

Englist.me



Vocabulary Builder Reference from...

Ed Boyden: A light switch for neurons | TED Talk

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

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

encounter

v. to face something, particularly something unpleasant or difficult, while attempting to do something else; to meet, especially unexpectedly

synonym: meet, run into, come across

(1) **encounter** a crisis, (2) **encounter** a storm

I'm prepared to **encounter** challenges throughout this adventure.

colleague

n. one of a group of a coworker, especially in a profession or a business

synonym: coworker, associate, fellow

(1) collaborate with **colleagues**, (2) former **colleague**

I decided to seek counseling on the advice of my **colleague**.

discuss

v. to talk about or examine in detail through conversation or debate; to exchange ideas, opinions, or information on a particular topic

synonym: talk about, converse, debate

(1) **discuss** options, (2) **discuss** solutions

We need to **discuss** the next steps for the project during our meeting tomorrow.

bet

v. to risk money on the result of an event or a competition, such as a race or game, to get more money; to have

faith or confidence in something

synonym: stake, wager, gamble

(1) **bet** on a race, (2) **bet** my future

I **bet** that you know it.

decision

n. the act or process of making up someone's mind about something; a choice or judgment reached after considering options

synonym: choice, determination, judgment

(1) **decision** authority, (2) a selfish **decision**

She was struggling to make a **decision** between two job offers.

mediate

v. to try to bring about an agreement or understanding between people who are in conflict

synonym: arbitrate, reconcile, intervene

(1) **mediate** allergic reaction, (2) **mediate** a negotiation

The teacher had to **mediate** a disagreement between two students over a stolen pencil.

brain

n. the organ inside the head that is responsible for one's movement, thought, memory, and feeling

synonym: intellect, mind, encephalon

(1) basic **brain** function, (2) permanent **brain** damage

X-rays revealed a small tumor in his **brain**.

pound

n. the standard unit of money in the UK; the standard unit of weight equal to 16 ounces

(1) three-fourths of a **pound**, (2) thousands of **pounds**

The car's front bumper cost fifteen hundred **pounds**.

flesh

n. the soft substance composing the body of a person or animal, as opposed to bones and other structures

synonym: meat, muscle, tissue

(1) grow in **flesh**, (2) **flesh** eating

The **flesh** of the fruit is sweet and juicy.

amorphous

adj. without a definite or clear shape or form; lacking a specific structure or organization; shapeless or formless
synonym: formless, shapeless, structureless

(1) **amorphous** amoeba, (2) **amorphous** mass

The clouded jellyfish has an **amorphous** shape, making it difficult to identify.

neuroscience

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

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

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

zoom

v. to move along very quickly; (noun) the act of rising upward into the air

synonym: move quickly, dive, buzz

(1) **zoom** in on a photo, (2) **zoom** lens

He **zoomed** back in time to the soccer game.

intricacy

n. the quality of being complex, detailed, or highly involved; the existence of many interrelated parts or elements

synonym: complexity, intricateness, elaboration

(1) the **intricacy** of the design, (2) legal **intricacy**

The clockwork mechanism of the antique watch showed incredible **intricacy**.

incredibly

adv. in a way that is very difficult to believe; exceedingly or extremely

synonym: enormously, exceptionally, extraordinarily

(1) **incredibly** cheerful character, (2) get **incredibly** insecure

Several cities are experiencing **incredibly** high unemployment rates.

complicated

adj. involving a lot of different things or parts in a way that is difficult to understand or analyze

synonym : complex, convoluted, intricate

(1) a **complicated** process, (2) become increasingly **complicated**

He did **complicated** pen-and-ink drawings in just a few days.

circuit

n. (in electrical engineering) an electrical device that provides a path for electrical current to flow; a journey or route around a particular place or area

synonym : route, course, rotation

(1) **circuit** breaker, (2) federal **circuit** courts

An intelligent battery has a voltage monitoring **circuit**.

neuron

n. a cell that is specialized to carry information within the brain and between the brain and other parts of the body

synonym : nerve cell

(1) excite the **neurons**, (2) **neuron** cell body

Our body transfers information along each **neuron** using an electrical impulse.

molecule

n. a group of two or more atoms held together by attractive forces known as chemical bonds

synonym : particle, element, atom

(1) small **molecules**, (2) **molecule** behavior

The shape of the DNA **molecule** is a double helix.

disease

n. a disorder or illness that affects the body or mind, often characterized by specific symptoms or abnormal functioning of organs or systems

synonym : illness, ailment, affliction

(1) **disease** prevention, (2) **disease** control

The doctor diagnosed him with a rare **disease** that had no known cure.

concrete

adj. existing in a physical or material form rather than an abstract one; based on facts rather than ideas or guesses; made of or covered with cement

synonym : actual, factual, hardened

(1) a **concrete** noun, (2) **concrete** examples
The president asked for a more **concrete** plan.

inhibit

v. to prevent something, such as an action, process, etc., from happening or make it less likely to happen than normal

synonym: deter, hinder, impede

(1) **inhibit** desires, (2) **inhibit** tumor growth
Excessive parental interference may **inhibit** children's eagerness to learn.

atrophy

n. a decrease in size of a muscle, organ, etc., caused by disease or disuse

synonym: disintegration, degeneration, wasting away

(1) weakness with **atrophy**, (2) **atrophy** of the muscles
Daily exercise and adequate sleep are necessary to prevent the progression of **atrophy**.

disorder

n. an untidy state or a lack of organization; a physical condition or illness that causes problems with how a section of the body or brain functions

synonym: chaos, disturbance, disease

(1) the files are in complete **disorder**, (2) people with bipolar **disorder**
The doctor prescribed some medicine for the mental **disorder**.

schizophrenia

n. a severe mental disorder in which a person has a distorted view of reality and may experience hallucinations, delusions, and disordered thinking and behavior

synonym: psychosis, disorder, mental illness

(1) **schizophrenia** spectrum disorder, (2) **schizophrenia** treatment
The **schizophrenia** patient was experiencing severe auditory hallucinations.

discovery

n. the act or process of finding information, a place, or an object, or learning about something that was previously not known

synonym : finding, uncovering, detection

(1) a scientific **discovery**, (2) the great **discovery** of the century

Her research team made an important **discovery**.

pyramid

n. a polyhedron having a polygonal base and triangular sides with a common vertex; a massive monument with a square base and four triangular sides, begun by Cheops around 2700 BC as royal tombs in ancient Egypt

synonym : monument, edifice, tomb

(1) **pyramid** architecture, (2) a truncated **pyramid**

The Egyptian **pyramids** consist of a vast number of blocks.

span

n. the entire length of something, such as time or space from beginning to end; the amount of space that something covers

synonym : interval, period, length

(1) the **span** of a bird's wings, (2) the average life **span**

He slightly modified the **span** of training because it was just before a match.

fraction

n. a small part or item forming a piece of a whole; the quotient of two rational numbers

synonym : piece, part, fragment

(1) a **fractional** share of the vote, (2) a numerator in a **fraction**

He spent only a **fraction** of his earnings.

excite

v. to make someone feel suddenly enthusiastic or eager

synonym : thrill, exhilarate, animate

(1) **excite** the crowd, (2) **excite** rebellion

The news of her promotion **excited** her.

overactive

adj. excessively active; showing an excess of activity or energy

synonym: hyperactive, frantic, restless

(1) **overactive** imagination, (2) **overactive** thyroid

The medication caused an **overactive** immune system, resulting in adverse side effects.

epilepsy

n. a neurological disorder characterized by recurrent seizures or convulsions, which can manifest in a variety of ways and be caused by various factors

synonym: seizures, convulsions, fits

(1) **epilepsy** seizure, (2) **epilepsy** medication

The flashing lights at the concert triggered her **epilepsy** and caused a seizure.

incredible

adj. unbelievable; enormous

synonym: unbelievable, fantastical, inconceivable

(1) **incredible** amount, (2) at **incredible** speed

Her response revealed **incredible** idiocy.

electrical

adj. relating to electricity

(1) an **electrical** storm, (2) degree in **electrical** engineering

Actuators convert **electrical** pulses into motion.

device

n. 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**

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

upstream

adj. in the direction against a stream's current; (adverb) toward the source or beginning of a stream, river, or process

synonym: upriver, up-current

(1) swim **upstream**, (2) **upstream** direction

The company is investing heavily in **upstream** research and development.

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.

threshold

n. the floor or ground that forms the bottom of a doorway and offers support when passing through a doorway; the smallest detectable sensation

synonym: anteroom, brink, verge

(1) the **threshold** between rooms, (2) high pain **threshold**
She's on the **threshold** of adulthood.

downstream

adv. in the direction that a stream or river flows; (adjective) in the direction of a stream's current

synonym: lower, below, later

(1) go **downstream** in a boat, (2) **downstream** processing
The boat drifted **downstream** and was carried away by the current.

process

n. a series of actions or operations performed to achieve a particular outcome or goal; a systematic procedure or approach used to accomplish a specific task or objective; a method of treating milk to make it suitable for consumption or use in other dairy products

synonym: procedure, method, system

(1) **process** improvement, (2) decision-making **process**
The **process** for applying for a visa can be lengthy and complicated.

id

n. a part of the psyche that represents the unconscious desires and instincts of an individual; in psychoanalytic theory, it is believed to be the most basic and primal part of the human psyche; (also ID, short for identification) a document or card that proves a person's identity, such

as a driver's license, passport, or national ID card

synonym : identity, ego, persona

(1) the **id** ego, (2) **ID** card

I forgot my **ID** at home and needed it to enter the club.

contribute

v. to give something, especially money or goods, to provide or achieve something together with other people

synonym : donate, devote, commit

(1) **contribute** a large sum of money to the fund,

(2) **contribute** to society

Government workers cannot **contribute** to political campaigns.

function

n. the purpose or use of an object, system, or process; a particular activity or operation that is designed to serve a specific purpose; a mathematical concept that describes a relationship between two sets of values, called the input and output sets; (verb) to operate or work in a specific way, or to perform a particular task or purpose

synonym : purpose, mapping, job

(1) **function** properly, (2) immune **function**

The brain is an incredibly complex organ that controls the body's **function**.

pathology

n. the study of the nature and cause of diseases and disorders; the medical specialty that deals with the diagnosis and treatment of diseases and disorders

synonym : medical science, pathophysiology

(1) benign **pathology**, (2) clinical **pathology**

The **pathology** report showed no signs of cancer, giving her family a sense of relief.

unleash

v. to suddenly release a strong force, emotion, etc. that cannot be controlled

synonym : discharge, free, release

(1) **unleash** a hound, (2) **unleash** her anger

The general was still reluctant to **unleash** his troops in pursuit of an enemy.

sustain

v. to supply enough of what somebody or something needs to survive or exist; to accept as valid

synonym: maintain, nurture, support

(1) **sustain** a good relationship with him, (2) **sustain** a wellness lifestyle

She struggled to **sustain** the children's reading habits.

attempt

n. an act or effort of trying to do something, especially something difficult

synonym: endeavor, effort, try

(1) the **attempt** to rescue the hostages, (2) a reckless **attempt**

The third **attempt** was far more successful.

pathway

n. a track that constitutes or serves as a path; an approach or a way of doing something

synonym: route, footpath, trail

(1) **pathway** to understanding, (2) cellular signaling **pathways**

When the first molecule in the **pathway** receives a signal, it activates other molecules.

confront

v. to face, meet or deal with a problem or difficult situation or person

synonym: engage, encounter, contend

(1) **confront** a global warming, (2) **confront** the issue

He finally decided to **confront** problems directly.

incapacitate

v. to disable or render someone or something unable to function or operate normally, either temporarily or permanently, often as a result of injury, illness, or damage

synonym: disable, paralyze, immobilize

(1) **incapacitate** opponent, (2) **incapacitate** the enemy

The injury sustained during the game could **incapacitate** the player for the rest of the season.

Alzheimer

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

synonym : dementia, memory loss, cognitive decline

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

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

depression

n. a mental condition in which a person feels very unhappy and without hope for the future; a severe recession in an economy or market

synonym : recession, slump, despair

(1) the Great **Depression**, (2) the root problem of her **depression**

Depression symptoms might include a decrease in appetite and weight loss.

addiction

n. the inability to stop using or doing something as a habit, especially something harmful

synonym : dependence

(1) alcohol **addiction**, (2) **addiction** to foreign oil

He is now fighting his **addiction** to drugs.

identity

n. the fact of being who or what somebody or something is; the features, emotions, or ideas that distinguish persons from one another

synonym : character, personality, individuality

(1) mistaken **identity**, (2) **identity** as an individual

The terrorist's **identity** remains unknown.

emotion

n. a strong feeling such as love, anger, etc. deriving from one's situation, mood, or relationships with others

synonym : feeling, sentiment, passion

(1) control my **emotion**, (2) afraid to show **emotion**

Some **emotions** are common across cultures and backgrounds.

develop

v. to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created

synonym: evolve, progress, advance

(1) **develop** a strategy, (2) **develop** a skill

We must **develop** a new system to streamline our workflow and increase efficiency.

pharmaceutical

adj. relating to the production and selling of the medical drugs

synonym: drug, medication, prescription

(1) major **pharmaceutical** companies, (2) commercial **pharmaceutical** products

She gave money to help set up a **pharmaceutical** laboratory.

alleviate

v. to make something, usually pain, distress, or problem, less severe or intense; to ease or lighten a burden

synonym: ease, relieve, lessen

(1) **alleviate** anxiety, (2) **alleviate** stress

Taking ibuprofen can **alleviate** the pain from a headache.

symptom

n. any sensation or change in body or mind that is experienced by a patient and is associated with a particular disease

synonym: sign, manifestation, syndrome

(1) **symptoms** of low testosterone, (2) neurotic **symptoms**

The patient displays a **symptom** of a side effect.

practically

adv. almost or nearly

synonym: almost, nearly, virtually

(1) **practically** constant, (2) **practically** impossible to find a parking spot

The store is **practically** empty.

chemical

adj. relating to or connected with chemistry;

synonym : chemic, synthetic

(1) toxic **chemicals**, (2) a **chemical** compound

The firm has grown into a large **chemical** manufacturing.

elaborate

adj. containing a lot of carefully prepared and organized or many complicated and detailed parts

synonym : detailed, intricate, complicated

(1) an **elaborate** hat, (2) **elaborate** Ponzi scheme

He proposed an **elaborate** program of public works.

substance

n. the real physical material of which a thing or person consist; the most important or main part of some idea or experience; an illegal drug

synonym : essence, core, material

(1) an explosive **substance**, (2) **substance** abuse problem

The **substance** of the argument was well-presented.

solace

n. comfort or consolation in a time of distress, sadness, or disappointment; (verb) to comfort or console someone in a time of distress, loss, or suffering

synonym : comfort, condolence, peace

(1) **solace** in music, (2) offer **solace**

The grieving widow found **solace** in reading her late husband's letters.

stimming

n. a behavior often exhibited by individuals on the autism spectrum characterized by repetitive bodily movements or sounds, such as hand flapping or rocking, often used as a form of self-regulation or sensory stimulation

synonym : self-stimulation, repetitive behaviors

(1) autistic **stimming**, (2) **stimming** therapy

Autistic children may engage in **stimming** behaviors, such as rocking or hand flapping, to self-regulate.

implant

v. to insert or fix an artificial device in a person's body; to put an idea, attitude, etc., firmly in the mind

synonym : insert, fix, place

(1) **implant** genes in the animals, (2) **implant** into the uterus

The doctor will **implant** a pacemaker to regulate his heart rate.

cochlea

n. a spiral-shaped cavity in the inner ear that is responsible for hearing; it contains sensory hair cells that convert vibrations into electrical signals that are sent to the brain for interpretation

synonym : spiral organ, snail shell, inner ear

(1) **cochlea** spiral, (2) implanted **cochlea**

Damage to the **cochlea** can cause hearing loss or deafness.

remedy

n. a successful way of dealing with or improving an unpleasant or difficult situation or curing an illness

synonym : treatment, medication, therapy

(1) **remedy** for air pollution, (2) an internal **remedy**

This drug will be a good **remedy** for your stomach trouble.

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.

resistance

n. the act of defending oneself from an aggressor or refusing to accept something

synonym : opposition, antagonism, defiance

(1) **resistance** movement, (2) **resistance** to insulin

The bill to increase the consumption tax had passed despite much **resistance** from the public.

phrase

n. a group of words that mean something specific when used together

synonym: expression, idiom, term

(1) ready-made **phrases**, (2) noun **phrase**

We bought a Spanish **phrase** book.

norm

n. something that is regarded as usual, typical, or standard

synonym: criterion, mean, standard

(1) **norm** of action, (2) cultural **norm**

The systems we have developed has accepted as industry **norms**.

abnormal

adj. not typical, usual, or regular, especially in a way that is bad

synonym: aberrant, bizzare, unusual

(1) **abnormal** heart rhythms, (2) **abnormal** cells

An **abnormal** climate in the region caused a sharp decline in grain harvest.

precise

adj. sharply exact or accurate or delimited

synonym: accurate, exact, distinct

(1) **precise** analyses, (2) estimate **precise** costs

The content is **precise** and informative for me.

dial

v. to adjust or set the controls of a machine or device by turning a controller called dial; (noun) a disc on a telephone that is rotated a fixed distance for each number called

synonym: adjust, set, turn

(1) **dial** up the volume, (2) **dial** down the tension

He **dialed** the phone number and waited for an answer.

engineer

n. 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.

physicist

n. a scientist who specializes in the field of physics

(1) talented **physicist**, (2) theoretical **physicist**

Einstein was an outstanding and famous **physicist** of the 20th century.

