Englist.me

Vocabulary Builder Reference from...

Sajan Saini: The hidden network that makes the internet possible | TED Talk https://www.ted.com/talks/sajan_saini_the_hidden_ne twork_that_makes_the_internet_possible



All Words

IMPORTANT

This material is a commentary and does not contain any copyrighted material of the reference source. We strongly recommend accessing/buying the reference source at the same time.

Session 1: Word List

transmit

- v. to send or forward an electronic signal; to pass something from one person or thing to another
- synonym: convey, share, dispatch
- transmit the disease, (2) transmit information
 Parents often transmit their characteristics to their children.

byte

- a unit of digital information that consists of 8 bits,
 typically used to represent a single character of text or a small amount of computer code
- (1) byte code, (2) byte array

The computer hard drive had plenty of storage space but was running low on available **bytes**.

definition

- a concise explanation of the meaning of a word, phrase, or symbol
- synonym: description, connotation, meaning
- (1) a precise **definition**, (2) the **definition** of a word Parallel lines are, by **definition**, lines on the same plane that never cross.

cable

 a set of wires covered by plastic or rubber that carries electricity, phone signals, etc.; a solid thick rope made of twisted hemp or steel wire synonym: wire, cord, rope

(1) cable television, (2) coaxial cable

This system uses submarine **cables** to exchange information between continents.

souped-up

 adj. made more powerful or improved in some way beyond the standard or original design; exaggerated or overdone

synonym: pimped-out, upgraded, tricked-out

- (1) **souped-up** engine, (2) **souped-up** graphics card He was pulled over for driving a **souped-up** car with an illegal exhaust system.
- n. thread or filament used to make a vegetable tissue, mineral material, or textile

synonym: yarn, thread, wool

(1) carbon **fiber**, (2) synthetic **fiber**

We must consume dietary **fiber** to maintain good health.

optics

- n. the academic study of vision and light
- (1) optics technology, (2) fiber optics

Einstein's new **optics** theory transformed traditional scientific notions about light.

planet

 any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a star

synonym: earth, world, globe

(1) **planet** like the Earth, (2) save the **planet** Mercury is the closest **planet** to the sun.

communicate

v. to share or exchange information with others by speaking, writing, moving your body, or using other signals

synonym: convey, share, transmit

- (1) communicate his anxieties to the psychiatrist,
- (2) communicate well with my advisor

fiber

Dolphins use sound to **communicate** with each other.

electrical

adj. relating to electricity

(1) an **electrical** storm, (2) degree in **electrical** engineering Actuators convert **electrical** pulses into motion.

inefficient

adj. lacking the ability or skill and not making the best use of time, money, energy, etc.

synonym: ineffective, counterproductive, inadequate

(1) **inefficient** use, (2) **inefficient** management The system is still so **inefficient** that it is useless.

engineer

 a person whose job is designing, building, or maintaining something such as machines, structures, or software

synonym: architect, creator, builder

(1) a civil **engineer**, (2) **engineer** shortage

The **engineer** will repair my telephone tomorrow morning.

superior

adj. better, higher in quality, or more advanced than others synonym: better, greater, exceptional

(1) **superior** performance, (2) provide **superior** customer service

The new smartphone model is **superior** to the previous version in terms of speed and features.

transmission

 the act or process of sending something from one person or place to another; the process of broadcasting over the airwaves, as in radio or television

synonym: transportation, communication, broadcast

(1) **transmission** speed, (2) the **transmission** gears of a car

Education is the transmission of civilization.

melt

v. to turn from something solid into something soft or liquid as a result of heating

synonym: disintegrate, soften, disappear

(1) **melt** the ice, (2) **melt** down gold

Her resistance **melted** under his persuasion.

flexible

adj. able to change or be changed to suit new conditions or situations; able to bend easily

synonym: adaptable, elastic, pliable

(1) flexible schedules, (2) a flexible wire

You can be more **flexible** and creative in your approach.

strand

a very thin natural or synthetic thread, wire, hair, etc.;
 (verb) to leave or drive a vessel, fish, etc., aground or ashore

synonym: fiber, filament, string

(1) a **strand** of fine hair, (2) double- **strand** DNA I heard several melodic **strands** simultaneously.

electrify

v. to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something

synonym: wire, amaze, astonish

(1) **electrify** the audience, (2) **electrify** a manufacturing process

The product developed through years of research continues to **electrify** the market.

pulse

n. the regular heartbeat as it sends blood around the body, especially when it is felt at the wrist or side of the neck; a solid regular vibration of sound, electric current, light, or other waves

synonym: beat, vibration, throb

(1) a weak **pulse**, (2) **pulse** waves

The cardiac monitor displays the intensity of your pulse.

represent

v. to speak, act, or be present on behalf of another person or group; to form or constitute

synonym: depict, express, describe

(1) **represent** by a diagram, (2) the characters that

Page 4 / 53

represent numbers

We elected him to **represent** us at the international conference.

digital

adj. processing or storing information as a succession of 1 and 0 to show that a signal is present or missing; relating to the use of computer technology, especially the internet

synonym: numerical, computerized, cyber

(1) a **digital** watch, (2) **digital** electronic signature Sensors convert physical phenomena into **digital** signals.

phenomenon

 something that exists and can be perceptible, especially one that is not fully understood

synonym: marvel, wonder, splendor

(1) natural phenomenon,(2) historical phenomenonA rainbow is a natural phenomenon.

internal

adj. of or relating to the inside of something synonym: interior, inner, domestic

(1) **internal** organs, (2) the **internal** economy

The prime minister canceled visits to other countries to resolve **internal** disputes.

