n.* a tool with a sharpened edge at one end used for shaping wood, stone, or metal; (verb) to engage in deceitful behavior
58. gl_____g reviews *adj.* highly enthusiastic; greatly praised
59. ex_____e metal *v.* to force, push, or press out through a narrow opening or nozzle, often in a continuous fashion; to shape materials by squeezing them through a die or mold
60. uneven s__m *n.* a line of stitching or joining where two pieces of fabric or material are united; also, a narrow furrow or fissure in rock or soil

ANSWERS: 53. dictate, 54. recyclability, 55. robotic, 56. byproduct, 57. chisel, 58. glowing, 59. extrude, 60. seam

61. ind_____us student *adj.* hardworking, diligent, and persistent in effort
62. c__i cells *n.* a bacterium of the genus Escherichia that is commonly found in the human gut and is used as a model organism in molecular biology and biochemistry
63. te_____e deformation *adj.* relating to the ability of a material or structure to stretch or bend without breaking or losing its shape; having great strength or flexibility under tension
64. things at the na_____le *adj.* on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale
65. cultural sop_____ion *n.* the quality or state of having a great deal of worldly experience; the quality or state of being intellectually or culturally refined
66. industrial sy_____is *n.* a close, prolonged association between two or more different species of organisms, typically to the advantage of all
67. the ri__r of the law *n.* strictness or severity in opinion, temper, or judgment
68. large in_____ne *n.* a long, tube-like organ in the digestive system that is responsible for absorbing nutrients from food and eliminating waste products
69. beach pa_____on *n.* a large, often ornate tent or booth, often used for entertainment or public events; a building or structure, often in a park or other public space, used for meetings, exhibitions, or social gatherings

ANSWERS: 61. industrious, 62. coli, 63. tensile, 64. nanoscale, 65. sophistication, 66. symbiosis, 67. rigor, 68. intestine, 69. pavilion

70. arterial con_____ce *n.* the point at which two or more streams or rivers come together; a gathering of people or things at a particular location or moment
71. ch____l some money *n.* a tool with a sharpened edge at one end used for shaping wood, stone, or metal; (verb) to engage in deceitful behavior
72. ar_____pe symbol *n.* a very typical example of a certain person or thing; a recurrent symbol or motif in literature, art, or mythology that represents a universal pattern of human nature
73. i__s pattern *n.* the colored part of the eye that surrounds the pupil; a flower with showy petals, named for its resemblance to the eye's iris
74. sp_____te about the reason *v.* to form a theory or conjecture or guess about a subject without solid evidence
75. m__h attracted to the light *n.* an insect with wings similar to a butterfly that travels at night and is attracted to light
76. mental ri_____ty *n.* the state or quality of being rigid or inflexible; the inability to adapt to change or new circumstances; the condition of being stiff or unyielding
77. int_____ary debris *adj.* relating to or occurring between planets, particularly regarding space travel or communication
78. re_____ne the future *v.* to imagine or conceive of something in a new or different way

ANSWERS: 70. confluence, 71. chisel, 72. archetype, 73. iris, 74. speculate, 75. moth, 76. rigidity, 77. interplanetary, 78. reimagine

79. sy_____is establishment *n.* a close, prolonged association between two or more different species of organisms, typically to the advantage of all
80. ha__h a baby chick *v.* to cause an egg to break to allow a young animal to come out; to produce and expand something that is in an early stage
81. au_____t immunity *v.* to increase the size, extent, quantity, etc. of something by adding something to it
82. pathogenic mic_____ism *n.* a very small living thing that may exist in its single-celled form or as a colony of cells and is too small to be seen without a microscope
83. co_____ss the chest *v.* to press or squeeze together to make something take up less space
84. cya_____ria blooms *n.* a group of photosynthetic bacteria that possess chlorophyll and blue pigments and are characteristically found in aquatic environments; also known as blue-green algae
85. ca_____g instrument *n.* the act or process of cutting or shaping a hard material, such as wood or stone, into a specific form or design
86. skin ela_____ty *n.* the ability of a material to return to its original shape after being stretched or compressed; flexibility; adaptability to change
87. op_____ne occasion *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose

ANSWERS: 79. symbiosis, 80. hatch, 81. augment, 82. microorganism, 83. compress, 84. cyanobacteria, 85. carving, 86. elasticity, 87. opportune