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

(1) driving **distance**, (2) social **distance**

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

embedded

adj. fixed firmly into the surface of something

synonym: ingrained, implanted, inserted

(1) **embedded** systems, (2) LED- **embedded** glass

The **embedded** chip in my credit card allows me to make contactless payments.

computation

n. the act or process of calculating something, especially an answer or amount, by using a machine or calculator

synonym: calculation, estimation, arithmetic

(1) parallel **computation**, (2) theory of **computation**

The researcher demonstrated the superiority of quantum **computation** in several mathematical tasks.

awry

adv. in a wrong or crooked position; out of order; amiss

synonym: amiss, askew, incorrect

(1) **awry** plan, (2) **awry** hair

The plans for the surprise party went **awry** when the cake was ruined.

convert

v. 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 16

I want to **convert** my sadness into strength.

protein

n. a molecule made up of a long chain of amino acids, which is essential for the structure and function of the body's tissues

(1) stress **protein**, (2) **protein** synthesis

The body needs a certain amount of **protein** to build and repair tissues.

install

v. to fix furniture, a machine, or a piece of equipment into position so that it can be used; put into an office or a position

synonym: establish, inaugurate, lodge

(1) **install** a door, (2) **install** a chairperson

The new president was **installed** immediately after the national election.

magic

n. beliefs and actions employed to influence supernatural beings and forces; any art or performance that invokes supernatural powers

synonym: fascination, illusion, wizardry

(1) a **magic** spell, (2) she is **magic**

He performed **magic** tricks with sophisticated moves.

advantage

n. a condition or circumstance that puts one in a favorable or superior position; a beneficial feature or asset that someone or something has

synonym: benefit, edge, asset

(1) score an **advantage**, (2) take **advantage** of his weak points

One of the main **advantages** of the new product is its increased efficiency.

telecom

n. (a shortened form of telecommunications) the communication of information over long distances through various means such as phones, television, radio, and the internet

synonym : communication, telecommunications, telephony

(1) **telecom** industry, (2) **telecom** service providers

The **telecom** company is planning to launch a new smartphone next month.

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.

fiber

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.

laser

n. a device that emits powerful and narrow light that can be used as a tool to cut metal through a process of optical amplification

synonym : beam, bar, ray

(1) **laser** printer, (2) pulse **laser**

The company holds patents on core components of **laser** jet printers.

preclinical

adj. of or relating to the early phases of a disease when an accurate diagnosis is not possible because symptoms of the disease have not yet appeared; of or relating to the first stage of a medical education

(1) **preclinical** diagnosis, (2) **preclinical** safety evaluation

The doctor suspected that the patient was in the **preclinical**

stage of Alzheimer's disease.

collaboration

n. the act or situation of working together to create or produce something

synonym: affiliation, alliance, coalition

(1) **collaboration** between companies, (2) **collaboration** platform

The partnership program requires a mutual **collaboration** between both agencies.

vision

n. the ability to think about or see the future with imagination and intelligence; the faculty of being able to see

synonym: sight, image, concept

(1) a prodigious **vision**, (2) telescopic **vision**

Driving is difficult for me because of my poor **vision**.

algae

n. A simple plant that grows in or near water and lacks typical leaves and roots

(1) **algae** biofuel, (2) blue **algae**

Algae has jammed the inlet to the water turbine.

navigate

v. to plan and direct the way that a ship, plane, etc. will travel, often by using a map

synonym: guide, helm, voyage

(1) **navigate** the Pacific, (2) **navigate** through a document

Our knowledge helps **navigate** our clients successfully.

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.

optimal

adj. the best; most likely to be successful or advantageous
synonym : optimum, desirable, favorable

(1) achieve **optimal** health, (2) **optimal** for intellectual growth

Wild animals need to go forward with the **optimal** action to survive.

eyespot

n. a rounded eyelike spot on an animal, as on the wings of some butterfly, or the tail of a peacock

(1) a purple **eyespot**, (2) **eyespot** disease

The primary role of the **eyespots** is to deflect attention from predators.

membrane

n. a soft, thin layer that forms animal or vegetable tissue
synonym : tissue layer

(1) cell **membranes**, (2) nuclear **membrane**

Loud noises might harm the fragile ear **membrane**.

boundary

n. a real or imaginary line that marks the limit or extent of something and separates it from other things or places

synonym : border, frontier, limitation

(1) geographical **boundary**, (2) the **boundary** between reality and fantasy

He wandered the **boundary** between life and death by gunfire.

rhodopsin

n. a light-sensitive protein found in the retina of the eye, responsible for vision in low-light conditions

synonym : visual purple, purpuroxanthin, retinene

(1) visual **rhodopsin**, (2) photosensitive **rhodopsin**

Light entering the eye causes a chemical change in the **rhodopsin**, which begins the vision process.

particle

n. a small piece of something; a word or piece of a term with grammatical function but little or no significance

synonym : atom, grain, bit

(1) charged **particle**, (2) **particle** energy

We can calculate the position of the **particles** statistically.

battery

n. a device that is placed inside a car, gadget, equipment, etc. and that provides electrical power to them

synonym: electric cell, array, batch

(1) a dry **battery**, (2) **battery** charging

The engine did not start because the **battery** was flat.

encode

v. to convert information into a code or format suitable for storage or transmission

synonym: transcribe, convert

(1) **encode** data, (2) **encode** information

The software can **encode** and decode encrypted messages.

therapy

n. the act of caring for someone through medication, remedial training, etc.

synonym: antidote, medicine, treatment

(1) **therapy** for a patient, (2) field of gene **therapy**

I underwent aversion **therapy** for my addiction to alcohol.

vector

n. a quantity that has both magnitude and direction, often used in mathematics, physics, and engineering to describe forces, velocities, or other physical phenomena; any agent (person or animal, or microorganism) that carries and transmits a disease

synonym: carrier, transporter, conveyor

(1) disease **vector**, (2) a **vector** operation

The mosquito is a common **vector** for many diseases, including malaria and Zika.

virus

n. a tiny infectious organic material that causes disease in people, animals, and plants

synonym: bacterium, germ, ailment

(1) spread of the **virus**, (2) a strain of **virus**

An infected person in the hospital will likely pass the **virus** to others.

machinery

n. a group of large machines or the components of a machine that make it work; social institution functions or structure for doing something

synonym : apparatus, appliance, equipment

(1) heavy **machinery**, (2) inactive **machinery**

The **machinery** of audit formally issued a business improvement order.

fabricate

v. to make something, especially by assembling parts or constructing it from raw materials; to invent and present something false as true or real to deceive someone

synonym : manufacture, assemble, falsify

(1) **fabricate** a chemical, (2) **fabricate** an excuse

The detective discovered that the witness had **fabricated** her story about the crime.

sensitive

adj. able to notice slight changes, signals, or influences; able to feel or perceive other's feelings; susceptible to the things people say or do

synonym : exposed, susceptible, keen

(1) **sensitive** documents, (2) baby with **sensitive** skin

The teacher is very **sensitive** to children's feelings.

panel

n. a square or rectangular and flat piece of something that forms a distinct section or component of something; a small group of specialists who discuss particular topics or give their advice or opinion about something

synonym : board, commission, discussion

(1) **panel** discussion, (2) cost of solar **panels**

A **panel** of economic advisers from the United States visited the country to help rebuild its economy.

tweak

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

synonym : nip, pinch, fine-tune

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

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

genetic

adj. of or relating to genes (= parts of the DNA in cells) or the science of genes

synonym: hereditary, genetical, inborn

(1) have **genetic** testing, (2) a **genetic** disorder

Understanding protein folding is a vital step in deciphering the **genetic** code.

activate

v. make something start working, more active or dynamic

synonym: mobilize, stimulate, initiate

(1) **activate** a receptor, (2) **activate** a motor

You must **activate** the software with a 16-digit key before you can use it.

optogenetics

n. a branch of biotechnology that involves the use of light to control the activity of genetically modified cells or neurons in living tissue, often used in neuroscience research

(1) **optogenetics** technique, (2) **optogenetics** manipulation

The recent advances in **optogenetics** research have paved the way for a deeper understanding of neuronal functions.

complexity

n. the state or quality of being complicated or intricate and difficult to understand

synonym: intricacy, sophistication, elaboration

(1) cognitive **complexity**, (2) **complexity** theory

The project's **complexity** made it difficult for the team to complete it on time.

dense

adj. containing a large number of people or something with little space between them

synonym: heavy, thick, idiotic

(1) nutrient- **dense** foods, (2) **dense** forests

The entire mountain is covered in **dense** rainforest.

flash

n. a sudden intense burst of radiant energy; a momentary brightness

synonym: sparkle, gleam, glimmer

(1) a **flash** of lightning, (2) brilliant **flash**
These heavy rains caused **flash** floods on several islands.

adverse

adj. unfavorable or harmful

synonym : hostile, detrimental, unfavorable

(1) **adverse** circumstances, (2) **adverse** reaction

The **adverse** weather conditions forced us to cancel the outdoor event.

jazz

n. a type of music that originated in the African-American community in the United States and that is characterized by improvisation, syncopated rhythms, and a strong emphasis on self-expression

synonym : swing, blues, bebop

(1) **jazz** club, (2) a school **jazz** band

He listened to **jazz** music to relax after a long day at work.

clinical

adj. of or relating to the examination and treatment of patients rather than theoretical or laboratory studies

synonym : dispassionate, analytic, scientific

(1) **clinical** surgery, (2) participate in **clinical** trials

She received special **clinical** training at the hospital.

reward

n. a thing given in acknowledgment of service, hard work, achievement, etc.

synonym : compensation, gratuity, bonus

(1) the **reward** for good works, (2) shopping **rewards** cards

Night fishing has a lot of **rewards**.

electrode

n. either of two points or ends of a conductor at which electricity enters or leaves an object, substance, or region

(1) platinum **electrodes**, (2) **electrode** corrosion

It is important to place the **electrodes** in the correct position for accurate electro-cardiogram recording.

severe

adj. extremely serious or bad in feeling, manner, or strict and harsh; extremely strong or vigorous

synonym : harsh, relentless, powerful

(1) **severe** heat, (2) a **severe** case of pneumonia

The senator received **severe** criticism from his opponent.

paradigm

n. a standard or typical example of something; a pattern or model

synonym : example, standard, epitome

(1) major **paradigm** shift, (2) cultural **paradigm**

He postulated a completely different **paradigm** to explain all these phenomena.

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**.

poke

v. to push or prod with a sharp object or the finger

synonym : prod, jab, push

(1) **poke** around the desk, (2) **poke** a fire

They **poked** fun at each other's jokes, laughing and teasing.

dopamine

n. a chemical substance produced by nerve cells as a neurotransmitter; as a drug, it is used to treat shock and hypotension

(1) **dopamine-inhibiting** agent, (2) antagonism of **dopamine**

The drug controls the level of **dopamine** in the brain.

devise

v. to come up with an idea, plan, theory, etc., using your intelligence or imagination

synonym : create, concoct, invent

(1) **devise** a plan, (2) **devise** a literary plot

They had to **devise** a system that did not depend on fossil fuels.

dimension

n. a measurable extent of a particular kind, such as width, height, or length

synonym: extent, measurement, size

(1) new **dimension**, (2) the crosswise **dimension**

Overall **dimensions** are approximately 400x200mm.

array

n. a large group or collection of things or people, especially one that is impressive or attractive

synonym: collection, display, batch

(1) a two-dimensional **array**, (2) an **array** of troops

The customer on the Internet has to choose one from a formidable **array** of products.

independence

n. freedom from another's or others' control or influence

synonym: freedom, liberty, autonomy

(1) financial **independence**, (2) **independence** ceremony

There is nothing more valuable than **independence** and freedom.

miniature

adj. being on a very small scale

synonym: mini, scaled-down, pint-sized

(1) **miniature** camera, (2) **miniature** version

He did complicated pen-and-ink drawings like medieval **miniatures**.

vivo

adj. alive or existing in a living organism or system; relating to or involving "live" organisms or systems, particularly in scientific research or experimentation

synonym: alive, living, animate

(1) **vivo** imaging, (2) in **vivo** research

The **vivo** colors of the flowers made the garden come alive.

throughput

n. the amount of material or information that can be processed by a system or organization over a given period of time

synonym : output, capacity

(1) workplace **throughput**, (2) network **throughput**

The data center's **throughput** is impressive, allowing for quick processing of large amounts of data.

traumatic

adj. relating to or caused by injury, especially emotional injury

synonym : distressing

(1) **traumatic** event, (2) **traumatic** brain injury

The experience was so **traumatic** that it left a lasting impact on the survivor's mental health.

controllable

adj. able to be controlled or directed

synonym : manageable, governable, submissive

(1) computer- **controllable**, (2) **controllable** aircraft

The new software is much more **controllable** and user-friendly.

anxiety

n. a feeling of worry, nervousness, or unease about something that is happening or might happen in the future

synonym : concern, dread, agita

(1) diagnosis of **anxiety** disorder, (2) **anxiety** for knowledge

She waited for her daughter with **anxiety**.

adopt

v. to choose to follow something; to legally take a child from another family and care for them as if they were one's own

synonym : accept, assume, take on

(1) **adopt** a child, (2) **adopt** a bill

The national assembly has **adopted** the budget.

shock

n. a strong feeling or physical reaction to a sudden and unexpected event or experience, especially something

unpleasant

synonym: amazement, surprise, stunner

(1) death from **shock**, (2) **shock-resistant**

He got an electric **shock** at work.

annoying

adj. making someone feel slightly angry

synonym: aggravating, bothersome, irksome

(1) **annoying** banner ad, (2) **annoying** habit

The phone call is an **annoying** interruption.

experiment

n. the scientific test conducted to observe what happens and gain new knowledge

synonym: experimentation, investigation

(1) **experiment** design, (2) series of **experiments**

His **experiments** showed highly positive results.

react

v. to take action in response to something

synonym: respond, reply, oppose

(1) **react** at a high temperature, (2) **react** against his way of thinking

How did he **react** to your idea?

headlight

n. a bright forward-facing light on a vehicle, typically used at night to illuminate the road ahead

synonym: headlamp, beam, lamp

(1) **headlight** adjustment, (2) **headlight** switch

My car's **headlight** must be replaced before I drive again at night.

overcome

v. to succeed in controlling or dealing with something, such as a problem or difficulty; to defeat or overwhelm someone

synonym: beat, confound, overwhelm

(1) **overcome** opponents, (2) **overcome** all difficulties

He tried to **overcome** a bad reputation and win the election.

associate

v. to mentally connect someone or something with someone or something else

synonym: tie in, link, consociate

(1) **associate** alcohol with gambling, (2) **associate** with people widely

The majority of consumers **associate** this brand with quality.

slide

v. to move or cause to move smoothly along a surface without interruption

synonym: glide, drift, drop

(1) **slide** a card across the table, (2) **slide** a glance

If necessary, you can **slide** the front seats forward.

prefrontal

adj. in or about the foremost part of the frontal lobe of the brain

(1) **prefrontal** bone, (2) **prefrontal** region

Research shows that damage to the **prefrontal** cortex leads to increased aggression.

cortex

n. the outermost layer of an organ, especially the brain

(1) **cortex** cells, (2) visual **cortex** neuron

The cerebral **cortex** consists of six layers.

cognition

n. the psychological process of perception and learning and reasoning; the mental action or process by which knowledge and understanding are developed in the mind

synonym: awareness, understanding, comprehension

(1) social **cognition**, (2) **cognition** disorder

The professor focused on the research of infant **cognition**.

avert

v. to prevent something dangerous or undesirable from happening

synonym: discourage, prevent, deter

(1) **avert** disaster, (2) **avert** a strike

The dam systematically releases large amounts of water to **avert** flooding during the rainy season

emotional

adj. relating to people's feelings

synonym : affecting, impactful, impressive

(1) **emotional** health, (2) **emotional** distress

Human **emotional** responses vary widely depending on the society to which they belong.

clip

n. a small metal or plastic device used for holding an object or objects together or in place; a short part of electronic media, either an audio clip or video clip

synonym : buckle, hook, pin

(1) tie **clip**, (2) short video **clip**

He fastens some sheets of paper with a **clip**.

equip

v. to provide a person or a place with the things that are needed for a particular purpose or activity

synonym : prepare, furnish, provide

(1) **equip** an army, (2) **equip** our children with some special skills

The construction company **equipped** the building with an earthquake-resistant device.

delete

v. to remove something, especially that has been written; to wipe out digitally or magnetically recorded information

synonym : erase, wipe out, remove

(1) **delete** a file, (2) **delete** this modification

Highlight the sentences that you want to **delete**.

survey

n. an investigation of the opinions, behavior, etc. of a particular group of people, made by asking people questions

synonym : study, examination, poll

(1) a comprehensive **survey**, (2) recent **survey**

That **survey** shows that people are accepting the tax increase to some extent.

kingdom

n. the country ruled by a king or queen

synonym : empire, realm, land

(1) establish his **kingdom**, (2) a subordinate **kingdom**
By remaining neutral, this **kingdom** continued to exist.

slightly

adv. in a small degree or extent; a little

synonym: barely, narrowly, scarcely

(1) increase **slightly**, (2) **slightly** alkaline soils
He moved his body **slightly** to the left.

opposition

n. the act of disagreeing or resisting; the state of strong disagreement

synonym: resistance, hostility, antagonism

(1) **opposition** campaign, (2) meet with **opposition**
The **opposition** party strongly disagreed with the government's proposed legislation.

strategy

n. a detailed plan of action designed to achieve a long-term or overall goal.

synonym: approach, procedure, scenario

(1) military **strategy**, (2) develop a **strategy**
Our plan includes a comprehensive marketing **strategy**.

irreversible

adj. impossible to change or return to a previous condition

synonym: irrevocable, unrecoverable, permanent

(1) avoid **irreversible** damage, (2) an **irreversible** change
The development of agricultural technology has had an **irreversible** impact on humanity.

seizure

n. the action of taking something from somebody by the use of legal authority; a sudden occurrence or recurrence of a disease

synonym: confiscation, expropriation, takeover

(1) **seizure** of a debtor's property, (2) a heart **seizure**
Customs have made their biggest ever **seizure** of cocaine.

initial

adj. of or happening at the beginning; (noun) the first letter of a word, especially a person's name

synonym:

basic, primary, beginning

(1) **initial** velocity, (2) an **initial** letter

They took the **initial** step toward reconciliation.

dynamic

adj. having a lot of energy, ideas, and enthusiasm, and a strong personality; of or relating to dynamics (= the branch of physics and engineering concerned with the forces that cause motions of bodies)

synonym : energetic, active, vital

(1) a **dynamic** market, (2) **dynamic** person

The sprinter has a **dynamic** way of running.

coax

v. to persuade, encourage, or gently urge someone to do something; to manipulate or persuade something to work or function properly

synonym : persuade, cajole, lure

(1) **coax** a confession, (2) **coax** a smile

She tried to **coax** her cat out of the tree with a can of tuna.