Newtonian

adj. relating to Sir Isaac Newton or his laws of motion and universal gravitation

synonym: classical, physics, mechanics

(1) **Newtonian** physics, (2) **Newtonian** mechanics

The motion of planets can be described using **Newtonian** mechanics.

lens

n. a transparent optical device with curved sides, used in an optical instrument that makes objects seem larger, smaller, clearer, etc.; (metaphor) the basic thoughts or mindsets through which someone sees or understands the environment or situation

synonym: glass

	(1) a convex lens , (2) a lens with a wide angle The photographer took this photo using a telephoto lens .
ray	n. a narrow line of light, heat, or another form of energy synonym: beam, light, glimmer
	(1) opaque to X- rays, (2) effect of cosmic rays
	Gamma rays penetrate body tissues and cause cell damage.
steep	adj. having a sharp inclination or slope synonym: sheer, precipitous, abrupt
	(1) a steep staircase, (2) steep discount
	The steep cliff made it difficult to climb.
refract	 v. to bend or alter the direction of light, sound, or particles as they pass through different substances or mediums; to cause something to appear distorted or altered synonym: bend, deflect, distort
	(1) refract light, (2) refract sound
	The morning sun refracted off the dew on the grass, creating a beautiful rainbow.
shallow	adj. not having much distance from the top to the bottom synonym: superficial, external, surface
	(1) shallow people, (2) shallow water
	Shallow brooks are noisier than deep rivers.
trap	 a piece of equipment or hole for catching animals or people; (verb) to catch animals or people and prevent them from escaping
	synonym: catch, snare, pinfall
	(1) set a trap, (2) trap an animal
	The enemy fell right into the trap .
bounce	ν. to cause to move up or away after hitting a surface; to spring back

synonym: bound, leap, spring

(1) **bounce** across the floor, (2) **bounce** back from failure They will **bounce** between various emotional states.

normally

adv. usually; under normal conditionssynonym: commonly, generally, naturally

(1) complete **normally**, (2) not **normally** drink much I don't **normally** take a vacation in the middle of summer.

transparent

 adj. easy to perceive, detect, or understand; (of a material or article) permitting light to pass through freely

synonym: translucent, evident, diaphanous

(1) a transparent lie, (2) transparent crystal

The focus of these initiatives is to make the financial system more **transparent**.

optic

adj. relating to vision or the eyes; relating to or involving light or optics

synonym: visual, ocular, visualized

(1) optic fiber, (2) optic illusion

The campaign ad was designed with bright colors and bold fonts for maximum **optic** impact.

degrade

v. to make something worse, especially in quality; to show or treat someone in a way that makes them seem no value and do not have the respect or reasonable opinion of others

synonym: demean, disgrace, impair

(1) **degrade** his public image, (2) **degrade** environmental quality

You should not **degrade** yourself by allowing them to use you.

distance

n. the amount of space between two points, measured in units such as miles, meters, or kilometers; the extent, scope, or range between two things, such as distance or emotional distance

synonym: space, gap, span

The marathon runner covered a long **distance** in a short amount of time.

scatter

- v. to cause to separate and go in different directions synonym: disperse, spread, bestrew
- (1) **scatter** seeds, (2) **scatter** around the internet The hunter's approach **scattered** the geese.

sharply

adv. suddenly and to a great degree; in an aggressive manner

synonym: dashingly, smartly, snappily

(1) **sharply** questioned, (2) drop **sharply**

The value of our house rose **sharply** last year.

leak

v. to allow liquid or gas to get in or out from a hole or crack in a pipe or container

synonym: outflow, divulge, disclose

(1) leak data, (2) leak a classified memo

He **leaked** serious accounting irregularities that only people in the company's executive could know.

optical

adj. of or relating to or light or the ability to see; (noun) the science of light and vision, and to instruments and techniques used in the study and application of light

synonym: visual, ocular

(1) new optical glasses, (2) optical fiber

The **optical** illusion made it appear like the building was floating in midair.

wavelength

- the distance between two points in the same phase in consecutive cycles of a wave
- (1) wavelength of light, (2) long- wavelength laser White color is made up of many different wavelengths of light.

crisscross

- v. to move or make lines that intersect or cross each other in a pattern resembling a series of X's
- (1) **crisscross** over the edges of the walls, (2) **crisscross** my heart

The roads **crisscrossed** through the countryside, creating a beautiful scenic drive.

continent

one of the earth's large landmasses; (adjective)
 abstaining from your feelings, especially your desire to have sex

synonym: landmass, (adjective) chaste, (adjective) pure

(1) the inland of a **continent**, (2) **continent** urinary diversion Flight across the **continent** was a daring adventure in its day.

equator

- an line of latitude that separates Earth's northern and southern hemispheres and has a radius of around 40,075 kilometers (24,901 miles)
- (1) south of the **equator**, (2) above the **equator** Ecuador is on the **equator**.

evolve

v. to develop gradually, or to cause the development of something or someone gradually

synonym: develop, mature, grow

(1) **evolve**, (2) **evolve** over the past decade Eyeless fish **evolved** in dark caves.

increasingly

adv. more and more

synonym: more and more, progressively

(1) **increasingly** become common, (2) face **increasingly** complicated challenges

Our company found it **increasingly** difficult to keep up with the competition.

rely

v. to require a specific thing or the assistance and support of someone or something to continue, run properly, or succeed.

synonym: depend, count, lean

(1) **rely** on convenience stores, (2) **rely** entirely on him Babies heavily **rely** on others for food.

overwork

server

v. to work excessively hard or too much; the condition of working excessively or beyond one's capacity, leading to fatigue, stress, and illness

synonym: overdo, overtax, exhaust

- (1) die from **overwork**, (2) **overwork** to compensate He **overworked** himself and ended up getting sick.
- a computer program or a device from which other computers get information; a person who serves food in a restaurant

synonym: computer, waiter, waitperson

(1) a mail **server**, (2) work as a **server** in a restaurant After the airing of the TV commercial, many people accessed the website, and the **server** went down.

warehouse

 a large building for storing goods and merchandise, especially before they are sold, used, or sent out to shops

synonym: storage, repository, depot

(1) a rental **warehouse**, (2) **warehouse** debt The fire ruined all the food stored in the **warehouse**.

gigantic

adj. extremely large

synonym: huge, enormous, immense

(1) **gigantic** proportions, (2) **gigantic** monsters

He was so hungry from the long journey that he had a **gigantic** appetite.

fling

v. to throw or push something or someone with force or recklessness, especially because you are angry

synonym: throw, dump, hurl

(1) **fling** a stream of abuse, (2) **fling** a door open forcefully He was provoked to **fling** the draft on the floor.