88. vi_____ze flying through space v. to form a mental image or concept of something; to make something visible
89. syn_____ze molecules v. to combine a substance to make a more complex product or compound
90. low-r_v engine n. a measure of the rate at which an engine or motor rotates, often expressed in revolutions per minute (RPM); (verb) to increase the number of rotations per minute
91. vi_____ze data v. to form a mental image or concept of something; to make something visible
92. toxic by_____cts n. a secondary or incidental product produced in the manufacture or synthesis of something else
93. a dried co___n n. a protective covering spun by some insects and other invertebrates
94. in_____t a cave v. to live in a specific location; to reside
95. no_____h damaged skin v. to provide a person, an animal, or plant with food to make them grow and stay healthy
96. linguistic sop_____ion n. the quality or state of having a great deal of worldly experience; the quality or state of being intellectually or culturally refined
97. ch___n synthesis n. a tough, protective polysaccharide compound that forms the exoskeleton of arthropods and the cell walls of some fungi
98. oxygenic pho_____sis n. the process through which plants and other organisms transform light energy into chemical energy, which is then released through cellular respiration to power the organism's activities.

ANSWERS: 88. visualize, 89. synthesize, 90. rev, 91. visualize, 92. byproduct, 93. cocoon, 94. inhabit, 95. nourish, 96. sophistication, 97. chitin, 98. photosynthesis

99. ind_____us worker *adj.* hardworking, diligent, and persistent in effort
100. in_____t the stomach *v.* to live in a specific location; to reside
101. ex_____e rubber *v.* to force, push, or press out through a narrow opening or nozzle, often in a continuous fashion; to shape materials by squeezing them through a die or mold
102. bio_____de by the microorganism *v.* to decay naturally by microorganisms, such as bacteria and fungi
103. di_____ve juices *adj.* relating to or capable of causing or promoting digestion of food
104. ela_____ty coefficient *n.* the ability of a material to return to its original shape after being stretched or compressed; flexibility; adaptability to change
105. marine cya_____ria *n.* a group of photosynthetic bacteria that possess chlorophyll and blue pigments and are characteristically found in aquatic environments; also known as blue-green algae
106. ha__h a plan *v.* to cause an egg to break to allow a young animal to come out; to produce and expand something that is in an early stage
107. academic ri__r *n.* strictness or severity in opinion, temper, or judgment
108. garden pa_____on *n.* a large, often ornate tent or booth, often used for entertainment or public events; a building or structure, often in a park or other public space, used for meetings, exhibitions, or social gatherings

ANSWERS: 99. industrious, 100. inhabit, 101. extrude, 102. biodegrade, 103. digestive, 104. elasticity, 105. cyanobacteria, 106. hatch, 107. rigor, 108. pavilion

109. cat_____ar in a cocoon *n.* the wormlike larva of a butterfly or moth
110. E. c__i bacteria strain *n.* a bacterium of the genus Escherichia that is commonly found in the human gut and is used as a model organism in molecular biology and biochemistry
111. al_____y experiment *n.* a medieval chemical philosophy and speculative theory that aimed to transform base metals into gold or produce a universal elixir that could cure all diseases and grant immortality; a process of transformation or creation that appears magical or mysterious
112. met_____sis process *n.* a profound or dramatic change in form, structure, or condition; a transformation; the process by which an animal or insect undergoes a physical transformation, such as growth, development, or maturation
113. re_____t a conversation with him *v.* to describe what happened or to narrate a story
114. te_____e properties *adj.* relating to the ability of a material or structure to stretch or bend without breaking or losing its shape; having great strength or flexibility under tension
115. m__h larva *n.* an insect with wings similar to a butterfly that travels at night and is attracted to light
116. legal ri_____ty *n.* the state or quality of being rigid or inflexible; the inability to adapt to change or new circumstances; the condition of being stiff or unyielding

ANSWERS: 109. caterpillar, 110. coli, 111. alchemy, 112. metamorphosis, 113. recount, 114. tensile, 115. moth, 116. rigidity