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.

animation

n. the technique of photographing successive drawings or positions of puppets or models to create an illusion of movement when the film is shown as a sequence; enthusiasm and energy in the way you look or behave

synonym : motion, movement, liveliness

(1) **animation** studio, (2) **animation** film

The **animation** of the characters in the movie was so realistic, and it was as if they were there.

concept

n. an idea or principle associated with something abstract

synonym : idea, notion, vision

(1) learn new **concepts**, (2) **concept** car

One such rapidly growing **concept** is quantum cryptography.

beam

n. a long, sturdy piece of timber, metal, or other material used to support a structure or span a distance; a ray or stream of light emitted by a source

synonym: ray, ray of light, shaft of light

(1) **beam** of light, (2) a structural **beam** of a building

The sun's **beam** shone through the window and illuminated the room.

possibility

n. a chance that something may happen or be true

synonym: chance, prospect, likelihood

(1) **possibility** for growth, (2) **possibility** of a major earthquake

The **possibility** of getting the disease will drastically increase.

prosthetic

adj. of or relating to an artificial part of the body, such as a limb, a heart, or a breast implant

(1) have **prosthetic** arms, (2) **prosthetic** limbs

New **prosthetic** joints are less prone to metal poisoning.

uncommon

adj. not occurring or seen very often; rare

synonym: rare, scarce, unusual

(1) **uncommon** occurrence, (2) **uncommon** talents

It was **uncommon** for the store to have such a big sale.

patient

n. a person who is receiving medical treatment, care, or attention from a healthcare professional, such as a doctor, nurse, or therapist; a personal quality or characteristic

synonym: client, recipient, subject

(1) **patient** in the hospital, (2) **patient** with weight loss

The doctor carefully examined the **patient's** medical history.

bacteria

n. single-celled or noncellular spherical or spiral or rod-shaped organisms that exist in large numbers in the air, water, and soil, and also in living and dead creatures and plants, and are often a cause of disease

synonym: microorganism, microbe

(1) pathogenic **bacteria**, (2) harmless **bacteria**

Bacteria prevalent in hospitals are often resistant to antibiotics.

fungus

n. a type of organism that includes yeasts, molds, and mushrooms, which are heterotrophic, meaning they do not produce their food and must consume organic matter to survive

synonym: mold, mildew, yeast

(1) **fungus** infection, (2) symbiotic **fungus**

Certain types of **fungus** can be toxic to humans, causing severe illness if ingested.

tolerate

v. to allow something to exist or happen, even if it is disliked or opposed

synonym: endure, put up with, bear

(1) **tolerate** his disrespectful behavior, (2) **tolerate** ambiguity

I can't **tolerate** spicy food, and it always gives me heartburn

immune

adj. protected against a particular disease or toxin due to the presence of specific antibodies or sensitized white blood cells

synonym: resistant, unsusceptible, unaffected

(1) **immune** from criminal prosecution, (2) the cell of the **immune** system

The vaccination does not necessarily make you completely **immune**.

examine

v. to study or consider a person or object attentively and thoroughly to learn something about them

synonym: study, probe, analyze

(1) **examine** the data studiously, (2) **examine** the issue
Initially, we must **examine** all project-related expenses.

overt

adj. open, evident, or clear, especially in a way that is not intended to be secret

synonym : open, unhidden, obvious

(1) **overt** hostility, (2) **overt** symptoms

His **overt** lack of enthusiasm was noticeable to everyone in the room.

reaction

n. a response that reveals a person's feelings or attitude; (in chemistry) a process in which one or more substances are changed into others

synonym : response, reply, answer

(1) chemical **reaction**, (2) trigger a **reaction**

There was a chemical **reaction** of the lime with the groundwater.

severity

n. the quality or condition of being severe, strict, or harsh

synonym : harshness, rigidity, austerity

(1) the **severity** of cold, (2) high **severity**

The **severity** of the drought was a major concern for farmers.

illumination

n. light or source of light; the degree of visibility of your environment

synonym : light, luminosity, brightness

(1) starry **illumination**, (2) indirect **illumination**

The skylight will give adequate **illumination** from above.

upfront

adj. frank and honest; (adverb) (of payment) in advance

synonym : honest, authentic, fair

(1) an **upfront** tone, (2) pay **upfront**

He was very **upfront** with him about his intentions.

blind

adj. unable to see; unable or unwilling to perceive or understand the true nature of something

synonym :

sightless, unseeing, random

(1) **blind** to the beauties, (2) **blind** spot

She was nearly **blind** due to severe diabetes.

photoreceptor

n. a specialized cell in the retina of the eye that responds to light and enables vision; there are two types of photoreceptor cells - rods and cones - that are responsible for different aspects of vision

synonym : rod, cone, light-sensitive cell

(1) **photoreceptor** cells, (2) damaged **photoreceptor**

Cone **photoreceptors** are responsible for color vision.

retina

n. the innermost light-sensitive membrane covering the back wall of the eyeball

(1) **retinal** cells, (2) **retina** scanner

Damage to the **retina** may play a role in the development of glaucoma.

structure

n. the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts

synonym : construction, architecture, establishment

(1) the **structure** of a machine, (2) **structure** and function of the brain

The organizational **structure** of start-ups is often flat and straightforward.

detect

v. to find or recognize something, especially something difficult to see, hear, etc.

synonym : catch, observe, notice

(1) **detect** a bad event, (2) **detect** smuggling across borders

The security camera has **detected** four intruders.

transform

v. to change in outward structure or looks;

synonym : alter, convert, change

(1) **transform** an education system, (2) **transform** heat into

power

My father's death **transformed** my life completely.

ganglion

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

synonym: nerve center, nervous system

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

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

relay

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.

perception

n. a belief, opinion, or image you have based on how you regard, understand, or interpret something; the ability to see, hear, or notice something through the senses

synonym: understanding, idea, awareness

(1) keen **perception**, (2) **perception** of a stimulus

He is a man admired for the depth of his **perception**.

retinitis

n. an inflammation of the retina (= the thin, light-sensitive tissue that lines the inside surface of the eye) which can cause decreased vision or possibly lead to blindness

synonym: retinal inflammation, retinopathy

(1) **retinitis** treatment, (2) infectious **retinitis**

Retinitis pigmentosa is a group of genetic disorders that affect the retina's ability to respond to light.

pigment

n. a substance that gives color to a material, such as paint, ink, or biological tissue; often derived from natural sources or synthetically produced

synonym: dye, colorant, tint

(1) skin **pigment**, (2) **pigment** accumulation

The use of synthetic **pigments** in food production has become controversial due to health concerns.

macula

n. a small, oval-shaped area near the center of the retina of the eye, responsible for providing high-resolution vision

synonym: center of the retina, spot, eyespot

(1) **macula** lutea, (2) damage to the **macula**

There are several treatment options available for patients with **macula-related** disorders.

degenerate

v. (of a person, animal, or plant) to become worse in health or physical condition

synonym: deteriorate, decline, decay

(1) **degenerate** into a disagreement, (2) **degenerate** into recession

The once-thriving city has **degenerated** into a crime-ridden slum.

destroy

v. to ruin or damage severely or completely; to eradicate or eliminate completely

synonym: demolish, ruin, obliterate

(1) **destroy** the ecosystem, (2) **destroyed** evidence

The building was **destroyed** in the fire and had to be rebuilt.

bind

v. to tie or fasten someone or something tightly with rope, string, etc. so that they cannot move or are held together strongly

synonym: tie, stick to, adhere

(1) **bind** the man's hands, (2) **bind** old letters into a bundle

The company's rules **bind** the employee's working hours.

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**.

spare

adj. additional to what is necessary for ordinary use; (verb) to give time, money, space, etc. to someone

synonym: extra, excess, (verb) afford

(1) **spare** parts, (2) **spare** cost

I made plans to spend my **spare** time beneficially.

resolution

n. a firm decision or determination to do or not do something; the action of solving a problem, dispute, or conflict; the quality of being resolved or determined; the clarity and sharpness of an image or display

synonym: determination, decision, settlement

(1) **resolution** of a conflict, (2) display **resolution**

He made a New Year's **resolution** to exercise more and eat healthier.

collaborate

v. to work with someone else to produce or achieve something

synonym: cooperate, unite, get together

(1) **collaborate** with the police, (2) **collaborate** on a press release

She agreed to **collaborate** with him in creating new artwork.

commercialize

v. to make something available for sale or use on a large scale

synonym: monetize, capitalize, marketize

(1) **commercialize** my patents, (2) **commercialize** idea

The company is trying to **commercialize** its new product.

start-up

n. a newly established company or business

(1) **start-up** business, (2) early-stage **start-up**

Our company's services are targeted at **start-up** executives.

maze

n. a complex network of winding passages or pathways designed as a puzzle or challenge for people to navigate through

synonym : labyrinth, puzzle, network

(1) puzzle **maze**, (2) labyrinth **maze**

We got lost in the **maze** of streets while exploring the city.

motivate

v. to make someone want to do something, especially something that requires tremendous work and effort

synonym : boost, encourage, inspire

(1) **motivate** the students, (2) all ability to **motivate**

The ability to **motivate** people is a priceless asset.

platform

n. the raised flat space close to the track at a train station where passengers get on or off the train; (technology) a computational or digital environment in which a piece of software is executed

synonym : stage, podium, forum

(1) an arrival **platform**, (2) a digital **platform** for enterprise

The speaker mounted the **platform** and started to speak.

eventually

adv. finally, particularly after a long time or a lot of struggle, complications, and so on

synonym : finally, someday, ultimately

(1) **eventually** become obsolete, (2) **eventually** succeed

The corporation **eventually** dominated the entire tobacco business.

brute

n. a violent, wild, or feral animal; a person who is cruel, uncivilized, or lacking in intelligence or sensitivity; a physical force or power

synonym : beast, savage, animal

(1) **brute** beasts, (2) **brute** force

The **brute** behavior of the football players caused the game to be canceled.

avenue

n. a wide road in a town or city, especially with trees or tall buildings on both sides; a line of approach

synonym : artery, roadway, street

(1) an **avenue** of poplars, (2) an **avenue** to success

They explored every **avenue** they could think of.

mutation

n. the way in which genes of a person, plant, animal, or other organism change and produce permanent differences

synonym : metamorphosis, transformation, alteration

(1) **mutation** of DNA, (2) hereditary **mutation**

Radiation often promotes genetic **mutations** in plants and animals.

recapitulate

v. to summarize or repeat the main points of something

synonym : summarize, repeat, restate

(1) **recapitulate** briefly, (2) **recapitulate** a speech

He **recapitulated** the main points of the meeting for those who had not been able to attend.

outline

v. to describe the main facts or aspects involved in something

synonym : recap, summarize, digest

(1) **outlined** the plan, (2) **outline** the findings

This page **outlines** our response planning for an emergency.

photosensitive

adj. sensitive or responsive to light, particularly in a scientific or medical context; referring to the ability to react to or be affected by light

synonym : photosensitive, light-sensitive, reactive

(1) **photosensitive** paper, (2) **photosensitive** reaction

The **photosensitive** material must be stored in a dark room to prevent damage.

cognitive

adj. of or relating to mental processes of understanding

synonym : perceivable, mind, mental

(1) improve **cognitive** function, (2) research on **cognitive** psychology

His **cognitive** faculties were getting worse because of a lack of sleep.

neurotechnology

n. technology or advancements in the field of neuroscience, often related to the study or manipulation of the brain or nervous system

synonym : brain-machine interfaces, neural implants, neuroprosthetics

(1) **neurotechnology** startup, (2) advanced **neurotechnology**

Research in **neurotechnology** is leading to groundbreaking advancements in brain-computer interfaces.

abstract

adj. based on general ideas, feelings, or qualities and not on any a physical or concrete existence

synonym : conceptual, theoretical, ideational

(1) an **abstract** noun, (2) **abstract** science

The invention of the camera triggered the development of **abstract** painting.

intractable

adj. difficult to manage or control; stubborn or obstinate

synonym : obstinate, stubborn, unyielding

(1) **intractable** pain, (2) **intractable** situation

The **intractable** problem defied a solution.

mention

v. to speak or write about something or someone briefly

synonym : reference, allude, cite

(1) **mention** name, (2) **mention** in a report

I **mentioned** to him that I had seen his sister at the grocery store earlier that day.

implication

n. something that is inferred or indirectly stated; the act or fact of being involved in something

synonym : suggestion, association, conclusion

(1) the **implication** in a crime, (2) the **implication** of a word
His poem has a very significant **implication**.

specifically

adv. only associated with or meant for one thing

synonym : especially, particularly, notably

(1) designed **specifically** for men, (2) for **specifically** American customers

This ad campaign is aimed **specifically** at young women.

impulse

n. a sudden strong and unreflective wish or need to do something; the electrical discharge that travels along a nerve fiber

synonym: stimulation, provocation, urge

(1) a combative **impulse**, (2) profound religious **impulses**

Nerve **impulses** cross a synapse through the action of neurotransmitters.

binary

n. a system of numbers that uses only two digits, 0 and 1

synonym: twofold, double

(1) a **binary** number, (2) trading in **binary** options

A **binary** star is a system in which two stars revolve around each other.

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.

string

n. long, thin material used for tying things together, composed of several twisted threads

synonym: line, wire, rope

(1) retie the **string** and make it strong, (2) tense piano **strings**

She wore a **string** of pearls around her neck.

neural

adj. of or relating to a nerve or the nervous system that includes the brain

synonym: sensory, neuronic, nervous

(1) **neural** stem cells, (2) **neural** networks in AI

There was a disturbance of **neural** function.

doe

n. a mature female of mammals of which the male is called a buck, such as a deer or a rabbit

synonym : rabbit, bunny, hare

(1) **doe** rabbit, (2) buck and **doe**

Hunters use a whistle that makes the **doe** sound to lure stags.

download

v. to transfer data or files from the Internet or computer network to a user's computer or device; (noun) the process of transferring data or information from a remote or central computer to a local computer or device

synonym : load, save, transfer

(1) **download** files from the Internet, (2) **download** the assignment from the website

I need to **download** the latest update for my computer's operating system.

upload

v. to transfer digital data or files from a local computer or device to a remote server or network; the act of transferring such data or files

synonym : transfer, load up

(1) **upload** files, (2) **upload** documents to the portal

I need to **upload** these pictures to my computer to edit them.