compute

v. to make a mathematical calculation

synonym: calculate

(1) **compute** an average score, (2) **compute** the value I tried to **compute** the efficiency of the investment.

bandwidth

n. the amount of data that can be transmitted or processed at one time often used to describe the capacity of electronic communication or computing systems

synonym: capacity, data transfer rate, network speed

(1) **bandwidth** allocation, (2) increase **bandwidth**I don't have the **bandwidth** to take on any new projects, as I'm already working on multiple assignments.

vast

adj. enormous in size, number, amount, or quantity *synonym*: expansive, extended, boundless

(1) vast majority, (2) vast desert

A vast audience viewed the broadcast.

traffic

 n. the movement of vehicles, people, or goods along a route or through a transport system; the amount of such movement in a particular place or at a particular time

synonym: congestion, jam, flow

(1) traffic jam, (2) heavy traffic

We decided to take a detour to avoid the construction **traffic** on the main road.

shuttle

 a vehicle or boat that regularly moves between two places; bobbin that passes the weft thread between the warp threads

synonym: ferry, transport, convey

(1) space shuttle, (2) shuttle service

The **shuttle** bus will take you to the airport in 15 minutes.

tradition

 a belief, custom, or way of doing something that has been passed down from generation to generation within a group or society

synonym: custom, practice, ritual

(1) a **tradition** of a culture, (2) against **tradition**It is a **tradition** in many families to have a big Thanksgiving dinner with all their relatives.

wireless

adj. of or relating a connection or communication that does not require a physical wire or cable, often through the use of radio waves or electromagnetic signals

synonym: cordless, radio

(1) wireless access, (2) wireless charging

The office's **wireless** network allows employees to work from anywhere in the building.

steady

adj. firmly fixed, supported, or balanced; not shaking or moving

synonym: stable, solid, secure

(1) **steady** increase, (2) take a **steady** job

The patient's vital signs are **steady**, indicating a stable condition.

march

v. to walk militarily with stiff, regular steps

synonym: parade

(1) march against the war, (2) march east

The troops **marched** shoulder-to-shoulder.

hertz

 the unit of frequency, equal to one cycle per second, often used to describe the frequency of electromagnetic waves or electronic signals

synonym: frequency, cycles per second

(1) audio hertz, (2) tera-hertz radiation

The human ear can detect sounds with frequencies ranging from 20 to 20,000 **hertz**.

device

 a piece of equipment, tool, or technology that serves a particular purpose or function, often mechanical or electronic

synonym: gadget, instrument, tool

(1) electronic device, (2) tracking device

Page 12 / 53

I always carry a backup **device** in case my phone runs out of battery.

delivery

n. the act of taking or sending something to a destination;the bringing of a baby during childbirth

synonym: sending, transporting, bringing

(1) an easy delivery, (2) special delivery

The **delivery** truck arrived with the packages.

fuel

 a substance that is typically burned to generate heat or energy

synonym: energy, power, gas

(1) biomass fuel, (2) smokeless fuel

The **fuel** scarcity most severely impacted the manufacturing sector

overly

adv. to a greater degree than is appropriate or desirable *synonym*: excessively, too much

(1) **overly** excessive, (2) **overly** unnecessary

The movie was **overly** dramatic, with exaggerated emotions and cliched plot twists.

ambitious

adj. having a great desire to attain achievement, power, or wealth

synonym: enterprising, challenging, earnest

(1) achieve **ambitious** goals, (2) with an **ambitious** eye Their company has been in business for a short time but has **ambitious** goals.

relate

 to establish a connection or association between two or more things; to narrate or tell about an event, experience, or relationship; to empathize or feel sympathy with someone or something

synonym: connect, link, associate

(1) relate a story, (2) relate a message

He tried to relate his experience to the group, but they

couldn't understand.

integrate

v. to combine one thing with another so that they form a whole or work together; to accept equal participation for members of all races and ethnic groups

synonym: mix, merge, combine

(1) **integrate** into the existing system, (2) **integrate** both businesses

He found that it is difficult to **integrate** socially.

photon

 a unit or quantum of electromagnetic energy, typically regarded as a particle that is the basic constituent of all light and other forms of electromagnetic radiation

synonym: particle, quantum, light

(1) **photon** emission, (2) **photon** energy

Infrared cameras detect **photons** in the infrared range of the electromagnetic spectrum.

rescue

 to save someone or something from a dangerous or difficult situation

synonym: save, extricate, retrieve

(1) **rescue** a dying dog, (2) **rescue** a company from bankruptcy

The fire department arrived just in time to **rescue** the family from the burning building.

silicon

- n. a chemical element with the symbol Si that is a hard, brittle crystalline solid with a blue-grey metallic luster and used for the transistors and integrated circuit chips in computers
- (1) silicon wafer, (2) crystalline silicon

Silicon is the second most abundant element on earth after oxygen.

shrink

v. to become smaller, or to make something smaller in size or amount

synonym: decrease, diminish, shy away

(1) **shrink** the tumor, (2) **shrink** with fear This shirt will **shrink** in the wash.

chip

- n. a small fragment of something broken off from the whole; a long and thin piece of potato fried in oil or fat synonym: flake, fragment, chunk
- (1) a **chip** of wood, (2) I don't care a **chip**We can use this campaign as a bargaining **chip** in the negotiations.

convert

- to have a talk with someone; (adjective) reversed in order, relation, or action
- synonym: alter, remake, transform
- (1) convert fat into energy, (2) convert base 10 to base 16I want to convert my sadness into strength.

wasteful

 adj. characterized by excessive or unnecessary use or consumption; using resources or materials inefficiently or inappropriately, resulting in unnecessary waste or expense

synonym: uneconomical, extravagant, profligate

(1) wasteful practices, (2) wasteful habits
Buying new clothes every week is a wasteful use of money
and resources.

swap

- v. to give something and receive something in trade synonym: exchange, switch, trade
- (1) **swap** seats, (2) **swap** columns with rows Don't **swap** horses while crossing a stream.

efficient

adj. performing at the highest level of productivity with the least wasted effort or resources; capable of achieving maximum output with minimum wasted effort, time, or materials

synonym: productive, effective, competent

(1) **efficient** operation, (2) energy- **efficient** appliances
The new washing machine is much more **efficient** than the

old one.