117. have a diverse mic_____me *n.* the community of microorganisms (= living things too small to be seen) that can usually be found living together in any given environment or the human body
118. mic_____isms in his gut *n.* a very small living thing that may exist in its single-celled form or as a colony of cells and is too small to be seen without a microscope
119. sc_____on fish *n.* a small creature similar to an insect with a segmented body, a pair of pincers, and a long, thin tail that ends in a venomous sting
120. re_____ne the possibilities *v.* to imagine or conceive of something in a new or different way
121. the s__m on the shoulder *n.* a line of stitching or joining where two pieces of fabric or material are united; also, a narrow furrow or fissure in rock or soil
122. blue i__s *n.* the colored part of the eye that surrounds the pupil; a flower with showy petals, named for its resemblance to the eye's iris
123. di_____e to the associate *v.* to state or give order with total authority; to say or read aloud for somebody else to write down or to be recorded
124. co_____n silk *n.* a protective covering spun by some insects and other invertebrates
125. Ar___c cuisine *n.* the Semitic language of the Arab people, widely spoken throughout the Middle East and North Africa; of or relating to Arab peoples, culture, or language

ANSWERS: 117. microbiome, 118. microorganism, 119. scorpion, 120. reimagine, 121. seam, 122. iris, 123. dictate, 124. cocoon, 125. Arabic

126. black at____e case *n.* a person who works at an embassy, usually having a specialized area of responsibility; a shallow and rectangular briefcase
127. ro____c guide operation *adj.* of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots
128. low rec____ity problem *n.* the degree to which a material or product can be reused or repurposed after it has served its original function, without requiring significant modifications or environmental harm
129. un____l a knit *v.* undo twisted, knitted, or woven threads by separating it
130. gr__d away at my work *v.* to reduce something to small particles or powder by crushing or rubbing it; to work hard over a long period of time

ANSWERS: 126. attache, 127. robotic, 128. recyclability, 129. unravel, 130. grind

Session 3: Fill in the Blanks

1. The study of Escherichia _____ has led to important advancements in areas such as antibiotic resistance, gut microbiome, and synthetic biology.
 - n.* a bacterium of the genus Escherichia that is commonly found in the human gut and is used as a model organism in molecular biology and biochemistry

2. The allies _____ the terms of surrender to the country.
 - v.* to state or give order with total authority; to say or read aloud for somebody else to write down or to be recorded

3. Economic factors and monetary policy _____ inflation.
 - v.* to increase the size, extent, quantity, etc. of something by adding something to it

4. The _____ of the eye contracts and expands to control the amount of light that enters.
 - n.* the colored part of the eye that surrounds the pupil; a flower with showy petals, named for its resemblance to the eye's iris

5. The outdoor wedding reception was held in a beautiful _____ overlooking the lake.
 - n.* a large, often ornate tent or booth, often used for entertainment or public events; a building or structure, often in a park or other public space, used for meetings, exhibitions, or social gatherings

6. The _____ of the company's financial statements raised suspicions of fraud.
 - n.* the quality or state of being opaque (= not allowing light to pass through); a lack of transparency or clarity in a person's behavior, motives, or communication

ANSWERS: 1. coli, 2. dictated, 3. augmented, 4. iris, 5. pavilion, 6. opacity

7. He stepped on the gas pedal, and the engine released a loud ____.
- n.* a measure of the rate at which an engine or motor rotates, often expressed in revolutions per minute (RPM); (verb) to increase the number of rotations per minute
8. The intricate _____ on the wooden box was the work of a master craftsman.
- n.* the act or process of cutting or shaping a hard material, such as wood or stone, into a specific form or design
9. A prime minister talked with a military _____ of the country's embassy.
- n.* a person who works at an embassy, usually having a specialized area of responsibility; a shallow and rectangular briefcase
10. The car wash _____ sprayed a powerful stream of soapy water onto the vehicle.
- n.* a tube or spout through which a liquid or gas is discharged, particularly one attached to a hose, pump, or spray gun
11. The curtains were made of _____ fabric that blocked out all light.
- adj.* not transparent; not allowing light to pass through; not permitting a clear view
12. He was known to be very _____ and would often work late into the night.
- adj.* hardworking, diligent, and persistent in effort
13. The archaeologist used a small _____ to excavate the ancient artifact.
- n.* a tool with a sharpened edge at one end used for shaping wood, stone, or metal; (verb) to engage in deceitful behavior
14. The _____ of the school's dress code policy caused much controversy among the students and parents.
- n.* the state or quality of being rigid or inflexible; the inability to adapt to change or new circumstances; the condition of being stiff or unyielding