Session 2: Spelling

1. mu_____on of DNA
n. the way in which genes of a person, plant, animal, or other organism change and produce permanent differences
2. v__o imaging
adj. alive or existing in a living organism or system; relating to or involving "live" organisms or systems, particularly in scientific research or experimentation
3. baby with se_____ve skin
adj. able to notice slight changes, signals, or influences; able to feel or perceive other's feelings; susceptible to the things people say or do
4. st_____up business
n. a newly established company or business
5. control my em_____n
n. a strong feeling such as love, anger, etc. deriving from one's situation, mood, or relationships with others
6. de___e this modification
v. to remove something, especially that has been written; to wipe out digitally or magnetically recorded information
7. to_____te ambiguity
v. to allow something to exist or happen, even if it is disliked or opposed
8. learn new co_____ts
n. an idea or principle associated with something abstract
9. Al_____er's risk factors
n. a neurodegenerative disease that causes memory loss, cognitive decline, and behavioral issues; is the most common cause of dementia in older adults

ANSWERS: 1. mutation, 2. vivo, 3. sensitive, 4. start-up, 5. emotion, 6. delete, 7. tolerate, 8. concept, 9. Alzheimer

10. ne___n cell body *n.* a cell that is specialized to carry information within the brain and between the brain and other parts of the body
11. platinum el_____des *n.* either of two points or ends of a conductor at which electricity enters or leaves an object, substance, or region
12. a strain of vi__s *n.* a tiny infectious organic material that causes disease in people, animals, and plants
13. the bo_____ry between reality and fantasy *n.* a real or imaginary line that marks the limit or extent of something and separates it from other things or places
14. per_____on of a stimulus *n.* a belief, opinion, or image you have based on how you regard, understand, or interpret something; the ability to see, hear, or notice something through the senses
15. am_____us amoeba *adj.* without a definite or clear shape or form; lacking a specific structure or organization; shapeless or formless
16. implanted co_____a *n.* a spiral-shaped cavity in the inner ear that is responsible for hearing; it contains sensory hair cells that convert vibrations into electrical signals that are sent to the brain for interpretation
17. co_____a spiral *n.* a spiral-shaped cavity in the inner ear that is responsible for hearing; it contains sensory hair cells that convert vibrations into electrical signals that are sent to the brain for interpretation

ANSWERS: 10. neuron, 11. electrode, 12. virus, 13. boundary, 14. perception, 15. amorphous, 16. cochlea, 17. cochlea

18. a bi___y number *n.* a system of numbers that uses only two digits, 0 and 1
19. dow_____am processing *adv.* in the direction that a stream or river flows; (adjective) in the direction of a stream's current
20. afraid to show em_____n *n.* a strong feeling such as love, anger, etc. deriving from one's situation, mood, or relationships with others
21. a heart se_____e *n.* the action of taking something from somebody by the use of legal authority; a sudden occurrence or recurrence of a disease
22. sp__e cost *adj.* additional to what is necessary for ordinary use; (verb) to give time, money, space, etc. to someone
23. pa_____t in the hospital *n.* a person who is receiving medical treatment, care, or attention from a healthcare professional, such as a doctor, nurse, or therapist; a personal quality or characteristic
24. ne___l stem cells *adj.* of or relating to a nerve or the nervous system that includes the brain
25. de___t smuggling across borders *v.* to find or recognize something, especially something difficult to see, hear, etc.
26. ex_____e the data studiously *v.* to study or consider a person or object attentively and thoroughly to learn something about them
27. fl__h eating *n.* the soft substance composing the body of a person or animal, as opposed to bones and other structures

ANSWERS: 18. binary, 19. downstream, 20. emotion, 21. seizure, 22. spare, 23. patient, 24. neural, 25. detect, 26. examine, 27. flesh

28. an irr_____ble change *adj.* impossible to change or return to a previous condition
29. fu_____on properly *n.* the purpose or use of an object, system, or process; a particular activity or operation that is designed to serve a specific purpose; a mathematical concept that describes a relationship between two sets of values, called the input and output sets; (verb) to operate or work in a specific way, or to perform a particular task or purpose
30. re_____is treatment *n.* an inflammation of the retina (= the thin, light-sensitive tissue that lines the inside surface of the eye) which can cause decreased vision or possibly lead to blindness
31. im_____t genes in the animals *v.* to insert or fix an artificial device in a person's body; to put an idea, attitude, etc., firmly in the mind
32. ma___a lutea *n.* a small, oval-shaped area near the center of the retina of the eye, responsible for providing high-resolution vision
33. synthetic fi__r *n.* thread or filament used to make a vegetable tissue, mineral material, or textile
34. im___e from criminal prosecution *adj.* protected against a particular disease or toxin due to the presence of specific antibodies or sensitized white blood cells

ANSWERS: 28. irreversible, 29. function, 30. retinitis, 31. implant, 32. macula, 33. fiber, 34. immune

35. inc_____ly cheerful character *adv.* in a way that is very difficult to believe; exceedingly or extremely
36. improve co_____ve function *adj.* of or relating to mental processes of understanding
37. pre_____al diagnosis *adj.* of or relating to the early phases of a disease when an accurate diagnosis is not possible because symptoms of the disease have not yet appeared; of or relating to the first stage of a medical education
38. as_____te alcohol with gambling *v.* to mentally connect someone or something with someone or something else
39. toxic ch_____als *adj.* relating to or connected with chemistry;
40. in_____l a door *v.* to fix furniture, a machine, or a piece of equipment into position so that it can be used; put into an office or a position
41. un_____on occurrence *adj.* not occurring or seen very often; rare
42. the root problem of her dep_____on *n.* a mental condition in which a person feels very unhappy and without hope for the future; a severe recession in an economy or market
43. col_____te on a press release *v.* to work with someone else to produce or achieve something
44. an_____ng habit *adj.* making someone feel slightly angry
45. 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: 35. incredibly, 36. cognitive, 37. preclinical, 38. associate, 39. chemical, 40. install, 41. uncommon, 42. depression, 43. collaborate, 44. annoying, 45. photosynthesis

46. the Great Dep_____on *n.* a mental condition in which a person feels very unhappy and without hope for the future; a severe recession in an economy or market
47. an av___e to success *n.* a wide road in a town or city, especially with trees or tall buildings on both sides; a line of approach
48. stress pr_____n *n.* a molecule made up of a long chain of amino acids, which is essential for the structure and function of the body's tissues
49. LED-em_____ed glass *adj.* fixed firmly into the surface of something
50. se___e heat *adj.* extremely serious or bad in feeling, manner, or strict and harsh; extremely strong or vigorous
51. establish his ki_____m *n.* the country ruled by a king or queen
52. a co_____te noun *adj.* existing in a physical or material form rather than an abstract one; based on facts rather than ideas or guesses; made of or covered with cement
53. symbiotic fu___s *n.* a type of organism that includes yeasts, molds, and mushrooms, which are heterotrophic, meaning they do not produce their food and must consume organic matter to survive
54. cultural pa_____gm *n.* a standard or typical example of something; a pattern or model
55. antagonism of do_____ne *n.* a chemical substance produced by nerve cells as a neurotransmitter; as a drug, it is used to treat shock and hypotension

ANSWERS: 46. depression, 47. avenue, 48. protein, 49. embedded, 50. severe, 51. kingdom, 52. concrete, 53. fungus, 54. paradigm, 55. dopamine

56. un_____on talents *adj.* not occurring or seen very often; rare
57. advanced neu_____ogy *n.* technology or advancements in the field of neuroscience, often related to the study or manipulation of the brain or nervous system
58. en___e information *v.* to convert information into a code or format suitable for storage or transmission
59. estimate pr_____e costs *adj.* sharply exact or accurate or delimited
60. st_____ng therapy *n.* a behavior often exhibited by individuals on the autism spectrum characterized by repetitive bodily movements or sounds, such as hand flapping or rocking, often used as a form of self-regulation or sensory stimulation
61. carbon fi__r *n.* thread or filament used to make a vegetable tissue, mineral material, or textile
62. skin pi_____t *n.* a substance that gives color to a material, such as paint, ink, or biological tissue; often derived from natural sources or synthetically produced
63. d_e rabbit *n.* a mature female of mammals of which the male is called a buck, such as a deer or a rabbit
64. ind_____nce ceremony *n.* freedom from another's or others' control or influence
65. labyrinth m__e *n.* a complex network of winding passages or pathways designed as a puzzle or challenge for people to navigate through

ANSWERS: 56. uncommon, 57. neurotechnology, 58. encode, 59. precise, 60. stimming, 61. fiber, 62. pigment, 63. doe, 64. independence, 65. maze

66. basic br__n function *n.* the organ inside the head that is responsible for one's movement, thought, memory, and feeling
67. en___e data *v.* to convert information into a code or format suitable for storage or transmission
68. co_____e the value *v.* to make a mathematical calculation
69. brilliant fl__h *n.* a sudden intense burst of radiant energy; a momentary brightness
70. three-fourths of a po__d *n.* the standard unit of money in the UK; the standard unit of weight equal to 16 ounces
71. an in_____l letter *adj.* of or happening at the beginning; (noun) the first letter of a word, especially a person's name
72. death from sh__k *n.* a strong feeling or physical reaction to a sudden and unexpected event or experience, especially something unpleasant
73. social di_____ce *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
74. z__m in on a photo *v.* to move along very quickly; (noun) the act of rising upward into the air
75. photosensitive rh_____in *n.* a light-sensitive protein found in the retina of the eye, responsible for vision in low-light conditions

ANSWERS: 66. brain, 67. encode, 68. compute, 69. flash, 70. pound, 71. initial, 72. shock, 73. distance, 74. zoom, 75. rhodopsin

76. new op_____l 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
77. me_____n in a report *v.* to speak or write about something or someone briefly
78. damage to the ma_____a *n.* a small, oval-shaped area near the center of the retina of the eye, responsible for providing high-resolution vision
79. heavy ma_____ry *n.* a group of large machines or the components of a machine that make it work; social institution functions or structure for doing something
80. d___l down the tension *v.* to adjust or set the controls of a machine or device by turning a controller called dial; (noun) a disc on a telephone that is rotated a fixed distance for each number called
81. weakness with at_____y *n.* a decrease in size of a muscle, organ, etc., caused by disease or disuse
82. me_____e a negotiation *v.* to try to bring about an agreement or understanding between people who are in conflict
83. at_____y of the muscles *n.* a decrease in size of a muscle, organ, etc., caused by disease or disuse
84. co_____t car *n.* an idea or principle associated with something abstract

ANSWERS: 76. optical, 77. mention, 78. macula, 79. machinery, 80. dial, 81. atrophy, 82. mediate, 83. atrophy, 84. concept

85. a civil en____er *n.* a person whose job is designing, building, or maintaining something such as machines, structures, or software
86. an ele_____al storm *adj.* relating to electricity
87. el_____fy the audience *v.* to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something
88. ad__t a bill *v.* to choose to follow something; to legally take a child from another family and care for them as if they were one's own
89. me_____e allergic reaction *v.* to try to bring about an agreement or understanding between people who are in conflict
90. ep_____sy seizure *n.* a neurological disorder characterized by recurrent seizures or convulsions, which can manifest in a variety of ways and be caused by various factors
91. exp_____nt design *n.* the scientific test conducted to observe what happens and gain new knowledge
92. b_t on a race *v.* to risk money on the result of an event or a competition, such as a race or game, to get more money; to have faith or confidence in something
93. n__m of action *n.* something that is regarded as usual, typical, or standard
94. c__x a smile *v.* to persuade, encourage, or gently urge someone to do something; to manipulate or persuade something to work or function properly

ANSWERS: 85. engineer, 86. electrical, 87. electrify, 88. adopt, 89. mediate, 90. epilepsy, 91. experiment, 92. bet, 93. norm, 94. coax

95. ready-made ph___es *n.* a group of words that mean something specific when used together
96. ne___l networks in AI *adj.* of or relating to a nerve or the nervous system that includes the brain
97. harmless ba____ia *n.* single-celled or noncellular spherical or spiral or rod-shaped organisms that exist in large numbers in the air, water, and soil, and also in living and dead creatures and plants, and are often a cause of disease
98. alcohol ad_____on *n.* the inability to stop using or doing something as a habit, especially something harmful
99. score an ad_____ge *n.* a condition or circumstance that puts one in a favorable or superior position; a beneficial feature or asset that someone or something has
100. take ad_____ge of his weak points *n.* a condition or circumstance that puts one in a favorable or superior position; a beneficial feature or asset that someone or something has
101. new di_____on *n.* a measurable extent of a particular kind, such as width, height, or length
102. st_____re and function of the brain *n.* the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts
103. profound religious im_____es *n.* a sudden strong and unreflective wish or need to do something; the electrical discharge that travels along a nerve fiber

ANSWERS: 95. phrase, 96. neural, 97. bacteria, 98. addiction, 99. advantage, 100. advantage, 101. dimension, 102. structure, 103. impulse

104. blue al__e *n.* A simple plant that grows in or near water and lacks typical leaves and roots
105. la__r printer *n.* a device that emits powerful and narrow light that can be used as a tool to cut metal through a process of optical amplification
106. de___e a plan *v.* to come up with an idea, plan, theory, etc., using your intelligence or imagination
107. d__l up the volume *v.* to adjust or set the controls of a machine or device by turning a controller called dial; (noun) a disc on a telephone that is rotated a fixed distance for each number called
108. bl__d spot *adj.* unable to see; unable or unwilling to perceive or understand the true nature of something
109. cl____al surgery *adj.* of or relating to the examination and treatment of patients rather than theoretical or laboratory studies
110. in v__o research *adj.* alive or existing in a living organism or system; relating to or involving "live" organisms or systems, particularly in scientific research or experimentation
111. de____yed evidence *v.* to ruin or damage severely or completely; to eradicate or eliminate completely
112. a scientific di____ry *n.* the act or process of finding information, a place, or an object, or learning about something that was previously not known

ANSWERS: 104. algae, 105. laser, 106. devise, 107. dial, 108. blind, 109. clinical, 110. vivo, 111. destroy, 112. discovery

113. c__x a confession *v.* to persuade, encourage, or gently urge someone to do something; to manipulate or persuade something to work or function properly
114. small mo_____les *n.* a group of two or more atoms held together by attractive forces known as chemical bonds
115. parallel com_____on *n.* the act or process of calculating something, especially an answer or amount, by using a machine or calculator
116. he_____ht switch *n.* a bright forward-facing light on a vehicle, typically used at night to illuminate the road ahead
117. a subordinate ki_____m *n.* the country ruled by a king or queen
118. neurotic sy_____ms *n.* any sensation or change in body or mind that is experienced by a patient and is associated with a particular disease
119. swim up_____am *adj.* in the direction against a stream's current; (adverb) toward the source or beginning of a stream, river, or process
120. as_____te with people widely *v.* to mentally connect someone or something with someone or something else
121. b__m of light *n.* a long, sturdy piece of timber, metal, or other material used to support a structure or span a distance; a ray or stream of light emitted by a source

ANSWERS: 113. coax, 114. molecule, 115. computation, 116. headlight, 117. kingdom, 118. symptom, 119. upstream, 120. associate, 121. beam

122. immune fu____on *n.* the purpose or use of an object, system, or process; a particular activity or operation that is designed to serve a specific purpose; a mathematical concept that describes a relationship between two sets of values, called the input and output sets; (verb) to operate or work in a specific way, or to perform a particular task or purpose
123. participate in cl____al trials *adj.* of or relating to the examination and treatment of patients rather than theoretical or laboratory studies
124. en____er shortage *n.* a person whose job is designing, building, or maintaining something such as machines, structures, or software
125. the re____d for good works *n.* a thing given in acknowledgment of service, hard work, achievement, etc.
126. br__e force *n.* a violent, wild, or feral animal; a person who is cruel, uncivilized, or lacking in intelligence or sensitivity; a physical force or power
127. a theoretical concept in neu____nce *n.* the scientific study of the function, structure, and disorder of the brain and the nervous system
128. ex____e the crowd *v.* to make someone feel suddenly enthusiastic or eager
129. the th____ld between rooms *n.* the floor or ground that forms the bottom of a doorway and offers support when passing through a doorway; the smallest detectable sensation

ANSWERS: 122. function, 123. clinical, 124. engineer, 125. reward, 126. brute, 127. neuroscience, 128. excite, 129. threshold

130. pre_____al bone *adj.* in or about the foremost part of the frontal lobe of the brain
131. field of gene th_____y *n.* the act of caring for someone through medication, remedial training, etc.
132. grow in fl__h *n.* the soft substance composing the body of a person or animal, as opposed to bones and other structures
133. co_____te examples *adj.* existing in a physical or material form rather than an abstract one; based on facts rather than ideas or guesses; made of or covered with cement
134. cost of solar pa__ls *n.* a square or rectangular and flat piece of something that forms a distinct section or component of something; a small group of specialists who discuss particular topics or give their advice or opinion about something
135. ex_____e the issue *v.* to study or consider a person or object attentively and thoroughly to learn something about them
136. ID card *n.* a part of the psyche that represents the unconscious desires and instincts of an individual; in psychoanalytic theory, it is believed to be the most basic and primal part of the human psyche; (also ID, short for identification) a document or card that proves a person's identity, such as a driver's license, passport, or national ID card
137. the cell of the im___e system *adj.* protected against a particular disease or toxin due to the presence of specific antibodies or sensitized white blood cells

ANSWERS: 130. prefrontal, 131. therapy, 132. flesh, 133. concrete, 134. panel, 135. examine, 136. id, 137. immune

138. in_____t tumor growth *v.* to prevent something, such as an action, process, etc., from happening or make it less likely to happen than normal
139. have ge_____c testing *adj.* of or relating to genes (= parts of the DNA in cells) or the science of genes
140. puzzle m__e *n.* a complex network of winding passages or pathways designed as a puzzle or challenge for people to navigate through
141. el_____de corrosion *n.* either of two points or ends of a conductor at which electricity enters or leaves an object, substance, or region
142. ac_____te a receptor *v.* make something start working, more active or dynamic
143. te_____m industry *n.* (a shortened form of telecommunications) the communication of information over long distances through various means such as phones, television, radio, and the internet
144. avoid irr_____ble damage *adj.* impossible to change or return to a previous condition
145. collaborate with co_____ues *n.* one of a group of a coworker, especially in a profession or a business
146. el_____fy a manufacturing process *v.* to make a machine or system work by using electricity; to make someone extremely enthusiastic about or interested in something

ANSWERS: 138. inhibit, 139. genetic, 140. maze, 141. electrode, 142. activate, 143. telecom, 144. irreversible, 145. colleague, 146. electrify

147. the s__n of a bird's wings *n.* the entire length of something, such as time or space from beginning to end; the amount of space that something covers
148. up___d files *v.* to transfer digital data or files from a local computer or device to a remote server or network; the act of transferring such data or files
149. p__e around the desk *v.* to push or prod with a sharp object or the finger
150. ad__t a child *v.* to choose to follow something; to legally take a child from another family and care for them as if they were one's own
151. in_____l velocity *adj.* of or happening at the beginning; (noun) the first letter of a word, especially a person's name
152. an_____on studio *n.* the technique of photographing successive drawings or positions of puppets or models to create an illusion of movement when the film is shown as a sequence; enthusiasm and energy in the way you look or behave
153. chemical re_____on *n.* a response that reveals a person's feelings or attitude; (in chemistry) a process in which one or more substances are changed into others
154. re__t against his way of thinking *v.* to take action in response to something
155. retie the st___g and make it strong *n.* long, thin material used for tying things together, composed of several twisted threads

ANSWERS: 147. span, 148. upload, 149. poke, 150. adopt, 151. initial, 152. animation, 153. reaction, 154. react, 155. string