replace

- v. to take the place of somethingsynonym: substitute, supersede, displace
- (1) **replace** one word with another, (2) **replace** a phone Eventually, the new design will **replace** all older models.

frequency

 an ordered array of colors into which a light beam can be split

synonym: recurrence, repetition, regularity

(1) frequency band, (2) high frequency

The oscillator hunts for the correct **frequency**.

short-range

adj. limited in extent, scope, or distance; designed or intended to operate or be effective only over a short distance or period of time

synonym: close-range, limited-range, near-range

(1) **short-range** plan, (2) **short-range** communication The missile system was designed for **short-range** attacks on enemy territory.

absorb

- v. to take in a fluid or other substance gradually synonym: consume, soak, ingest
- (1) **absorb** energy, (2) **absorb** a shock The sponge **absorbs** water well.

moisture

small amounts of liquid, especially water, that are present in or absorbed by a substance

synonym: dampness, humidity, wetness

(1) moisture level, (2) lot of moisture

My hair looks greasy because there is too much **moisture** in the air.

transmitter

n. a piece of equipment used for generating and sending electronic signals, especially radio or television signals

synonym: sender

(1) a **transmitter** of a family line, (2) radio **transmitter**This substance acts as a neural **transmitter** substance.

distribute

relay

v. to give something to a large number of individuals, or to spread or furnish something

synonym: broadcast, disperse, hand out

- (1) **distribute** wealth evenly, (2) **distribute** video content His estate was **distributed** to his sons.
- v. to receive and pass something, such as information or a message, from one person or group to another; to

broadcast something on television, radio, etc.

synonym: pass on, transmit, broadcast

(1) **relay** a scene, (2) **relay** a request Please **relay** the news to the world.

long-range

adj. relating to or extending over a long distance, period of time, or range of possibilities

synonym: far-reaching, extended, distant

(1) **long-range** radar, (2) **long-range** weather forecast The military uses **long-range** missiles to hit targets from far away.

stable

adj. firm and steady; not easily moved, disturbed, or changed

synonym: sturdy, unmoving, durable

(1) in **stable** condition, (2) have a **stable** job Relations between the two countries have been relatively **stable** due to the summit meeting.

middleman

 a person who acts as an intermediary between two or more parties, often facilitating the exchange of goods or services and taking a commission or fee for their services

synonym: intermediary, agent, broker

(1) trusted **middleman**, (2) business **middleman**The **middleman** in the real estate deal ensured a smooth

Page 17 / 53

and fair transaction.

sight

- n. the ability to see; anything that is seen
- synonym: vision, spectacle, view
- (1) an unexpected sight, (2) dull sight

Many famous **sights** are within walking distance.

companion

 a person or an animal with whom you spend a lot of time, or you travel

synonym: affiliate, fellow, mate

(1) a working **companion**, (2) drinking **companions** Her dog is her excellent **companion**.

settle

- v. to reach an agreement of disagreement
- synonym: inhabit, occupy, decide
- (1) **settle** a dispute, (2) **settle** down in the town I don't want to **settle** for second best.

saddle

- n. a seat for a rider on the back of a horse or other animal;(verb) to burden someone with responsibility or tasksynonym: seat, perch, mount
- (1) bestride a **saddle**, (2) **saddle** his company with so much debt

He put the **saddle** on the horse before going for a ride.

redirect

v. to change the direction or course of something; to send in a different direction

synonym: turn, divert, steer

(1) redirect traffic, (2) redirect attention

The government decided to **redirect** funding towards education and healthcare.

superhighway

- n. a large, wide road designed for high-speed traffic synonym: expressway, motorway, artery
- (1) six-lane **superhighway**, (2) a tollgate of a **superhighway**

The University provides a wireless Internet **superhighway** to its students.

expansive

adj. large or wide in extent or scope; friendly and open and willing to talk

synonym: large, extensive, vast

(1) with an **expansive** spirit, (2) **expansive** ocean views The company has an **expansive** network of offices and locations around the world.

virtual

adj. being actually such in almost every respect; existing in essence or effect though not in actual fact

synonym: practical

(1) a **virtual** image, (2) trading of **virtual** currencies She is the **virtual** president of the company.

Session 2: Spelling

- 1. bo___e across the floor
- 2. I_k a classified memo
- co____e an average score
- 4. I don't care a c p
- 5. an ele____al storm
- 6. south of the eq___r
- 7. b__e array
- 8. historical phe on
- 9. wa____ul habits

- v. to cause to move up or away after hitting a surface; to spring back
- v. to allow liquid or gas to get in or out from a hole or crack in a pipe or container
- v. to make a mathematical calculation
- a small fragment of something broken off from the whole; a long and thin piece of potato fried in oil or fat
- adj. relating to electricity
- an line of latitude that separates Earth's northern and southern hemispheres and has a radius of around 40,075 kilometers (24,901 miles)
- a unit of digital information that consists of 8 bits, typically used to represent a single character of text or a small amount of computer code
- something that exists and can be perceptible, especially one that is not fully understood
- adj. characterized by excessive or unnecessary use or consumption; using resources or materials inefficiently or inappropriately, resulting in unnecessary waste or expense

ANSWERS: 1. bounce, 2. leak, 3. compute, 4. chip, 5. electrical, 6. equator, 7. byte, 8. phenomenon, 9. wasteful

10. sc r seeds to cause to separate and go in different ν. directions 11. se___e a dispute to reach an agreement of disagreement ν. 12. an unexpected si t the ability to see; anything that is seen n. a seat for a rider on the back of a horse 13. sa e his company with so much n. or other animal; (verb) to burden debt someone with responsibility or task 14. ine nt management adj. lacking the ability or skill and not making the best use of time, money, energy, etc. the academic study of vision and light 15. fiber op___s n. 16. long-wav____th laser the distance between two points in the n. same phase in consecutive cycles of a wave 17. complete no ly adv. usually; under normal conditions to establish a connection or association 18. re___e a message between two or more things; to narrate or tell about an event, experience, or relationship; to empathize or feel sympathy with someone or something 19. in st___e condition adj. firm and steady; not easily moved, disturbed, or changed 20. sh___y questioned adv. suddenly and to a great degree; in an aggressive manner 21. ov___y unnecessary adv. to a greater degree than is appropriate or desirable 22. mo___re level small amounts of liquid, especially water, that are present in or absorbed by a substance