ANSWERS: 7. rev, 8. carving, 9. attache, 10. nozzle, 11. opaque, 12. industrious, 13. chisel, 14. rigidity

15. The small _____ is responsible for absorbing most of the nutrients from food.
- n.* a long, tube-like organ in the digestive system that is responsible for absorbing nutrients from food and eliminating waste products
16. The construction workers set up the _____ to reach the top of the building.
- n.* a temporary platform or structure used to support workers and materials during construction or maintenance work
17. The lobster's _____ shell turns red when cooked due to heat-induced chemical changes.
- n.* a tough, protective polysaccharide compound that forms the exoskeleton of arthropods and the cell walls of some fungi
18. The wooly bear _____ munched on leaves all day.
- n.* the wormlike larva of a butterfly or moth
19. The eggs began to _____ and the small chicks emerged.
- v.* to cause an egg to break to allow a young animal to come out; to produce and expand something that is in an early stage
20. The war between the two countries was also a battle between competing _____.
- n.* a particular philosophy or cognitive orientation of life or conception of the world
21. He _____ that this investment would lead to success.
- v.* to form a theory or conjecture or guess about a subject without solid evidence
22. The _____ of the energy production process is a large amount of carbon dioxide emissions.
- n.* a secondary or incidental product produced in the manufacture or synthesis of something else

ANSWERS: 15. intestine, 16. scaffold, 17. chitin-based, 18. caterpillar, 19. hatch, 20. worldviews, 21. speculated, 22. byproduct

23. The toxic algae bloom in the lake was caused by an overgrowth of _____.
- n.* a group of photosynthetic bacteria that possess chlorophyll and blue pigments and are characteristically found in aquatic environments; also known as blue-green algae
24. Detectives are still attempting to _____ the mystery of his death.
- v.* undo twisted, knitted, or woven threads by separating it
25. They _____ events that have already occurred.
- v.* to describe what happened or to narrate a story
26. The company plans to _____ its new product at the trade show next week.
- v.* to reveal or make something publicly known, especially for the first time
27. My friend is a _____ woman who celebrates Hanukkah every year.
- adj.* of or relating to people whose traditional religion is Judaism
28. The artist used a pasta machine to _____ clay into intricate shapes.
- v.* to force, push, or press out through a narrow opening or nozzle, often in a continuous fashion; to shape materials by squeezing them through a die or mold
29. This process improves the strength of the metal by controlling the _____ lattice structure of the metal.
- adj.* on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale
30. A nutritious diet improves _____ functions.
- adj.* relating to or capable of causing or promoting digestion of food

ANSWERS: 23. cyanobacteria, 24. unravel, 25. recount, 26. unveil, 27. Jewish, 28. extrude, 29. nanoscale, 30. digestive

31. This _____ is a producer of respiratory disease.
n. a very small living thing that may exist in its single-celled form or as a colony of cells and is too small to be seen without a microscope
32. The _____ of the rubber band allowed it to stretch without breaking.
n. the ability of a material to return to its original shape after being stretched or compressed; flexibility; adaptability to change
33. The western sky was _____ pink.
adj. highly enthusiastic; greatly praised
34. The _____ venom can be lethal to humans.
n. a small creature similar to an insect with a segmented body, a pair of pincers, and a long, thin tail that ends in a venomous sting
35. The spider can _____ multiple different silk proteins.
v. to combine a substance to make a more complex product or compound
36. The company is trying to _____ its business model to stay competitive.
v. to imagine or conceive of something in a new or different way
37. She _____ the files into a single ZIP archive to save space on her computer.
v. to press or squeeze together to make something take up less space
38. The mother used her breast milk to _____ the baby.
v. to provide a person, an animal, or plant with food to make them grow and stay healthy

ANSWERS: 31. microorganism, 32. elasticity, 33. glowing, 34. scorpion's, 35. synthesize, 36. reimagine, 37. compressed, 38. nourish