156. financial ind_____nce *n.* freedom from another's or others' control or influence
157. pathogenic ba_____ia *n.* single-celled or noncellular spherical or spiral or rod-shaped organisms that exist in large numbers in the air, water, and soil, and also in living and dead creatures and plants, and are often a cause of disease
158. a dy_____c market *adj.* having a lot of energy, ideas, and enthusiasm, and a strong personality; of or relating to dynamics (= the branch of physics and engineering concerned with the forces that cause motions of bodies)
159. ga_____on cyst *n.* a group of nerve cells located outside the brain and spinal cord, often forming a swelling or knot; responsible for controlling certain bodily functions or movements
160. pu__e waves *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
161. in_____t desires *v.* to prevent something, such as an action, process, etc., from happening or make it less likely to happen than normal
162. in_____l a chairperson *v.* to fix furniture, a machine, or a piece of equipment into position so that it can be used; put into an office or a position

ANSWERS: 156. independence, 157. bacteria, 158. dynamic, 159. ganglion, 160. pulse, 161. inhibit, 162. install

163. mo_____le behavior *n.* a group of two or more atoms held together by attractive forces known as chemical bonds
164. tr_____rm heat into power *v.* to change in outward structure or looks;
165. con_____te to society *v.* to give something, especially money or goods, to provide or achieve something together with other people
166. int_____le pain *adj.* difficult to manage or control; stubborn or obstinate
167. increase sl_____ly *adv.* in a small degree or extent; a little
168. com_____ty theory *n.* the state or quality of being complicated or intricate and difficult to understand
169. pa_____le energy *n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
170. short video c__p *n.* a small metal or plastic device used for holding an object or objects together or in place; a short part of electronic media, either an audio clip or video clip
171. a comprehensive su___y *n.* an investigation of the opinions, behavior, etc. of a particular group of people, made by asking people questions
172. a fr_____onal share of the vote *n.* a small part or item forming a piece of a whole; the quotient of two rational numbers
173. co_____on disorder *n.* the psychological process of perception and learning and reasoning; the mental action or process by which knowledge and understanding are developed in the mind

ANSWERS: 163. molecule, 164. transform, 165. contribute, 166. intractable, 167. slightly, 168. complexity, 169. particle, 170. clip, 171. survey, 172. fraction, 173. cognition

174. sh__k-resistant *n.* a strong feeling or physical reaction to a sudden and unexpected event or experience, especially something unpleasant
175. hereditary mu____on *n.* the way in which genes of a person, plant, animal, or other organism change and produce permanent differences
176. go dow_____am in a boat *adv.* in the direction that a stream or river flows; (adjective) in the direction of a stream's current
177. sl__e a card across the table *v.* to move or cause to move smoothly along a surface without interruption
178. clinical pa_____gy *n.* the study of the nature and cause of diseases and disorders; the medical specialty that deals with the diagnosis and treatment of diseases and disorders
179. a truncated py____d *n.* a polyhedron having a polygonal base and triangular sides with a common vertex; a massive monument with a square base and four triangular sides, begun by Cheops around 2700 BC as royal tombs in ancient Egypt
180. a fl__h of lightning *n.* a sudden intense burst of radiant energy; a momentary brightness
181. pa_____y to understanding *n.* a track that constitutes or serves as a path; an approach or a way of doing something
182. a selfish de_____on *n.* the act or process of making up someone's mind about something; a choice or judgment reached after considering options

ANSWERS: 174. shock, 175. mutation, 176. downstream, 177. slide, 178. pathology, 179. pyramid, 180. flash, 181. pathway, 182. decision

183. tie c__p *n.* a small metal or plastic device used for holding an object or objects together or in place; a short part of electronic media, either an audio clip or video clip
184. charged pa_____le *n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
185. ov__t hostility *adj.* open, evident, or clear, especially in a way that is not intended to be secret
186. military st_____gy *n.* a detailed plan of action designed to achieve a long-term or overall goal.
187. in st___e condition *adj.* firm and steady; not easily moved, disturbed, or changed
188. em_____ed systems *adj.* fixed firmly into the surface of something
189. sp__e parts *adj.* additional to what is necessary for ordinary use; (verb) to give time, money, space, etc. to someone
190. an arrival pl_____rm *n.* the raised flat space close to the track at a train station where passengers get on or off the train; (technology) a computational or digital environment in which a piece of software is executed
191. am_____us mass *adj.* without a definite or clear shape or form; lacking a specific structure or organization; shapeless or formless
192. eve_____ly succeed *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
193. recent su___y *n.* an investigation of the opinions, behavior, etc. of a particular group of people, made by asking people questions

ANSWERS: 183. clip, 184. particle, 185. overt, 186. strategy, 187. stable, 188. embedded, 189. spare, 190. platform, 191. amorphous, 192. eventually, 193. survey

194. res_____ce to insulin *n.* the act of defending oneself from an aggressor or refusing to accept something
195. the in_____cy of the design *n.* the quality of being complex, detailed, or highly involved; the existence of many interrelated parts or elements
196. an explosive su_____ce *n.* the real physical material of which a thing or person consist; the most important or main part of some idea or experience; an illegal drug
197. early-stage st_____up *n.* a newly established company or business
198. shopping re____ds cards *n.* a thing given in acknowledgment of service, hard work, achievement, etc.
199. au_____t immunity *v.* to increase the size, extent, quantity, etc. of something by adding something to it
200. te_____m service providers *n.* (a shortened form of telecommunications) the communication of information over long distances through various means such as phones, television, radio, and the internet
201. nutrient-de__e foods *adj.* containing a large number of people or something with little space between them
202. a school j__z band *n.* a type of music that originated in the African-American community in the United States and that is characterized by improvisation, syncopated rhythms, and a strong emphasis on self-expression

ANSWERS: 194. resistance, 195. intricacy, 196. substance, 197. start-up, 198. reward, 199. augment, 200. telecom, 201. dense, 202. jazz

203. pay up____t *adj.* frank and honest; (adverb) (of payment) in advance
204. computer-con_____ble *adj.* able to be controlled or directed
205. fu___s infection *n.* a type of organism that includes yeasts, molds, and mushrooms, which are heterotrophic, meaning they do not produce their food and must consume organic matter to survive
206. legal in_____cy *n.* the quality of being complex, detailed, or highly involved; the existence of many interrelated parts or elements
207. buck and d_e *n.* a mature female of mammals of which the male is called a buck, such as a deer or a rabbit
208. up___d documents to the portal *v.* to transfer digital data or files from a local computer or device to a remote server or network; the act of transferring such data or files
209. co_____t fat into energy *v.* to have a talk with someone; (adjective) reversed in order, relation, or action
210. fa_____te a chemical *v.* to make something, especially by assembling parts or constructing it from raw materials; to invent and present something false as true or real to deceive someone
211. sl__e a glance *v.* to move or cause to move smoothly along a surface without interruption
212. ab_____al cells *adj.* not typical, usual, or regular, especially in a way that is bad

ANSWERS: 203. upfront, 204. controllable, 205. fungus, 206. intricacy, 207. doe, 208. upload, 209. convert, 210. fabricate, 211. slide, 212. abnormal

213. a tra_____nt lie *adj.* easy to perceive, detect, or understand; (of a material or article) permitting light to pass through freely
214. commercial pha_____cal products *adj.* relating to the production and selling of the medical drugs
215. deg_____te into recession *v.* (of a person, animal, or plant) to become worse in health or physical condition
216. tr_____rm an education system *v.* to change in outward structure or looks;
217. sch_____nia spectrum disorder *n.* a severe mental disorder in which a person has a distorted view of reality and may experience hallucinations, delusions, and disordered thinking and behavior
218. spinal ga_____on *n.* a group of nerve cells located outside the brain and spinal cord, often forming a swelling or knot; responsible for controlling certain bodily functions or movements
219. offer so____e *n.* comfort or consolation in a time of distress, sadness, or disappointment; (verb) to comfort or console someone in a time of distress, loss, or suffering
220. a digital pl_____rm for enterprise *n.* the raised flat space close to the track at a train station where passengers get on or off the train; (technology) a computational or digital environment in which a piece of software is executed
221. a structural b__m of a building *n.* a long, sturdy piece of timber, metal, or other material used to support a structure or span a distance; a ray or stream of light emitted by a source

ANSWERS: 213. transparent, 214. pharmaceutical, 215. degenerate, 216. transform, 217. schizophrenia, 218. ganglion, 219. solace, 220. platform, 221. beam

222. talented ph_____st *n.* a scientist who specializes in the field of physics
223. re__y a scene *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.
224. noun ph___e *n.* a group of words that mean something specific when used together
225. op_____l for intellectual growth *adj.* the best; most likely to be successful or advantageous
226. col_____te with the police *v.* to work with someone else to produce or achieve something
227. res_____on of a conflict *n.* a firm decision or determination to do or not do something; the action of solving a problem, dispute, or conflict; the quality of being resolved or determined; the clarity and sharpness of an image or display
228. b__d the man's hands *v.* to tie or fasten someone or something tightly with rope, string, etc. so that they cannot move or are held together strongly
229. an_____on film *n.* the technique of photographing successive drawings or positions of puppets or models to create an illusion of movement when the film is shown as a sequence; enthusiasm and energy in the way you look or behave
230. a com_____ed process *adj.* involving a lot of different things or parts in a way that is difficult to understand or analyze

ANSWERS: 222. physicist, 223. relay, 224. phrase, 225. optimal, 226. collaborate, 227. resolution, 228. bind, 229. animation, 230. complicated

231. ep_____sy medication *n.* a neurological disorder characterized by recurrent seizures or convulsions, which can manifest in a variety of ways and be caused by various factors
232. en_____er a crisis *v.* to face something, particularly something unpleasant or difficult, while attempting to do something else; to meet, especially unexpectedly
233. the id ego *n.* a part of the psyche that represents the unconscious desires and instincts of an individual; in psychoanalytic theory, it is believed to be the most basic and primal part of the human psyche; (also ID, short for identification) a document or card that proves a person's identity, such as a driver's license, passport, or national ID card
234. su_____ce abuse problem *n.* the real physical material of which a thing or person consist; the most important or main part of some idea or experience; an illegal drug
235. high pain th_____ld *n.* the floor or ground that forms the bottom of a doorway and offers support when passing through a doorway; the smallest detectable sensation
236. ov_____me opponents *v.* to succeed in controlling or dealing with something, such as a problem or difficulty; to defeat or overwhelm someone
237. tr_____ic event *adj.* relating to or caused by injury, especially emotional injury

ANSWERS: 231. epilepsy, 232. encounter, 233. id, 234. substance, 235. threshold, 236. overcome, 237. traumatic

238. de__e forests *adj.* containing a large number of people or something with little space between them
239. ey_____t disease *n.* a rounded eyelike spot on an animal, as on the wings of some butterfly, or the tail of a peacock
240. up_____am direction *adj.* in the direction against a stream's current; (adverb) toward the source or beginning of a stream, river, or process
241. do_____ad the assignment from the website *v.* to transfer data or files from the Internet or computer network to a user's computer or device; (noun) the process of transferring data or information from a remote or central computer to a local computer or device
242. ci_____t breaker *n.* (in electrical engineering) an electrical device that provides a path for electrical current to flow; a journey or route around a particular place or area
243. sch_____nia treatment *n.* a severe mental disorder in which a person has a distorted view of reality and may experience hallucinations, delusions, and disordered thinking and behavior
244. cell me_____nes *n.* a soft, thin layer that forms animal or vegetable tissue
245. a two-dimensional ar__y *n.* a large group or collection of things or people, especially one that is impressive or attractive
246. p__e a fire *v.* to push or prod with a sharp object or the finger

ANSWERS: 238. dense, 239. eyespot, 240. upstream, 241. download, 242. circuit, 243. schizophrenia, 244. membrane, 245. array, 246. poke

247. re___a scanner *n.* the innermost light-sensitive membrane covering the back wall of the eyeball
248. pr_____n synthesis *n.* a molecule made up of a long chain of amino acids, which is essential for the structure and function of the body's tissues
249. a__y plan *adv.* in a wrong or crooked position; out of order; amiss
250. mistaken id_____ty *n.* the fact of being who or what somebody or something is; the features, emotions, or ideas that distinguish persons from one another
251. designed spe_____lly for men *adv.* only associated with or meant for one thing
252. so___e in music *n.* comfort or consolation in a time of distress, sadness, or disappointment; (verb) to comfort or console someone in a time of distress, loss, or suffering
253. the at_____t to rescue the hostages *n.* an act or effort of trying to do something, especially something difficult
254. inc_____le amount *adj.* unbelievable; enormous
255. electronic de___e *n.* a piece of equipment, tool, or technology that serves a particular purpose or function, often mechanical or electronic
256. the imp_____on in a crime *n.* something that is inferred or indirectly stated; the act or fact of being involved in something

ANSWERS: 247. retina, 248. protein, 249. awry, 250. identity, 251. specifically, 252. solace, 253. attempt, 254. incredible, 255. device, 256. implication

257. a combative im____e *n.* a sudden strong and unreflective wish or need to do something; the electrical discharge that travels along a nerve fiber
258. se_____e of a debtor's property *n.* the action of taking something from somebody by the use of legal authority; a sudden occurrence or recurrence of a disease
259. cognitive com_____ty *n.* the state or quality of being complicated or intricate and difficult to understand
260. z__m lens *v.* to move along very quickly; (noun) the act of rising upward into the air
261. op_____l 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
262. the imp_____on of a word *n.* something that is inferred or indirectly stated; the act or fact of being involved in something
263. at inc_____le speed *adj.* unbelievable; enormous
264. su_____n a wellness lifestyle *v.* to supply enough of what somebody or something needs to survive or exist; to accept as valid
265. un_____h a hound *v.* to suddenly release a strong force, emotion, etc. that cannot be controlled
266. trigger a re_____on *n.* a response that reveals a person's feelings or attitude; (in chemistry) a process in which one or more substances are changed into others

ANSWERS: 257. impulse, 258. seizure, 259. complexity, 260. zoom, 261. optical, 262. implication, 263. incredible, 264. sustain, 265. unleash, 266. reaction

267. di_____s options *v.* to talk about or examine in detail through conversation or debate; to exchange ideas, opinions, or information on a particular topic
268. rec_____ate briefly *v.* to summarize or repeat the main points of something
269. em_____al distress *adj.* relating to people's feelings
270. pi_____t accumulation *n.* a substance that gives color to a material, such as paint, ink, or biological tissue; often derived from natural sources or synthetically produced
271. have a st_____e job *adj.* firm and steady; not easily moved, disturbed, or changed
272. an internal re_____y *n.* a successful way of dealing with or improving an unpleasant or difficult situation or curing an illness
273. pho_____tor cells *n.* a specialized cell in the retina of the eye that responds to light and enables vision; there are two types of photoreceptor cells - rods and cones - that are responsible for different aspects of vision
274. network thr_____ut *n.* the amount of material or information that can be processed by a system or organization over a given period of time
275. b_t my future *v.* to risk money on the result of an event or a competition, such as a race or game, to get more money; to have faith or confidence in something

ANSWERS: 267. discuss, 268. recapitulate, 269. emotional, 270. pigment, 271. stable, 272. remedy, 273. photoreceptor, 274. throughput, 275. bet

276. opt_____ics technique *n.* a branch of biotechnology that involves the use of light to control the activity of genetically modified cells or neurons in living tissue, often used in neuroscience research
277. a ma__c spell *n.* beliefs and actions employed to influence supernatural beings and forces; any art or performance that invokes supernatural powers
278. a ge_____c disorder *adj.* of or relating to genes (= parts of the DNA in cells) or the science of genes
279. opt_____ics manipulation *n.* a branch of biotechnology that involves the use of light to control the activity of genetically modified cells or neurons in living tissue, often used in neuroscience research
280. pulse la__r *n.* a device that emits powerful and narrow light that can be used as a tool to cut metal through a process of optical amplification
281. meet with opp_____on *n.* the act of disagreeing or resisting; the state of strong disagreement
282. b__d old letters into a bundle *v.* to tie or fasten someone or something tightly with rope, string, etc. so that they cannot move or are held together strongly
283. starry ill_____ion *n.* light or source of light; the degree of visibility of your environment
284. con_____te a large sum of money to the fund *v.* to give something, especially money or goods, to provide or achieve something together with other people

ANSWERS: 276. optogenetics, 277. magic, 278. genetic, 279. optogenetics, 280. laser, 281. opposition, 282. bind, 283. illumination, 284. contribute

285. di_____e prevention *n.* a disorder or illness that affects the body or mind, often characterized by specific symptoms or abnormal functioning of organs or systems
286. theoretical ph_____st *n.* a scientist who specializes in the field of physics
287. the files are in complete di_____er *n.* an untidy state or a lack of organization; a physical condition or illness that causes problems with how a section of the body or brain functions
288. a dry ba_____y *n.* a device that is placed inside a car, gadget, equipment, etc. and that provides electrical power to them
289. former co_____ue *n.* one of a group of a coworker, especially in a profession or a business
290. tr_____ic brain injury *adj.* relating to or caused by injury, especially emotional injury
291. major pha_____cal companies *adj.* relating to the production and selling of the medical drugs
292. al_____te anxiety *v.* to make something, usually pain, distress, or problem, less severe or intense; to ease or lighten a burden
293. pos_____ty of a major earthquake *n.* a chance that something may happen or be true
294. benign pa_____gy *n.* the study of the nature and cause of diseases and disorders; the medical specialty that deals with the diagnosis and treatment of diseases and disorders

ANSWERS: 285. disease, 286. physicist, 287. disorder, 288. battery, 289. colleague, 290. traumatic, 291. pharmaceutical, 292. alleviate, 293. possibility, 294. pathology