ANSWERS: 10. scatter, 11. settle, 12. sight, 13. saddle, 14. inefficient, 15. optics, 16. wavelength, 17. normally, 18. relate, 19. stable, 20. sharply, 21. overly, 22. moisture

23.	inte both businesses	ν.	to combine one thing with another so that they form a whole or work together; to accept equal participation for members of all races and ethnic groups
24.	effect of cosmic r_ys	n.	a narrow line of light, heat, or another form of energy
25.	opc illusion	adj.	relating to vision or the eyes; relating to or involving light or optics
26.	sty increase	adj.	firmly fixed, supported, or balanced; not shaking or moving
27.	crystalline sin	n.	a chemical element with the symbol Si that is a hard, brittle crystalline solid with a blue-grey metallic luster and used for the transistors and integrated circuit chips in computers
28.	cont urinary diversion	n.	one of the earth's large landmasses; (adjective) abstaining from your feelings, especially your desire to have sex
29.	a rental wase	n.	a large building for storing goods and merchandise, especially before they are sold, used, or sent out to shops
30.	abb a shock	<i>v</i> .	to take in a fluid or other substance gradually
31.	cae television	n.	a set of wires covered by plastic or rubber that carries electricity, phone signals, etc.; a solid thick rope made of twisted hemp or steel wire
32.	heavy trc	n.	the movement of vehicles, people, or goods along a route or through a transport system; the amount of such movement in a particular place or at a particular time

ANSWERS: 23. integrate, 24. ray, 25. optic, 26. steady, 27. silicon, 28. continent, 29. warehouse, 30. absorb, 31. cable, 32. traffic

33.	shoge plan	adj.	limited in extent, scope, or distance; designed or intended to operate or be effective only over a short distance or period of time
34.	carbon fir	n.	thread or filament used to make a vegetable tissue, mineral material, or textile
35.	ree a story	v.	to establish a connection or association between two or more things; to narrate or tell about an event, experience, or relationship; to empathize or feel sympathy with someone or something
36.	the defon of a word	n.	a concise explanation of the meaning of a word, phrase, or symbol
37.	provide suor customer service	adj.	better, higher in quality, or more advanced than others
38.	m_t the ice	v.	to turn from something solid into something soft or liquid as a result of heating
39.	space she	n.	a vehicle or boat that regularly moves between two places; bobbin that passes the weft thread between the warp threads
40.	a precise defon	n.	a concise explanation of the meaning of a word, phrase, or symbol
41.	inte into the existing system	ν.	to combine one thing with another so that they form a whole or work together; to accept equal participation for members of all races and ethnic groups

ANSWERS: 33. short-range, 34. fiber, 35. relate, 36. definition, 37. superior, 38. melt, 39. shuttle, 40. definition, 41. integrate

42.	opI fiber	adj.	of or relating to or light or the ability to see; (noun) the science of light and vision, and to instruments and techniques used in the study and application of light
43.	natural pheon	n.	something that exists and can be perceptible, especially one that is not fully understood
44.	dee environmental quality	v.	to make something worse, especially in quality; to show or treat someone in a way that makes them seem no value and do not have the respect or reasonable opinion of others
45.	opc fiber	adj.	relating to vision or the eyes; relating to or involving light or optics
46.	shk with fear	<i>v</i> .	to become smaller, or to make something smaller in size or amount
47.	exve ocean views	adj.	large or wide in extent or scope; friendly and open and willing to talk
48.	dil electronic signature	adj.	processing or storing information as a succession of 1 and 0 to show that a signal is present or missing; relating to the use of computer technology, especially the internet
49.	set a tp	n.	a piece of equipment or hole for catching animals or people; (verb) to catch animals or people and prevent them from escaping
50.	sin wafer	n.	a chemical element with the symbol Si that is a hard, brittle crystalline solid with a blue-grey metallic luster and used for the transistors and integrated circuit chips in computers

ANSWERS: 42. optical, 43. phenomenon, 44. degrade, 45. optic, 46. shrink, 47. expansive, 48. digital, 49. trap, 50. silicon

- 51. ev___e
- 52. m_t down gold
- 53. double-st___d DNA
- 54. in____al organs
- 55. die from ov rk
- 56. special de____ry
- 57. driving di ce
- 58. bo e back from failure
- 59. wav____th of light
- 60. a st d of fine hair

- v. to develop gradually, or to cause the development of something or someone gradually
- v. to turn from something solid into something soft or liquid as a result of heating
- a very thin natural or synthetic thread,
 wire, hair, etc.; (verb) to leave or drive a
 vessel, fish, etc., aground or ashore
- adj. of or relating to the inside of something
- to work excessively hard or too much;
 the condition of working excessively or beyond one's capacity, leading to fatigue, stress, and illness
- the act of taking or sending something to a destination; the bringing of a baby during childbirth
- n. the amount of space between two points, measured in units such as miles, meters, or kilometers; the extent, scope, or range between two things, such as distance or emotional distance
- v. to cause to move up or away after hitting a surface; to spring back
- the distance between two points in the same phase in consecutive cycles of a wave
- a very thin natural or synthetic thread,
 wire, hair, etc.; (verb) to leave or drive a
 vessel, fish, etc., aground or ashore

ANSWERS: 51. evolve, 52. melt, 53. strand, 54. internal, 55. overwork, 56. delivery, 57. distance, 58. bounce, 59. wavelength, 60. strand

61.	a civil ener	n.	a person whose job is designing, building, or maintaining something such as machines, structures, or software
62.	mah east	ν.	to walk militarily with stiff, regular steps
63.	mah against the war	<i>v</i> .	to walk militarily with stiff, regular steps
64.	a working coon	n.	a person or an animal with whom you spend a lot of time, or you travel
65.	ree a dying dog	<i>v</i> .	to save someone or something from a dangerous or difficult situation
66.	a traer of a family line	n.	a piece of equipment used for generating and sending electronic signals, especially radio or television signals
67.	phn emission	n.	a unit or quantum of electromagnetic energy, typically regarded as a particle that is the basic constituent of all light and other forms of electromagnetic radiation
68.	audio hez	n.	the unit of frequency, equal to one cycle per second, often used to describe the frequency of electromagnetic waves or electronic signals
69.	efnt operation	adj.	performing at the highest level of productivity with the least wasted effort or resources; capable of achieving maximum output with minimum wasted effort, time, or materials
70.	coe the value	v.	to make a mathematical calculation