39. Some alchemists believed in the ability to _____ base metals into gold.
- v.* to change or convert from one form or substance to another, often in a transformative or profound way
40. The airplane was powered by a _____ made from plant-based materials.
- n.* a fuel produced from organic matter, such as crops or waste material, that can be used to replace or supplement traditional fossil fuels
41. The _____ between the coral and the algae is an important example of mutualism.
- n.* a close, prolonged association between two or more different species of organisms, typically to the advantage of all
42. The _____ of electronic devices is a significant challenge due to the complexity of their components.
- n.* the degree to which a material or product can be reused or repurposed after it has served its original function, without requiring significant modifications or environmental harm
43. Today, the study of _____ remains an important part of the history of science and philosophy
- n.* a medieval chemical philosophy and speculative theory that aimed to transform base metals into gold or produce a universal elixir that could cure all diseases and grant immortality; a process of transformation or creation that appears magical or mysterious
44. She had to _____ the coffee beans before making a fresh cup.
- v.* to reduce something to small particles or powder by crushing or rubbing it; to work hard over a long period of time

ANSWERS: 39. transmute, 40. biofuel, 41. symbiosis, 42. recyclability, 43. alchemy, 44. grind

45. When the dead body was found, _____ mortis had already begun.
n. strictness or severity in opinion, temper, or judgment
46. The surgeon removed the tumor using _____ video assistance.
adj. of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots
47. The engineer tested the _____ strength of the metal to determine its durability.
adj. relating to the ability of a material or structure to stretch or bend without breaking or losing its shape; having great strength or flexibility under tension
48. I'm studying _____ calligraphy as part of my art class.
n. the Semitic language of the Arab people, widely spoken throughout the Middle East and North Africa; of or relating to Arab peoples, culture, or language
49. Scientists are working on developing _____ travel to explore other planets in our solar system.
adj. relating to or occurring between planets, particularly regarding space travel or communication
50. The butterfly's _____ from a caterpillar to a winged creature is a wonder of nature.
n. a profound or dramatic change in form, structure, or condition; a transformation; the process by which an animal or insect undergoes a physical transformation, such as growth, development, or maturation
51. I have no idea what sort of folks _____ the neighborhood.
v. to live in a specific location; to reside
52. She took the dress to the tailor to fix the torn _____.
n. a line of stitching or joining where two pieces of fabric or material are united; also, a narrow furrow or fissure in rock or soil

ANSWERS: 45. rigor, 46. robotic, 47. tensile, 48. Arabic, 49. interplanetary, 50. metamorphosis, 51. inhabit, 52. seam

53. The new technology added a level of _____ to the manufacturing process.
- n.* the quality or state of having a great deal of worldly experience; the quality or state of being intellectually or culturally refined
54. 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
55. The _____ cocoon contains the silk fibers used to make luxurious fabrics.
- n.* the larva of a moth of the Bombyx genus that spins a cocoon of silk to encase itself while it transforms into a pupa; the silk fibers can be harvested and used to make fabric, such as silk
56. The caterpillar spins a _____ around itself before turning into a butterfly.
- n.* a protective covering spun by some insects and other invertebrates
57. The phone rang at the most _____ time.
- adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
58. The company's plastic products are easily _____ thanks to a unique manufacturing process.
- v.* to decay naturally by microorganisms, such as bacteria and fungi
59. The hero's journey is a common _____ in many myths and stories.
- n.* a very typical example of a certain person or thing; a recurrent symbol or motif in literature, art, or mythology that represents a universal pattern of human nature
60. The _____ is a serious threat to the farm's output.
- n.* an insect with wings similar to a butterfly that travels at night and is attracted to light

ANSWERS: 53. sophistication, 54. visualize, 55. silkworm's, 56. cocoon, 57. opportune, 58. biodegraded, 59. archetype, 60. moth

61. The gut _____ is a major producer of serotonin, which is necessary for human mental stability.
- n.* the community of microorganisms (= living things too small to be seen) that can usually be found living together in any given environment or the human body
62. A _____ of two smaller streams formed the river.
- n.* the point at which two or more streams or rivers come together; a gathering of people or things at a particular location or moment
63. The _____ nanoparticles are used for targeted drug delivery in cancer treatments.
- n.* a derivative of chitin (= a tough, protective polysaccharide compound), obtained by removing the acetyl groups from chitin, often used in various applications such as medicine, agriculture, and industry
64. In _____ plants use carbon dioxide to feed themselves.
- n.* the process through which plants and other organisms transform light energy into chemical energy, which is then released through cellular respiration to power the organism's activities.
65. The ____ of the moth was hidden deep inside the cocoon.
- n.* the intermediate stage in the development of an insect between the larva and the adult

ANSWERS: 61. microbiome, 62. confluence, 63. chitosan, 64. photosynthesis, 65. pupa