295. tw__k the economy *v.* to pinch or squeeze something sharply; to adjust something finely
296. disease ve___r *n.* a quantity that has both magnitude and direction, often used in mathematics, physics, and engineering to describe forces, velocities, or other physical phenomena; any agent (person or animal, or microorganism) that carries and transmits a disease
297. tra_____nt crystal *adj.* easy to perceive, detect, or understand; (of a material or article) permitting light to pass through freely
298. ov__t symptoms *adj.* open, evident, or clear, especially in a way that is not intended to be secret
299. visual co___x neuron *n.* the outermost layer of an organ, especially the brain
300. id_____ty as an individual *n.* the fact of being who or what somebody or something is; the features, emotions, or ideas that distinguish persons from one another
301. telescopic vi___n *n.* the ability to think about or see the future with imagination and intelligence; the faculty of being able to see
302. de___t a bad event *v.* to find or recognize something, especially something difficult to see, hear, etc.
303. eq__p our children with some special skills *v.* to provide a person or a place with the things that are needed for a particular purpose or activity

ANSWERS: 295. tweak, 296. vector, 297. transparent, 298. overt, 299. cortex, 300. identity, 301. vision, 302. detect, 303. equip

304. de____p a skill *v.* to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created
305. ou____ed the plan *v.* to describe the main facts or aspects involved in something
306. decision-making pr____s *n.* a series of actions or operations performed to achieve a particular outcome or goal; a systematic procedure or approach used to accomplish a specific task or objective; a method of treating milk to make it suitable for consumption or use in other dairy products
307. thousands of po__ds *n.* the standard unit of money in the UK; the standard unit of weight equal to 16 ounces
308. pr____e analyses *adj.* sharply exact or accurate or delimited
309. a__y hair *adv.* in a wrong or crooked position; out of order; amiss
310. cultural n__m *n.* something that is regarded as usual, typical, or standard
311. nuclear me____ne *n.* a soft, thin layer that forms animal or vegetable tissue
312. de____on authority *n.* the act or process of making up someone's mind about something; a choice or judgment reached after considering options

ANSWERS: 304. develop, 305. outline, 306. process, 307. pound, 308. precise, 309. awry, 310. norm, 311. membrane, 312. decision

313. a purple ey____t *n.* a rounded eyelike spot on an animal, as on the wings of some butterfly, or the tail of a peacock
314. inc_____ate the enemy *v.* to disable or render someone or something unable to function or operate normally, either temporarily or permanently, often as a result of injury, illness, or damage
315. series of exp_____nts *n.* the scientific test conducted to observe what happens and gain new knowledge
316. ove_____ve imagination *adj.* excessively active; showing an excess of activity or energy
317. j__z club *n.* a type of music that originated in the African-American community in the United States and that is characterized by improvisation, syncopated rhythms, and a strong emphasis on self-expression
318. pho_____ive paper *adj.* sensitive or responsive to light, particularly in a scientific or medical context; referring to the ability to react to or be affected by light
319. ab_____al heart rhythms *adj.* not typical, usual, or regular, especially in a way that is bad
320. tense piano st____gs *n.* long, thin material used for tying things together, composed of several twisted threads
321. an up_____t tone *adj.* frank and honest; (adverb) (of payment) in advance

ANSWERS: 313. eyespot, 314. incapacitate, 315. experiment, 316. overactive, 317. jazz, 318. photosensitive, 319. abnormal, 320. string, 321. upfront

322. av__t a strike *v.* to prevent something dangerous or undesirable from happening
323. en_____er a storm *v.* to face something, particularly something unpleasant or difficult, while attempting to do something else; to meet, especially unexpectedly
324. indirect ill_____ion *n.* light or source of light; the degree of visibility of your environment
325. ove_____ve thyroid *adj.* excessively active; showing an excess of activity or energy
326. py_____d architecture *n.* a polyhedron having a polygonal base and triangular sides with a common vertex; a massive monument with a square base and four triangular sides, begun by Cheops around 2700 BC as royal tombs in ancient Egypt
327. co___x cells *n.* the outermost layer of an organ, especially the brain
328. pho_____ive reaction *adj.* sensitive or responsive to light, particularly in a scientific or medical context; referring to the ability to react to or be affected by light
329. the crosswise di_____on *n.* a measurable extent of a particular kind, such as width, height, or length
330. di_____s solutions *v.* to talk about or examine in detail through conversation or debate; to exchange ideas, opinions, or information on a particular topic
331. com_____ize my patents *v.* to make something available for sale or use on a large scale

ANSWERS: 322. avert, 323. encounter, 324. illumination, 325. overactive, 326. pyramid, 327. cortex, 328. photosensitive, 329. dimension, 330. discuss, 331. commercialize

332. become increasingly com_____ed *adj.* involving a lot of different things or parts in a way that is difficult to understand or analyze
333. people with bipolar di_____er *n.* an untidy state or a lack of organization; a physical condition or illness that causes problems with how a section of the body or brain functions
334. im_____t into the uterus *v.* to insert or fix an artificial device in a person's body; to put an idea, attitude, etc., firmly in the mind
335. de_____e a file *v.* to remove something, especially that has been written; to wipe out digitally or magnetically recorded information
336. rec_____ate a speech *v.* to summarize or repeat the main points of something
337. do_____ad files from the Internet *v.* to transfer data or files from the Internet or computer network to a user's computer or device; (*n.*) the process of transferring data or information from a remote or central computer to a local computer or device
338. ov_____me all difficulties *v.* to succeed in controlling or dealing with something, such as a problem or difficulty; to defeat or overwhelm someone
339. ba_____y charging *n.* a device that is placed inside a car, gadget, equipment, etc. and that provides electrical power to them
340. social co_____on *n.* the psychological process of perception and learning and reasoning; the mental action or process by which knowledge and understanding are developed in the mind

ANSWERS: 332. complicated, 333. disorder, 334. implant, 335. delete, 336. recapitulate, 337. download, 338. overcome, 339. battery, 340. cognition

341. pre_____al safety evaluation *adj.* of or relating to the early phases of a disease when an accurate diagnosis is not possible because symptoms of the disease have not yet appeared; of or relating to the first stage of a medical education
342. an ar__y of troops *n.* a large group or collection of things or people, especially one that is impressive or attractive
343. workplace thr_____ut *n.* the amount of material or information that can be processed by a system or organization over a given period of time
344. th_____y for a patient *n.* the act of caring for someone through medication, remedial training, etc.
345. sy_____ms of low testosterone *n.* any sensation or change in body or mind that is experienced by a patient and is associated with a particular disease
346. degree in ele_____al engineering *adj.* relating to electricity
347. a prodigious vi____n *n.* the ability to think about or see the future with imagination and intelligence; the faculty of being able to see
348. pre_____al region *adj.* in or about the foremost part of the frontal lobe of the brain
349. com_____ize idea *v.* to make something available for sale or use on a large scale
350. a weak pu__e *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

ANSWERS: 341. preclinical, 342. array, 343. throughput, 344. therapy, 345. symptom, 346. electrical, 347. vision, 348. prefrontal, 349. commercialize, 350. pulse

351. res_____ce movement *n.* the act of defending oneself from an aggressor or refusing to accept something
352. the branch of neu_____nce *n.* the scientific study of the function, structure, and disorder of the brain and the nervous system
353. co_____e an average score *v.* to make a mathematical calculation
354. an el_____te hat *adj.* containing a lot of carefully prepared and organized or many complicated and detailed parts
355. the se_____ty of cold *n.* the quality or condition of being severe, strict, or harsh
356. inactive ma_____ry *n.* a group of large machines or the components of a machine that make it work; social institution functions or structure for doing something
357. mi_____re camera *adj.* being on a very small scale
358. di_____e control *n.* a disorder or illness that affects the body or mind, often characterized by specific symptoms or abnormal functioning of organs or systems
359. al__e biofuel *n.* A simple plant that grows in or near water and lacks typical leaves and roots
360. re___al cells *n.* the innermost light-sensitive membrane covering the back wall of the eyeball
361. al_____te stress *v.* to make something, usually pain, distress, or problem, less severe or intense; to ease or lighten a burden

ANSWERS: 351. resistance, 352. neuroscience, 353. compute, 354. elaborate, 355. severity, 356. machinery, 357. miniature, 358. disease, 359. algae, 360. retina, 361. alleviate

362. an ab_____ct noun *adj.* based on general ideas, feelings, or qualities and not on any a physical or concrete existence
363. col_____ion platform *n.* the act or situation of working together to create or produce something
364. ou_____e the findings *v.* to describe the main facts or aspects involved in something
365. de_____y the ecosystem *v.* to ruin or damage severely or completely; to eradicate or eliminate completely
366. do_____ne-inhibiting agent *n.* a chemical substance produced by nerve cells as a neurotransmitter; as a drug, it is used to treat shock and hypotension
367. co_____nt the issue *v.* to face, meet or deal with a problem or difficult situation or person
368. eve_____ly become obsolete *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
369. a se___e case of pneumonia *adj.* extremely serious or bad in feeling, manner, or strict and harsh; extremely strong or vigorous
370. an_____ng banner ad *adj.* making someone feel slightly angry
371. neu_____ogy startup *n.* technology or advancements in the field of neuroscience, often related to the study or manipulation of the brain or nervous system
372. spread of the vi__s *n.* a tiny infectious organic material that causes disease in people, animals, and plants

ANSWERS: 362. abstract, 363. collaboration, 364. outline, 365. destroy, 366. dopamine, 367. confront, 368. eventually, 369. severe, 370. annoying, 371. neurotechnology, 372. virus

373. 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.
374. el_____te Ponzi scheme *adj.* containing a lot of carefully prepared and organized or many complicated and detailed parts
375. Al_____er's brain *n.* a neurodegenerative disease that causes memory loss, cognitive decline, and behavioral issues; is the most common cause of dementia in older adults
376. bl__d to the beauties *adj.* unable to see; unable or unwilling to perceive or understand the true nature of something
377. eq__p an army *v.* to provide a person or a place with the things that are needed for a particular purpose or activity
378. col_____ion between companies *n.* the act or situation of working together to create or produce something
379. the average life s__n *n.* the entire length of something, such as time or space from beginning to end; the amount of space that something covers
380. opp_____on campaign *n.* the act of disagreeing or resisting; the state of strong disagreement
381. su_____n a good relationship with him *v.* to supply enough of what somebody or something needs to survive or exist; to accept as valid

ANSWERS: 373. photosynthesis, 374. elaborate, 375. Alzheimer, 376. blind, 377. equip, 378. collaboration, 379. span, 380. opposition, 381. sustain

382. co_____t base 10 to base 16 *v.* to have a talk with someone; (adjective) reversed in order, relation, or action
383. damaged pho_____tor *n.* a specialized cell in the retina of the eye that responds to light and enables vision; there are two types of photoreceptor cells - rods and cones - that are responsible for different aspects of vision
384. she is ma__c *n.* beliefs and actions employed to influence supernatural beings and forces; any art or performance that invokes supernatural powers
385. major pa_____gm shift *n.* a standard or typical example of something; a pattern or model
386. de_____p a strategy *v.* to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created
387. a reckless at_____t *n.* an act or effort of trying to do something, especially something difficult
388. federal ci_____t courts *n.* (in electrical engineering) an electrical device that provides a path for electrical current to flow; a journey or route around a particular place or area
389. na_____te through a document *v.* to plan and direct the way that a ship, plane, etc. will travel, often by using a map

ANSWERS: 382. convert, 383. photoreceptor, 384. magic, 385. paradigm, 386. develop, 387. attempt, 388. circuit, 389. navigate

390. ad_____e circumstances *adj.* unfavorable or harmful
391. fa_____te an excuse *v.* to make something, especially by assembling parts or constructing it from raw materials; to invent and present something false as true or real to deceive someone
392. pra_____ly impossible to find a parking spot *adv.* almost or nearly
393. get inc_____ly insecure *adv.* in a way that is very difficult to believe; exceedingly or extremely
394. br__e beasts *n.* a violent, wild, or feral animal; a person who is cruel, uncivilized, or lacking in intelligence or sensitivity; a physical force or power
395. the st_____re of a machine *n.* the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts
396. con_____ble aircraft *adj.* able to be controlled or directed
397. se_____ve documents *adj.* able to notice slight changes, signals, or influences; able to feel or perceive other's feelings; susceptible to the things people say or do
398. cellular signaling pa_____ys *n.* a track that constitutes or serves as a path; an approach or a way of doing something
399. driving di_____ce *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

ANSWERS: 390. adverse, 391. fabricate, 392. practically, 393. incredibly, 394. brute, 395. structure, 396. controllable, 397. sensitive, 398. pathway, 399. distance

400. em_____al health *adj.* relating to people's feelings
401. dy_____c person *adj.* having a lot of energy, ideas, and enthusiasm, and a strong personality; of or relating to dynamics (= the branch of physics and engineering concerned with the forces that cause motions of bodies)
402. high se_____ty *n.* the quality or condition of being severe, strict, or harsh
403. for spe_____lly American customers *adv.* only associated with or meant for one thing
404. deg_____te into a disagreement *v.* (of a person, animal, or plant) to become worse in health or physical condition
405. trading in bi_____y options *n.* a system of numbers that uses only two digits, 0 and 1
406. display res_____on *n.* a firm decision or determination to do or not do something; the action of solving a problem, dispute, or conflict; the quality of being resolved or determined; the clarity and sharpness of an image or display
407. int_____le situation *adj.* difficult to manage or control; stubborn or obstinate
408. pra_____ly constant *adv.* almost or nearly
409. permanent br__n damage *n.* the organ inside the head that is responsible for one's movement, thought, memory, and feeling
410. keen per_____on *n.* a belief, opinion, or image you have based on how you regard, understand, or interpret something; the ability to see, hear, or notice something through the senses

ANSWERS: 400. emotional, 401. dynamic, 402. severity, 403. specifically, 404. degenerate, 405. binary, 406. resolution, 407. intractable, 408. practically, 409. brain, 410. perception

411. ab_____ct science *adj.* based on general ideas, feelings, or qualities and not on any a physical or concrete existence
412. na_____te the Pacific *v.* to plan and direct the way that a ship, plane, etc. will travel, often by using a map
413. re__t at a high temperature *v.* to take action in response to something
414. au_____t the reality *v.* to increase the size, extent, quantity, etc. of something by adding something to it
415. an av____e of poplars *n.* a wide road in a town or city, especially with trees or tall buildings on both sides; a line of approach
416. pro_____ic limbs *adj.* of or relating to an artificial part of the body, such as a limb, a heart, or a breast implant
417. all ability to mo_____te *v.* to make someone want to do something, especially something that requires tremendous work and effort
418. visual rh_____in *n.* a light-sensitive protein found in the retina of the eye, responsible for vision in low-light conditions
419. me_____n name *v.* to speak or write about something or someone briefly
420. sl_____ly alkaline soils *adv.* in a small degree or extent; a little
421. pos_____ty for growth *n.* a chance that something may happen or be true
422. co_____nt a global warming *v.* to face, meet or deal with a problem or difficult situation or person

ANSWERS: 411. abstract, 412. navigate, 413. react, 414. augment, 415. avenue, 416. prosthetic, 417. motivate, 418. rhodopsin, 419. mention, 420. slightly, 421. possibility, 422. confront

423. pa__l discussion *n.* a square or rectangular and flat piece of something that forms a distinct section or component of something; a small group of specialists who discuss particular topics or give their advice or opinion about something
424. av__t disaster *v.* to prevent something dangerous or undesirable from happening
425. theory of com_____on *n.* the act or process of calculating something, especially an answer or amount, by using a machine or calculator
426. geographical bo_____ry *n.* a real or imaginary line that marks the limit or extent of something and separates it from other things or places
427. a ch_____al compound *adj.* relating to or connected with chemistry;
428. pa_____t with weight loss *n.* a person who is receiving medical treatment, care, or attention from a healthcare professional, such as a doctor, nurse, or therapist; a personal quality or characteristic
429. un_____h her anger *v.* to suddenly release a strong force, emotion, etc. that cannot be controlled
430. to_____te his disrespectful behavior *v.* to allow something to exist or happen, even if it is disliked or opposed
431. the great di_____ry of the century *n.* the act or process of finding information, a place, or an object, or learning about something that was previously not known

ANSWERS: 423. panel, 424. avert, 425. computation, 426. boundary, 427. chemical, 428. patient, 429. unleash, 430. tolerate, 431. discovery

432. mo_____te the students *v.* to make someone want to do something, especially something that requires tremendous work and effort
433. an_____y for knowledge *n.* a feeling of worry, nervousness, or unease about something that is happening or might happen in the future
434. infectious re_____is *n.* an inflammation of the retina (= the thin, light-sensitive tissue that lines the inside surface of the eye) which can cause decreased vision or possibly lead to blindness
435. research on co_____ve psychology *adj.* of or relating to mental processes of understanding
436. diagnosis of an_____y disorder *n.* a feeling of worry, nervousness, or unease about something that is happening or might happen in the future
437. inc_____ate opponent *v.* to disable or render someone or something unable to function or operate normally, either temporarily or permanently, often as a result of injury, illness, or damage
438. tw__k his cheek *v.* to pinch or squeeze something sharply; to adjust something finely
439. ad_____e reaction *adj.* unfavorable or harmful
440. develop a st_____gy *n.* a detailed plan of action designed to achieve a long-term or overall goal.
441. re____y for air pollution *n.* a successful way of dealing with or improving an unpleasant or difficult situation or curing an illness

ANSWERS: 432. motivate, 433. anxiety, 434. retinitis, 435. cognitive, 436. anxiety, 437. incapacitate, 438. tweak, 439. adverse, 440. strategy, 441. remedy