ANSWERS: 61. engineer, 62. march, 63. march, 64. companion, 65. rescue, 66. transmitter, 67. photon, 68. hertz, 69. efficient, 70. compute

/1.	with an amus eye	adj.	achievement, power, or wealth
72.	not noly drink much	adv.	usually; under normal conditions
73.	she service	n.	a vehicle or boat that regularly moves between two places; bobbin that passes the weft thread between the warp threads
74.	opaque to X-r_ys	<i>n</i> .	a narrow line of light, heat, or another form of energy
75.	tp an animal	n.	a piece of equipment or hole for catching animals or people; (verb) to catch animals or people and prevent them from escaping
76.	an easy dery	n.	the act of taking or sending something to a destination; the bringing of a baby during childbirth
77.	ree a phone	<i>v</i> .	to take the place of something
78.	rey a scene	<i>v</i> .	to receive and pass something, such as information or a message, from one person or group to another; to broadcast something on television, radio, etc.
79.	stp discount	adj.	having a sharp inclination or slope
80.	energy-efnt appliances	adj.	performing at the highest level of productivity with the least wasted effort or resources; capable of achieving maximum output with minimum wasted effort, time, or materials

ANSWERS: 71. ambitious, 72. normally, 73. shuttle, 74. ray, 75. trap, 76. delivery, 77. replace, 78. relay, 79. steep, 80. efficient

81. achieve am____us goals adj. having a great desire to attain achievement, power, or wealth 82. r y on convenience stores to require a specific thing or the assistance and support of someone or something to continue, run properly, or succeed. 83. su____or performance adj. better, higher in quality, or more advanced than others 84. a st p staircase adj. having a sharp inclination or slope 85. fl_g a door open forcefully to throw or push something or someone ν. with force or recklessness, especially because you are angry 86. take a st___y job adj. firmly fixed, supported, or balanced; not shaking or moving adj. of or relating to the inside of something 87. the in al economy 88. the tra ion gears of a car the act or process of sending something n. from one person or place to another; the process of broadcasting over the airwaves, as in radio or television 89. cri____ss my heart to move or make lines that intersect or ν. cross each other in a pattern resembling a series of X's 90. smokeless f a substance that is typically burned to n. generate heat or energy the regular heartbeat as it sends blood 91. pu e waves around the body, especially when it is felt at the wrist or side of the neck; a solid regular vibration of sound, electric

ANSWERS: 81. ambitious, 82. rely, 83. superior, 84. steep, 85. fling, 86. steady, 87. internal, 88. transmission, 89. crisscross, 90. fuel, 91. pulse

current, light, or other waves

92.	wiss access	adj.	of or relating a connection or communication that does not require a physical wire or cable, often through the use of radio waves or electromagnetic signals
93.	rect attention	v.	to change the direction or course of something; to send in a different direction
94.	wase debt	n.	a large building for storing goods and merchandise, especially before they are sold, used, or sent out to shops
95.	increase bath	n.	the amount of data that can be transmitted or processed at one time often used to describe the capacity of electronic communication or computing systems
96.	a cp of wood	n.	a small fragment of something broken off from the whole; a long and thin piece of potato fried in oil or fat
97.	frcy band	n.	an ordered array of colors into which a light beam can be split
98.	trant crystal	adj.	easy to perceive, detect, or understand; (of a material or article) permitting light to pass through freely
99.	six-lane supway	n.	a large, wide road designed for high-speed traffic
100). bestride a sae	n.	a seat for a rider on the back of a horse or other animal; (verb) to burden someone with responsibility or task

ANSWERS: 92. wireless, 93. redirect, 94. warehouse, 95. bandwidth, 96. chip, 97. frequency, 98. transparent, 99. superhighway, 100. saddle

101. comte well with my advisor	<i>v</i> .	to share or exchange information with others by speaking, writing, moving your body, or using other signals
102. elfy the audience	<i>v</i> .	to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something
103. flle schedules	adj.	able to change or be changed to suit new conditions or situations; able to bend easily
104. biomass fI	n.	a substance that is typically burned to generate heat or energy
105. trusted mian	n.	a person who acts as an intermediary between two or more parties, often facilitating the exchange of goods or services and taking a commission or fee for their services
106. face incgly complicated challenges	adv.	more and more
107. diste video content	<i>v</i> .	to give something to a large number of individuals, or to spread or furnish something
108. degree in eleal engineering	adj.	relating to electricity
109. inent use	adj.	lacking the ability or skill and not making the best use of time, money, energy, etc.
110. lot of more	n.	small amounts of liquid, especially water, that are present in or absorbed by a substance

ANSWERS: 101. communicate, 102. electrify, 103. flexible, 104. fuel, 105. middleman, 106. increasingly, 107. distribute, 108. electrical, 109. inefficient, 110. moisture

111. Nean physics	adj.	relating to Sir Isaac Newton or his laws of motion and universal gravitation
112. incgly become common	adv.	more and more
113. wiss charging	adj.	of or relating a connection or communication that does not require a physical wire or cable, often through the use of radio waves or electromagnetic signals
114. ret light	v.	to bend or alter the direction of light, sound, or particles as they pass through different substances or mediums; to cause something to appear distorted or altered
115. eve over the past decade	<i>v</i> .	to develop gradually, or to cause the development of something or someone gradually
116. shw water	adj.	not having much distance from the top to the bottom
117. ops technology	n.	the academic study of vision and light
118. ovrk to compensate	<i>v</i> .	to work excessively hard or too much; the condition of working excessively or beyond one's capacity, leading to fatigue, stress, and illness
119. phn energy	n.	a unit or quantum of electromagnetic energy, typically regarded as a particle that is the basic constituent of all light and other forms of electromagnetic radiation
120. soup engine	adj.	made more powerful or improved in some way beyond the standard or original design; exaggerated or overdone