442. excite the ne___ns *n.* a cell that is specialized to carry information within the brain and between the brain and other parts of the body
443. ad_____on to foreign oil *n.* the inability to stop using or doing something as a habit, especially something harmful
444. re__y a request *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.
445. have pro_____ic arms *adj.* of or relating to an artificial part of the body, such as a limb, a heart, or a breast implant
446. he_____ht adjustment *n.* a bright forward-facing light on a vehicle, typically used at night to illuminate the road ahead
447. autistic st_____ng *n.* a behavior often exhibited by individuals on the autism spectrum characterized by repetitive bodily movements or sounds, such as hand flapping or rocking, often used as a form of self-regulation or sensory stimulation
448. ac_____te a motor *v.* make something start working, more active or dynamic
449. a numerator in a fr_____on *n.* a small part or item forming a piece of a whole; the quotient of two rational numbers
450. pr_____s improvement *n.* a series of actions or operations performed to achieve a particular outcome or goal; a systematic procedure or approach used to accomplish a specific task or objective; a method of treating milk to make it suitable for consumption or use in other dairy products

ANSWERS: 442. neuron, 443. addiction, 444. relay, 445. prosthetic, 446. headlight, 447. stimulating, 448. activate, 449. fraction, 450. process

451. ex___e rebellion *v.* to make someone feel suddenly enthusiastic or eager
452. mi_____re version *adj.* being on a very small scale
453. a ve___r operation *n.* a quantity that has both magnitude and direction, often used in mathematics, physics, and engineering to describe forces, velocities, or other physical phenomena; any agent (person or animal, or microorganism) that carries and transmits a disease
454. achieve op_____l health *adj.* the best; most likely to be successful or advantageous
455. de___e a literary plot *v.* to come up with an idea, plan, theory, etc., using your intelligence or imagination
456. tracking de___e *n.* a piece of equipment, tool, or technology that serves a particular purpose or function, often mechanical or electronic

ANSWERS: 451. excite, 452. miniature, 453. vector, 454. optimal, 455. devise, 456. device

Session 3: Fill in the Blanks

1. The car's front bumper cost fifteen hundred _____.
n. the standard unit of money in the UK; the standard unit of weight equal to 16 ounces
2. An _____ climate in the region caused a sharp decline in grain harvest.
adj. not typical, usual, or regular, especially in a way that is bad
3. The invention of the camera triggered the development of _____ painting.
adj. based on general ideas, feelings, or qualities and not on any a physical or concrete existence
4. The vaccination does not necessarily make you completely _____.
adj. protected against a particular disease or toxin due to the presence of specific antibodies or sensitized white blood cells
5. The _____ will repair my telephone tomorrow morning.
n. a person whose job is designing, building, or maintaining something such as machines, structures, or software
6. The president asked for a more _____ plan.
adj. existing in a physical or material form rather than an abstract one; based on facts rather than ideas or guesses; made of or covered with cement
7. He slightly modified the _____ of training because it was just before a match.
n. the entire length of something, such as time or space from beginning to end; the amount of space that something covers

ANSWERS: 1. pounds, 2. abnormal, 3. abstract, 4. immune, 5. engineer, 6. concrete, 7. span

8. The project's _____ made it difficult for the team to complete it on time.
- n.* the state or quality of being complicated or intricate and difficult to understand
9. The recent advances in _____ research have paved the way for a deeper understanding of neuronal functions.
- n.* a branch of biotechnology that involves the use of light to control the activity of genetically modified cells or neurons in living tissue, often used in neuroscience research
10. The doctor diagnosed him with a rare _____ that had no known cure.
- n.* a disorder or illness that affects the body or mind, often characterized by specific symptoms or abnormal functioning of organs or systems
11. We must _____ a new system to streamline our workflow and increase efficiency.
- v.* to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created
12. He got an electric _____ at work.
- n.* a strong feeling or physical reaction to a sudden and unexpected event or experience, especially something unpleasant
13. The organizational _____ of start-ups is often flat and straightforward.
- n.* the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts
14. The teacher had to _____ a disagreement between two students over a stolen pencil.
- v.* to try to bring about an agreement or understanding between people who are in conflict

ANSWERS: 8. complexity, 9. optogenetics, 10. disease, 11. develop, 12. shock, 13. structure, 14. mediate

15. The software can _____ and decode encrypted messages.

v. to convert information into a code or format suitable for storage or transmission

16. The focus of these initiatives is to make the financial system more _____.

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

17. I forgot my ___ at home and needed it to enter the club.

n. a part of the psyche that represents the unconscious desires and instincts of an individual; in psychoanalytic theory, it is believed to be the most basic and primal part of the human psyche; (also ID, short for identification) a document or card that proves a person's identity, such as a driver's license, passport, or national ID card

18. The construction company _____ the building with an earthquake-resistant device.

v. to provide a person or a place with the things that are needed for a particular purpose or activity

19. Radiation often promotes genetic _____ in plants and animals.

n. the way in which genes of a person, plant, animal, or other organism change and produce permanent differences

20. Customs have made their biggest ever _____ of cocaine.

n. the action of taking something from somebody by the use of legal authority; a sudden occurrence or recurrence of a disease

21. The sun's _____ shone through the window and illuminated the room.

n. a long, sturdy piece of timber, metal, or other material used to support a structure or span a distance; a ray or stream of light emitted by a source

ANSWERS: 15. encode, 16. transparent, 17. ID, 18. equipped, 19. mutations, 20. seizure, 21. beam

22. The content is _____ and informative for me.

adj. sharply exact or accurate or delimited

23. He _____ back in time to the soccer game.

v. to move along very quickly; (noun) the act of rising upward into the air

24. He was very _____ with him about his intentions.

adj. frank and honest; (adverb) (of payment) in advance

25. It was _____ for the store to have such a big sale.

adj. not occurring or seen very often; rare

26. Cone _____ are responsible for color vision.

n. a specialized cell in the retina of the eye that responds to light and enables vision; there are two types of photoreceptor cells - rods and cones - that are responsible for different aspects of vision

27. Government workers cannot _____ to political campaigns.

v. to give something, especially money or goods, to provide or achieve something together with other people

28. The doctor suspected that the patient was in the _____ stage of Alzheimer's disease.

adj. of or relating to the early phases of a disease when an accurate diagnosis is not possible because symptoms of the disease have not yet appeared; of or relating to the first stage of a medical education

29. My father's death _____ my life completely.

v. to change in outward structure or looks;

ANSWERS: 22. precise, 23. zoomed, 24. upfront, 25. uncommon, 26. photoreceptors, 27. contribute, 28. preclinical, 29. transformed

30. The company is investing heavily in _____ research and development.

adj. in the direction against a stream's current; (adverb) toward the source or beginning of a stream, river, or process

31. The company's rules _____ the employee's working hours.

v. to tie or fasten someone or something tightly with rope, string, etc. so that they cannot move or are held together strongly

32. He postulated a completely different _____ to explain all these phenomena.

n. a standard or typical example of something; a pattern or model

33. Our company's services are targeted at _____ executives.

n. a newly established company or business

34. She tried to _____ her cat out of the tree with a can of tuna.

v. to persuade, encourage, or gently urge someone to do something; to manipulate or persuade something to work or function properly

35. He made a New Year's _____ to exercise more and eat healthier.

n. a firm decision or determination to do or not do something; the action of solving a problem, dispute, or conflict; the quality of being resolved or determined; the clarity and sharpness of an image or display

36. She struggled to _____ the children's reading habits.

v. to supply enough of what somebody or something needs to survive or exist; to accept as valid

37. Her research team made an important _____.

n. the act or process of finding information, a place, or an object, or learning about something that was previously not known

ANSWERS: 30. upstream, 31. bind, 32. paradigm, 33. start-up, 34. coax, 35. resolution, 36. sustain, 37. discovery

38. There is nothing more valuable than _____ and freedom.
n. freedom from another's or others' control or influence
39. He _____ the phone number and waited for an answer.
v. to adjust or set the controls of a machine or device by turning a controller called dial; (noun) a disc on a telephone that is rotated a fixed distance for each number called
40. The company holds patents on core components of _____ jet printers.
n. a device that emits powerful and narrow light that can be used as a tool to cut metal through a process of optical amplification
41. She's on the _____ of adulthood.
n. the floor or ground that forms the bottom of a doorway and offers support when passing through a doorway; the smallest detectable sensation
42. The _____ chip in my credit card allows me to make contactless payments.
adj. fixed firmly into the surface of something
43. The _____ of getting the disease will drastically increase.
n. a chance that something may happen or be true
44. The shape of the DNA _____ is a double helix.
n. a group of two or more atoms held together by attractive forces known as chemical bonds
45. The ability to _____ people is a priceless asset.
v. to make someone want to do something, especially something that requires tremendous work and effort

ANSWERS: 38. independence, 39. dialed, 40. laser, 41. threshold, 42. embedded, 43. possibility, 44. molecule, 45. motivate

46. The phone call is an _____ interruption.

adj. making someone feel slightly angry

47. How did he _____ to your idea?

v. to take action in response to something

48. One such rapidly growing _____ is quantum cryptography.

n. an idea or principle associated with something abstract

49. I want to _____ my sadness into strength.

v. to have a talk with someone; (adjective) reversed in order, relation, or action

50. These heavy rains caused _____ floods on several islands.

n. a sudden intense burst of radiant energy; a momentary brightness

51. He performed _____ tricks with sophisticated moves.

n. beliefs and actions employed to influence supernatural beings and forces; any art or performance that invokes supernatural powers

52. Excessive parental interference may _____ children's eagerness to learn.

v. to prevent something, such as an action, process, etc., from happening or make it less likely to happen than normal

53. The partnership program requires a mutual _____ between both agencies.

n. the act or situation of working together to create or produce something

54. She gave money to help set up a _____ laboratory.

adj. relating to the production and selling of the medical drugs

ANSWERS: 46. annoying, 47. react, 48. concept, 49. convert, 50. flash, 51. magic, 52. inhibit, 53. collaboration, 54. pharmaceutical

55. My car's _____ must be replaced before I drive again at night.
n. a bright forward-facing light on a vehicle, typically used at night to illuminate the road ahead
56. Damage to the _____ can cause hearing loss or deafness.
n. a spiral-shaped cavity in the inner ear that is responsible for hearing; it contains sensory hair cells that convert vibrations into electrical signals that are sent to the brain for interpretation
57. I'm prepared to _____ challenges throughout this adventure.
v. to face something, particularly something unpleasant or difficult, while attempting to do something else; to meet, especially unexpectedly
58. She was struggling to make a _____ between two job offers.
n. the act or process of making up someone's mind about something; a choice or judgment reached after considering options
59. The skylight will give adequate _____ from above.
n. light or source of light; the degree of visibility of your environment
60. He did complicated pen-and-ink drawings like medieval _____.
adj. being on a very small scale
61. She waited for her daughter with _____.
n. a feeling of worry, nervousness, or unease about something that is happening or might happen in the future
62. Wild animals need to go forward with the _____ action to survive.
adj. the best; most likely to be successful or advantageous

ANSWERS: 55. headlight, 56. cochlea, 57. encounter, 58. decision, 59. illumination, 60. miniatures, 61. anxiety, 62. optimal

63. The body needs a certain amount of _____ to build and repair tissues.
- n.* a molecule made up of a long chain of amino acids, which is essential for the structure and function of the body's tissues
64. _____ has jammed the inlet to the water turbine.
- n.* A simple plant that grows in or near water and lacks typical leaves and roots
65. The brain is an incredibly complex organ that controls the body's _____.
- n.* the purpose or use of an object, system, or process; a particular activity or operation that is designed to serve a specific purpose; a mathematical concept that describes a relationship between two sets of values, called the input and output sets; (verb) to operate or work in a specific way, or to perform a particular task or purpose
66. Taking ibuprofen can _____ the pain from a headache.
- v.* to make something, usually pain, distress, or problem, less severe or intense; to ease or lighten a burden
67. The _____ problem defied a solution.
- adj.* difficult to manage or control; stubborn or obstinate
68. The new software is much more _____ and user-friendly.
- adj.* able to be controlled or directed
69. We need to _____ the next steps for the project during our meeting tomorrow.
- v.* to talk about or examine in detail through conversation or debate; to exchange ideas, opinions, or information on a particular topic
70. The flashing lights at the concert triggered her _____ and caused a seizure.
- n.* a neurological disorder characterized by recurrent seizures or convulsions, which can manifest in a variety of ways and be caused by various factors

ANSWERS: 63. protein, 64. Algae, 65. function, 66. alleviate, 67. intractable, 68. controllable, 69. discuss, 70. epilepsy

71. Certain types of _____ can be toxic to humans, causing severe illness if ingested.
- n.* a type of organism that includes yeasts, molds, and mushrooms, which are heterotrophic, meaning they do not produce their food and must consume organic matter to survive
72. We can calculate the position of the _____ statistically.
- n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
73. He is now fighting his _____ to drugs.
- n.* the inability to stop using or doing something as a habit, especially something harmful
74. The clouded jellyfish has an _____ shape, making it difficult to identify.
- adj.* without a definite or clear shape or form; lacking a specific structure or organization; shapeless or formless
75. Research shows that damage to the _____ cortex leads to increased aggression.
- adj.* in or about the foremost part of the frontal lobe of the brain
76. There are several treatment options available for patients with _____ disorders.
- n.* a small, oval-shaped area near the center of the retina of the eye, responsible for providing high-resolution vision
77. The _____ report showed no signs of cancer, giving her family a sense of relief.
- n.* the study of the nature and cause of diseases and disorders; the medical specialty that deals with the diagnosis and treatment of diseases and disorders

ANSWERS: 71. fungus, 72. particles, 73. addiction, 74. amorphous, 75. prefrontal, 76. macula-related, 77. pathology

78. The _____ material must be stored in a dark room to prevent damage.

adj. sensitive or responsive to light, particularly in a scientific or medical context; referring to the ability to react to or be affected by light

79. The terrorist's _____ remains unknown.

n. the fact of being who or what somebody or something is; the features, emotions, or ideas that distinguish persons from one another

80. Initially, we must _____ all project-related expenses.

v. to study or consider a person or object attentively and thoroughly to learn something about them

81. By remaining neutral, this _____ continued to exist.

n. the country ruled by a king or queen

82. The medication caused an _____ immune system, resulting in adverse side effects.

adj. excessively active; showing an excess of activity or energy

83. The _____ party strongly disagreed with the government's proposed legislation.

n. the act of disagreeing or resisting; the state of strong disagreement

84. The _____ of the drought was a major concern for farmers.

n. the quality or condition of being severe, strict, or harsh

85. He moved his body _____ to the left.

adv. in a small degree or extent; a little

ANSWERS: 78. photosensitive, 79. identity, 80. examine, 81. kingdom, 82. overactive, 83. opposition, 84. severity, 85. slightly

86. Understanding protein folding is a vital step in deciphering the _____ code.
adj. of or relating to genes (= parts of the DNA in cells) or the science of genes
87. The _____ company is planning to launch a new smartphone next month.
n. (a shortened form of telecommunications) the communication of information over long distances through various means such as phones, television, radio, and the internet
88. He did _____ pen-and-ink drawings in just a few days.
adj. involving a lot of different things or parts in a way that is difficult to understand or analyze
89. This page _____ our response planning for an emergency.
v. to describe the main facts or aspects involved in something
90. Actuators convert _____ pulses into motion.
adj. relating to electricity
91. The _____ illusion made it appear like the building was floating in midair.
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
92. I decided to seek counseling on the advice of my _____.
n. one of a group of a coworker, especially in a profession or a business
93. The security camera has _____ four intruders.
v. to find or recognize something, especially something difficult to see, hear, etc.