ANSWERS: 111. Newtonian, 112. increasingly, 113. wireless, 114. refract, 115. evolve, 116. shallow, 117. optics, 118. overwork, 119. photon, 120. souped-up

121. a viI image	adj.	being actually such in almost every respect; existing in essence or effect though not in actual fact
122. cot base 10 to base 16	<i>v</i> .	to have a talk with someone; (adjective) reversed in order, relation, or action
123. synthetic fir	n.	thread or filament used to make a vegetable tissue, mineral material, or textile
124. a tollgate of a supway	n.	a large, wide road designed for high-speed traffic
125. diste wealth evenly	ν.	to give something to a large number of individuals, or to spread or furnish something
126. against tron	n.	a belief, custom, or way of doing something that has been passed down from generation to generation within a group or society
127. vt majority	adj.	enormous in size, number, amount, or quantity
128. trc jam	n.	the movement of vehicles, people, or goods along a route or through a transport system; the amount of such movement in a particular place or at a particular time
129. giic monsters	adj.	extremely large
130. lk data	<i>v</i> .	to allow liquid or gas to get in or out from a hole or crack in a pipe or container
131. have a ste job	adj.	firm and steady; not easily moved, disturbed, or changed

ANSWERS: 121. virtual, 122. convert, 123. fiber, 124. superhighway, 125. distribute, 126. tradition, 127. vast, 128. traffic, 129. gigantic, 130. leak, 131. stable

ANSWERS: 132. tradition, 133. lens, 134. long-range, 135. continent, 136. shallow, 137. souped-up, 138. server, 139. companion

n.

139. drinking co____ons

restaurant

a person or an animal with whom you

spend a lot of time, or you travel

140. elfy a manufacturing process	ν.	to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something
141. high frcy	n.	an ordered array of colors into which a light beam can be split
142. rent by a diagram	<i>v</i> .	to speak, act, or be present on behalf of another person or group; to form or constitute
143. above the eqr	n.	an line of latitude that separates Earth's northern and southern hemispheres and has a radius of around 40,075 kilometers (24,901 miles)
144. bath allocation	n.	the amount of data that can be transmitted or processed at one time often used to describe the capacity of electronic communication or computing systems
145. dull sit	n.	the ability to see; anything that is seen
146. tera-hez radiation	n.	the unit of frequency, equal to one cycle per second, often used to describe the frequency of electromagnetic waves or electronic signals
147. trit information	ν.	to send or forward an electronic signal; to pass something from one person or thing to another
148. trit the disease	v.	to send or forward an electronic signal; to pass something from one person or thing to another

ANSWERS: 140. electrify, 141. frequency, 142. represent, 143. equator, 144. bandwidth, 145. sight, 146. hertz, 147. transmit, 148. transmit

149.	comte his anxieties to the psychiatrist	<i>v</i> .	to share or exchange information with others by speaking, writing, moving your body, or using other signals
150.	abb energy	<i>v</i> .	to take in a fluid or other substance gradually
151.	ovy excessive	adv.	to a greater degree than is appropriate or desirable
152.	ry entirely on him	ν.	to require a specific thing or the assistance and support of someone or something to continue, run properly, or succeed.
153.	waul practices	adj.	characterized by excessive or unnecessary use or consumption; using resources or materials inefficiently or inappropriately, resulting in unnecessary waste or expense
154.	a trant lie	adj.	easy to perceive, detect, or understand; (of a material or article) permitting light to pass through freely
155.	giic proportions	adj.	extremely large
156.	scr around the internet	<i>v</i> .	to cause to separate and go in different directions
157.	a diI watch	adj.	processing or storing information as a succession of 1 and 0 to show that a signal is present or missing; relating to the use of computer technology, especially the internet
158.	ree one word with another	<i>v</i> .	to take the place of something

ANSWERS: 149. communicate, 150. absorb, 151. overly, 152. rely, 153. wasteful, 154. transparent, 155. gigantic, 156. scatter, 157. digital, 158. replace

n.	the regular heartbeat as it sends blood around the body, especially when it is felt at the wrist or side of the neck; a solid regular vibration of sound, electric current, light, or other waves
v.	to speak, act, or be present on behalf of another person or group; to form or constitute
adj.	relating to or extending over a long distance, period of time, or range of possibilities
n.	a set of wires covered by plastic or rubber that carries electricity, phone signals, etc.; a solid thick rope made of twisted hemp or steel wire
n.	any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a star
v.	to move or make lines that intersect or cross each other in a pattern resembling a series of X's
v.	to save someone or something from a dangerous or difficult situation
n.	the act or process of sending something from one person or place to another; the process of broadcasting over the airwaves, as in radio or television
n.	the amount of space between two points, measured in units such as miles, meters, or kilometers; the extent, scope, or range between two things, such as distance or emotional distance
	v. adj. n. v. v.

ANSWERS: 159. pulse, 160. represent, 161. long-range, 162. cable, 163. planet, 164. crisscross, 165. rescue, 166. transmission, 167. distance

168. radio traer	n.	a piece of equipment used for generating and sending electronic signals, especially radio or television signals
169. vt desert	adj.	enormous in size, number, amount, or quantity
170. shoge communication	adj.	limited in extent, scope, or distance; designed or intended to operate or be effective only over a short distance or period of time
171. see down in the town	<i>v</i> .	to reach an agreement of disagreement
172. rect traffic	<i>v</i> .	to change the direction or course of something; to send in a different direction
173. dee his public image	ν.	to make something worse, especially in quality; to show or treat someone in a way that makes them seem no value and do not have the respect or reasonable opinion of others
174. drop shy	adv.	suddenly and to a great degree; in an aggressive manner
175. flg a stream of abuse	<i>v</i> .	to throw or push something or someone with force or recklessness, especially because you are angry
176. sp seats	<i>v</i> .	to give something and receive something in trade
177. sp columns with rows	<i>v</i> .	to give something and receive something in trade
178. electronic dee	n.	a piece of equipment, tool, or technology that serves a particular purpose or function, often mechanical or electronic

ANSWERS: 168. transmitter, 169. vast, 170. short-range, 171. settle, 172. redirect, 173. degrade, 174. sharply, 175. fling, 176. swap, 177. swap, 178. device

179. shk the tumor	v.	to become smaller, or to make something smaller in size or amount
180. ener shortage	n.	a person whose job is designing, building, or maintaining something such as machines, structures, or software
181. with an exve spirit	adj.	large or wide in extent or scope; friendly and open and willing to talk
182. new opI glasses	adj.	of or relating to or light or the ability to see; (noun) the science of light and vision, and to instruments and techniques used in the study and application of light
183. cot fat into energy	v.	to have a talk with someone; (adjective) reversed in order, relation, or action
184. trading of viI currencies	adj.	being actually such in almost every respect; existing in essence or effect though not in actual fact
185. Nean mechanics	adj.	relating to Sir Isaac Newton or his laws of motion and universal gravitation
186. ret sound	v.	to bend or alter the direction of light, sound, or particles as they pass through different substances or mediums; to cause something to appear distorted or altered
187. business mian	n.	a person who acts as an intermediary between two or more parties, often facilitating the exchange of goods or services and taking a commission or fee for their services

ANSWERS: 179. shrink, 180. engineer, 181. expansive, 182. optical, 183. convert, 184. virtual, 185. Newtonian, 186. refract, 187. middleman

- 188. re__y a request
- 189. tracking de___e
- 190. a fl____le wire
- 191. a convex I__s

- 192. b__e code
- 193. a mail se___r
- 194. save the pl t

- v. to receive and pass something, such as information or a message, from one person or group to another; to broadcast something on television, radio, etc.
- n. a piece of equipment, tool, or technology that serves a particular purpose or function, often mechanical or electronic
- adj. able to change or be changed to suit new conditions or situations; able to bend easily
- n. a transparent optical device with curved sides, used in an optical instrument that makes objects seem larger, smaller, clearer, etc.; (metaphor) the basic thoughts or mindsets through which someone sees or understands the environment or situation
- a unit of digital information that consists of 8 bits, typically used to represent a single character of text or a small amount of computer code
- a computer program or a device from which other computers get information; a person who serves food in a restaurant
- any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a star

ANSWERS: 188. relay, 189. device, 190. flexible, 191. lens, 192. byte, 193. server, 194. planet

Vocab-Builder Ref from	"Sajan Saini: The hidden	network that makes	the internet possible	e TED Talk" (97 words)	
ANSWERS:					

Session 3: Fill in the Blanks

1.	This substance acts as a neural substance.
n.	a piece of equipment used for generating and sending electronic signals, especially radio or television signals
2.	The cliff made it difficult to climb.
ad	j. having a sharp inclination or slope
3.	The enemy fell right into the
n.	a piece of equipment or hole for catching animals or people; (verb) to catch animals or people and prevent them from escaping
4.	Infrared cameras detect in the infrared range of the electromagnetic spectrum.
n.	a unit or quantum of electromagnetic energy, typically regarded as a particle that is the basic constituent of all light and other forms of electromagnetic radiation
5.	The hunter's approach the geese.
v.	to cause to separate and go in different directions
6.	It is a in many families to have a big Thanksgiving dinner with all their relatives.
n.	a belief, custom, or way of doing something that has been passed down from generation to generation within a group or society
7.	Actuators convert pulses into motion.
ad	i. relating to electricity
	SWERS: 1. transmitter, 2. steep, 3. trap, 4. photons, 5. scattered, 6. tradition, 7. ctrical

ANSWERS: 16. wasteful, 17. degrade, 18. transmission, 19. flexible, 20. fiber, 21. steady, 22. definition, 23. rely

overly, 36. long-range, 37. superhighway, 38. increasingly

54.	The human ear can detect sounds with frequencies ranging from 20 to 20,000
n.	the unit of frequency, equal to one cycle per second, often used to describe the frequency of electromagnetic waves or electronic signals
55.	He was provoked to the draft on the floor.
<i>v</i> .	to throw or push something or someone with force or recklessness, especially because you are angry
56.	Please the news to the world.
v.	to receive and pass something, such as information or a message, from one person or group to another; to broadcast something on television, radio, etc.
57.	The bus will take you to the airport in 15 minutes.
n.	a vehicle or boat that regularly moves between two places; bobbin that passes the weft thread between the warp threads
58.	The sponge water well.
<i>v</i> .	to take in a fluid or other substance gradually
59.	Many famous are within walking distance.
n.	the ability to see; anything that is seen
60.	The cardiac monitor displays the intensity of your
n.	the regular heartbeat as it sends blood around the body, especially when it is felt at the wrist or side of the neck; a solid regular vibration of sound, electric current, light, or other waves
	I don't take a vacation in the middle of summer. usually; under normal conditions
	SWERS: 54. hertz, 55. fling, 56. relay, 57. shuttle, 58. absorbs, 59. sights, 60. se, 61. normally

	The campaign ad was designed with bright colors and bold fonts for maximum impact.
adj.	relating to vision or the eyes; relating to or involving light or optics
	The government decided to funding towards education and healthcare.
<i>v</i> .	to change the direction or course of something; to send in a different direction
64.	Gamma penetrate body tissues and cause cell damage.
n.	a narrow line of light, heat, or another form of energy
	He serious accounting irregularities that only people in the company's executive could know.
<i>v</i> .	to allow liquid or gas to get in or out from a hole or crack in a pipe or container
66.	Don't horses while crossing a stream.
ν.	to give something and receive something in trade
67.	She is the president of the company.
adj.	being actually such in almost every respect; existing in essence or effect though not in actual fact
68.	Ecuador is on the
n.	an line of latitude that separates Earth's northern and southern hemispheres and has a radius of around 40,075 kilometers (24,901 miles)
69.	I don't want to for second best.
<i>v</i> .	to reach an agreement of disagreement
	SWERS: 62. optic, 63. redirect, 64. rays, 65. leaked, 66. swap, 67. virtual, 68. ator, 69. settle

76. Newtonian

Shallow, 83. fuel, 84. convert, 85. evolved

92. integrate, 93. refracted

ANSWERS: 94. melted, 95. engineer, 96. digital, 97. frequency