ANSWERS: 86. genetic, 87. telecom, 88. complicated, 89. outlines, 90. electrical, 91. optical, 92. colleague, 93. detected

94. We must consume dietary _____ to maintain good health.
n. thread or filament used to make a vegetable tissue, mineral material, or textile
95. The drug controls the level of _____ in the brain.
n. a chemical substance produced by nerve cells as a neurotransmitter; as a drug, it is used to treat shock and hypotension
96. Driving is difficult for me because of my poor _____.
n. the ability to think about or see the future with imagination and intelligence; the faculty of being able to see
97. I tried to _____ the efficiency of the investment.
v. to make a mathematical calculation
98. The patient displays a _____ of a side effect.
n. any sensation or change in body or mind that is experienced by a patient and is associated with a particular disease
99. That _____ shows that people are accepting the tax increase to some extent.
n. an investigation of the opinions, behavior, etc. of a particular group of people, made by asking people questions
100. The researcher demonstrated the superiority of quantum _____ in several mathematical tasks.
n. the act or process of calculating something, especially an answer or amount, by using a machine or calculator
101. This ad campaign is aimed _____ at young women.
adv. only associated with or meant for one thing

ANSWERS: 94. fiber, 95. dopamine, 96. vision, 97. compute, 98. symptom, 99. survey, 100. computation, 101. specifically

102. Nerve _____ cross a synapse through the action of neurotransmitters.

- n.* a sudden strong and unreflective wish or need to do something; the electrical discharge that travels along a nerve fiber

103. The _____ for applying for a visa can be lengthy and complicated.

- n.* a series of actions or operations performed to achieve a particular outcome or goal; a systematic procedure or approach used to accomplish a specific task or objective; a method of treating milk to make it suitable for consumption or use in other dairy products

104. When the first molecule in the _____ receives a signal, it activates other molecules.

- n.* a track that constitutes or serves as a path; an approach or a way of doing something

105. I can't _____ spicy food, and it always gives me heartburn

- v.* to allow something to exist or happen, even if it is disliked or opposed

106. A _____ of economic advisers from the United States visited the country to help rebuild its economy.

- n.* a square or rectangular and flat piece of something that forms a distinct section or component of something; a small group of specialists who discuss particular topics or give their advice or opinion about something

107. The use of synthetic _____ in food production has become controversial due to health concerns.

- n.* a substance that gives color to a material, such as paint, ink, or biological tissue; often derived from natural sources or synthetically produced

108. The plans for the surprise party went _____ when the cake was ruined.

- adv.* in a wrong or crooked position; out of order; amiss

ANSWERS: 102. impulses, 103. process, 104. pathway, 105. tolerate, 106. panel, 107. pigments, 108. awry

109. She agreed to _____ with him in creating new artwork.

- v.* to work with someone else to produce or achieve something

110. I always carry a backup _____ in case my phone runs out of battery.

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

111. The grieving widow found _____ in reading her late husband's letters.

- n.* comfort or consolation in a time of distress, sadness, or disappointment; (verb) to comfort or console someone in a time of distress, loss, or suffering

112. The doctor will _____ a pacemaker to regulate his heart rate.

- v.* to insert or fix an artificial device in a person's body; to put an idea, attitude, etc., firmly in the mind

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

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

114. The mosquito is a common _____ for many diseases, including malaria and Zika.

- n.* a quantity that has both magnitude and direction, often used in mathematics, physics, and engineering to describe forces, velocities, or other physical phenomena; any agent (person or animal, or microorganism) that carries and transmits a disease

115. We got lost in the _____ of streets while exploring the city.

- n.* a complex network of winding passages or pathways designed as a puzzle or challenge for people to navigate through

ANSWERS: 109. collaborate, 110. device, 111. solace, 112. implant, 113. neuroscience, 114. vector, 115. maze

116. Our body transfers information along each _____ using an electrical impulse.
n. a cell that is specialized to carry information within the brain and between the brain and other parts of the body
117. Loud noises might harm the fragile ear _____.
n. a soft, thin layer that forms animal or vegetable tissue
118. 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
119. He didn't _____ the plan, even though he had time.
v. to pinch or squeeze something sharply; to adjust something finely
120. You must _____ the software with a 16-digit key before you can use it.
v. make something start working, more active or dynamic
121. This drug will be a good _____ for your stomach trouble.
n. a successful way of dealing with or improving an unpleasant or difficult situation or curing an illness
122. A _____ star is a system in which two stars revolve around each other.
n. a system of numbers that uses only two digits, 0 and 1
123. Her response revealed _____ idiocy.
adj. unbelievable; enormous
124. The _____ behavior of the football players caused the game to be canceled.
n. a violent, wild, or feral animal; a person who is cruel, uncivilized, or lacking in intelligence or sensitivity; a physical force or power

ANSWERS: 116. neuron, 117. membrane, 118. pulse, 119. tweak, 120. activate, 121. remedy, 122. binary, 123. incredible, 124. brute

125. The dam systematically releases large amounts of water to _____ flooding during the rainy season

v. to prevent something dangerous or undesirable from happening

126. The sprinter has a _____ way of running.

adj. having a lot of energy, ideas, and enthusiasm, and a strong personality; of or relating to dynamics (= the branch of physics and engineering concerned with the forces that cause motions of bodies)

127. The doctor carefully examined the _____ medical history.

n. a person who is receiving medical treatment, care, or attention from a healthcare professional, such as a doctor, nurse, or therapist; a personal quality or characteristic

128. The patient's _____ was causing severe pain in their wrist.

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

129. The third _____ was far more successful.

n. an act or effort of trying to do something, especially something difficult

130. The cerebral _____ consists of six layers.

n. the outermost layer of an organ, especially the brain

131. The systems we have developed has accepted as industry _____.

n. something that is regarded as usual, typical, or standard

132. His _____ faculties were getting worse because of a lack of sleep.

adj. of or relating to mental processes of understanding

ANSWERS: 125. avert, 126. dynamic, 127. patient's, 128. ganglion, 129. attempt, 130. cortex, 131. norms, 132. cognitive

133. Damage to the _____ may play a role in the development of glaucoma.
n. the innermost light-sensitive membrane covering the back wall of the eyeball
134. Relations between the two countries have been relatively _____ due to the summit meeting.
adj. firm and steady; not easily moved, disturbed, or changed
135. The Egyptian _____ consist of a vast number of blocks.
n. a polyhedron having a polygonal base and triangular sides with a common vertex; a massive monument with a square base and four triangular sides, begun by Cheops around 2700 BC as royal tombs in ancient Egypt
136. _____ prevalent in hospitals are often resistant to antibiotics.
n. single-celled or noncellular spherical or spiral or rod-shaped organisms that exist in large numbers in the air, water, and soil, and also in living and dead creatures and plants, and are often a cause of disease
137. The building was _____ in the fire and had to be rebuilt.
v. to ruin or damage severely or completely; to eradicate or eliminate completely
138. Einstein was an outstanding and famous _____ of the 20th century.
n. a scientist who specializes in the field of physics
139. The firm has grown into a large _____ manufacturing.
adj. relating to or connected with chemistry;
140. Daily exercise and adequate sleep are necessary to prevent the progression of _____.
n. a decrease in size of a muscle, organ, etc., caused by disease or disuse

ANSWERS: 133. retina, 134. stable, 135. pyramids, 136. Bacteria, 137. destroyed, 138. physicist, 139. chemical, 140. atrophy

141. The bill to increase the consumption tax had passed despite much _____ from the public.
- n.* the act of defending oneself from an aggressor or refusing to accept something
142. The teacher is very _____ to children's feelings.
- adj.* able to notice slight changes, signals, or influences; able to feel or perceive other's feelings; susceptible to the things people say or do
143. The news of her promotion _____ her.
- v.* to make someone feel suddenly enthusiastic or eager
144. Our knowledge helps _____ our clients successfully.
- v.* to plan and direct the way that a ship, plane, etc. will travel, often by using a map
145. The doctor prescribed some medicine for the mental _____.
- n.* an untidy state or a lack of organization; a physical condition or illness that causes problems with how a section of the body or brain functions
146. I made plans to spend my _____ time beneficially.
- adj.* additional to what is necessary for ordinary use; (verb) to give time, money, space, etc. to someone
147. If necessary, you can _____ the front seats forward.
- v.* to move or cause to move smoothly along a surface without interruption
148. I need to _____ these pictures to my computer to edit them.
- v.* to transfer digital data or files from a local computer or device to a remote server or network; the act of transferring such data or files

ANSWERS: 141. resistance, 142. sensitive, 143. excited, 144. navigate, 145. disorder, 146. spare, 147. slide, 148. upload

149. We bought a Spanish _____ book.

n. a group of words that mean something specific when used together

150. The company is trying to _____ its new product.

v. to make something available for sale or use on a large scale

151. My grandmother has _____ disease requires special care and attention from her caregivers.

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

152. The speaker mounted the _____ and started to speak.

n. the raised flat space close to the track at a train station where passengers get on or off the train; (technology) a computational or digital environment in which a piece of software is executed

153. He is a man admired for the depth of his _____.

n. a belief, opinion, or image you have based on how you regard, understand, or interpret something; the ability to see, hear, or notice something through the senses

154. The corporation _____ dominated the entire tobacco business.

adv. finally, particularly after a long time or a lot of struggle, complications, and so on

155. 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.

ANSWERS: 149. phrase, 150. commercialize, 151. Alzheimer's, 152. platform, 153. perception, 154. eventually, 155. photosynthesis,

156. The detective discovered that the witness had _____ her story about the crime.

- v.* to make something, especially by assembling parts or constructing it from raw materials; to invent and present something false as true or real to deceive someone

157. The senator received _____ criticism from his opponent.

- adj.* extremely serious or bad in feeling, manner, or strict and harsh; extremely strong or vigorous

158. He wandered the _____ between life and death by gunfire.

- n.* a real or imaginary line that marks the limit or extent of something and separates it from other things or places

159. The clockwork mechanism of the antique watch showed incredible _____.

- n.* the quality of being complex, detailed, or highly involved; the existence of many interrelated parts or elements

160. Human _____ responses vary widely depending on the society to which they belong.

- adj.* relating to people's feelings

161. He listened to _____ music to relax after a long day at work.

- n.* a type of music that originated in the African-American community in the United States and that is characterized by improvisation, syncopated rhythms, and a strong emphasis on self-expression

162. The _____ of audit formally issued a business improvement order.

- n.* a group of large machines or the components of a machine that make it work; social institution functions or structure for doing something

ANSWERS: 156. fabricated, 157. severe, 158. boundary, 159. intricacy, 160. emotional, 161. jazz, 162. machinery

163. The entire mountain is covered in _____ rainforest.

adj. containing a large number of people or something with little space between them

164. The professor focused on the research of infant _____.

n. the psychological process of perception and learning and reasoning; the mental action or process by which knowledge and understanding are developed in the mind

165. I need to _____ the latest update for my computer's operating system.

v. to transfer data or files from the Internet or computer network to a user's computer or device; (noun) the process of transferring data or information from a remote or central computer to a local computer or device

166. Some _____ are common across cultures and backgrounds.

n. a strong feeling such as love, anger, etc. deriving from one's situation, mood, or relationships with others

167. The _____ weather conditions forced us to cancel the outdoor event.

adj. unfavorable or harmful

168. There was a disturbance of _____ function.

adj. of or relating to a nerve or the nervous system that includes the brain

169. They explored every _____ they could think of.

n. a wide road in a town or city, especially with trees or tall buildings on both sides; a line of approach

170. The engine did not start because the _____ was flat.

n. a device that is placed inside a car, gadget, equipment, etc. and that provides electrical power to them

ANSWERS: 163. dense, 164. cognition, 165. download, 166. emotions, 167. adverse, 168. neural, 169. avenue, 170. battery

171. The new president was _____ immediately after the national election.

- v.* to fix furniture, a machine, or a piece of equipment into position so that it can be used; put into an office or a position

172. There was a chemical _____ of the lime with the groundwater.

- n.* a response that reveals a person's feelings or attitude; (in chemistry) a process in which one or more substances are changed into others

173. The national assembly has _____ the budget.

- v.* to choose to follow something; to legally take a child from another family and care for them as if they were one's own

174. He proposed an _____ program of public works.

- adj.* containing a lot of carefully prepared and organized or many complicated and detailed parts

175. An infected person in the hospital will likely pass the _____ to others.

- n.* a tiny infectious organic material that causes disease in people, animals, and plants

176. I ____ that you know it.

- v.* to risk money on the result of an event or a competition, such as a race or game, to get more money; to have faith or confidence in something

177. The _____ of the argument was well-presented.

- n.* the real physical material of which a thing or person consist; the most important or main part of some idea or experience; an illegal drug

178. She wore a _____ of pearls around her neck.

- n.* long, thin material used for tying things together, composed of several twisted threads

ANSWERS: 171. installed, 172. reaction, 173. adopted, 174. elaborate, 175. virus, 176. bet, 177. substance, 178. string

179. The _____ of the fruit is sweet and juicy.

- n.* the soft substance composing the body of a person or animal, as opposed to bones and other structures

180. They _____ fun at each other's jokes, laughing and teasing.

- v.* to push or prod with a sharp object or the finger

181. Research in _____ is leading to groundbreaking advancements in brain-computer interfaces.

- n.* technology or advancements in the field of neuroscience, often related to the study or manipulation of the brain or nervous system

182. Economic factors and monetary policy _____ inflation.

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

183. The product developed through years of research continues to _____ the market.

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

184. The _____ of the characters in the movie was so realistic, and it was as if they were there.

- n.* the technique of photographing successive drawings or positions of puppets or models to create an illusion of movement when the film is shown as a sequence; enthusiasm and energy in the way you look or behave

185. The majority of consumers _____ this brand with quality.

- v.* to mentally connect someone or something with someone or something else

ANSWERS: 179. flesh, 180. poked, 181. neurotechnology, 182. augmented, 183. electrify, 184. animation, 185. associate

186. _____ symptoms might include a decrease in appetite and weight loss.
n. a mental condition in which a person feels very unhappy and without hope for the future; a severe recession in an economy or market
187. The data center's _____ is impressive, allowing for quick processing of large amounts of data.
n. the amount of material or information that can be processed by a system or organization over a given period of time
188. The _____ patient was experiencing severe auditory hallucinations.
n. a severe mental disorder in which a person has a distorted view of reality and may experience hallucinations, delusions, and disordered thinking and behavior
189. Light entering the eye causes a chemical change in the _____ which begins the vision process.
n. a light-sensitive protein found in the retina of the eye, responsible for vision in low-light conditions
190. Overall _____ are approximately 400x200mm.
n. a measurable extent of a particular kind, such as width, height, or length
191. Several cities are experiencing _____ high unemployment rates.
adv. in a way that is very difficult to believe; exceedingly or extremely
192. He spent only a _____ of his earnings.
n. a small part or item forming a piece of a whole; the quotient of two rational numbers
193. X-rays revealed a small tumor in his _____.
n. the organ inside the head that is responsible for one's movement, thought, memory, and feeling

ANSWERS: 186. Depression, 187. throughput, 188. schizophrenia, 189. rhodopsin, 190. dimensions, 191. incredibly, 192. fraction, 193. brain

194. Highlight the sentences that you want to _____.

- v.* to remove something, especially that has been written; to wipe out digitally or magnetically recorded information

195. He fastens some sheets of paper with a _____.

- n.* a small metal or plastic device used for holding an object or objects together or in place; a short part of electronic media, either an audio clip or video clip

196. He finally decided to _____ problems directly.

- v.* to face, meet or deal with a problem or difficult situation or person

197. I underwent aversion _____ for my addiction to alcohol.

- n.* the act of caring for someone through medication, remedial training, etc.

198. His poem has a very significant _____.

- n.* something that is inferred or indirectly stated; the act or fact of being involved in something

199. His _____ showed highly positive results.

- n.* the scientific test conducted to observe what happens and gain new knowledge

200. The experience was so _____ that it left a lasting impact on the survivor's mental health.

- adj.* relating to or caused by injury, especially emotional injury

201. New _____ joints are less prone to metal poisoning.

- adj.* of or relating to an artificial part of the body, such as a limb, a heart, or a breast implant

ANSWERS: 194. delete, 195. clip, 196. confront, 197. therapy, 198. implication, 199. experiments, 200. traumatic, 201. prosthetic

202. The once-thriving city has _____ into a crime-ridden slum.
- v.* (of a person, animal, or plant) to become worse in health or physical condition
203. Hunters use a whistle that makes the ____ sound to lure stags.
- n.* a mature female of mammals of which the male is called a buck, such as a deer or a rabbit
204. The general was still reluctant to _____ his troops in pursuit of an enemy.
- v.* to suddenly release a strong force, emotion, etc. that cannot be controlled
205. It is important to place the _____ in the correct position for accurate electro-cardiogram recording.
- n.* either of two points or ends of a conductor at which electricity enters or leaves an object, substance, or region
206. Our plan includes a comprehensive marketing _____.
- n.* a detailed plan of action designed to achieve a long-term or overall goal.
207. _____ pigmentosa is a group of genetic disorders that affect the retina's ability to respond to light.
- n.* an inflammation of the retina (= the thin, light-sensitive tissue that lines the inside surface of the eye) which can cause decreased vision or possibly lead to blindness
208. Night fishing has a lot of _____.
- n.* a thing given in acknowledgment of service, hard work, achievement, etc.
209. She received special _____ training at the hospital.
- adj.* of or relating to the examination and treatment of patients rather than theoretical or laboratory studies

ANSWERS: 202. degenerated, 203. doe, 204. unleash, 205. electrodes, 206. strategy, 207. Retinitis, 208. rewards, 209. clinical

210. The marathon runner covered a long _____ in a short amount of time.
- 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
211. Autistic children may engage in _____ behaviors, such as rocking or hand flapping, to self-regulate.
- n.* a behavior often exhibited by individuals on the autism spectrum characterized by repetitive bodily movements or sounds, such as hand flapping or rocking, often used as a form of self-regulation or sensory stimulation
212. He tried to _____ a bad reputation and win the election.
- v.* to succeed in controlling or dealing with something, such as a problem or difficulty; to defeat or overwhelm someone
213. She was nearly _____ due to severe diabetes.
- adj.* unable to see; unable or unwilling to perceive or understand the true nature of something
214. I _____ to him that I had seen his sister at the grocery store earlier that day.
- v.* to speak or write about something or someone briefly
215. The boat drifted _____ and was carried away by the current.
- adv.* in the direction that a stream or river flows; (adjective) in the direction of a stream's current
216. He _____ the main points of the meeting for those who had not been able to attend.
- v.* to summarize or repeat the main points of something

ANSWERS: 210. distance, 211. stimming, 212. overcome, 213. blind, 214. mentioned, 215. downstream, 216. recapitulated

217. An intelligent battery has a voltage monitoring _____.

- n.* (in electrical engineering) an electrical device that provides a path for electrical current to flow; a journey or route around a particular place or area

218. They had to _____ a system that did not depend on fossil fuels.

- v.* to come up with an idea, plan, theory, etc., using your intelligence or imagination

219. 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.

220. The customer on the Internet has to choose one from a formidable _____ of products.

- n.* a large group or collection of things or people, especially one that is impressive or attractive

221. The development of agricultural technology has had an _____ impact on humanity.

- adj.* impossible to change or return to a previous condition

222. The primary role of the _____ is to deflect attention from predators.

- n.* a rounded eyelike spot on an animal, as on the wings of some butterfly, or the tail of a peacock

223. His _____ lack of enthusiasm was noticeable to everyone in the room.

- adj.* open, evident, or clear, especially in a way that is not intended to be secret

224. The store is _____ empty.

- adv.* almost or nearly

ANSWERS: 217. circuit, 218. devise, 219. relay, 220. array, 221. irreversible, 222. eyespots, 223. overt, 224. practically

225. One of the main _____ of the new product is its increased efficiency.

n. a condition or circumstance that puts one in a favorable or superior position; a beneficial feature or asset that someone or something has

226. The injury sustained during the game could _____ the player for the rest of the season.

v. to disable or render someone or something unable to function or operate normally, either temporarily or permanently, often as a result of injury, illness, or damage

227. The _____ colors of the flowers made the garden come alive.

adj. alive or existing in a living organism or system; relating to or involving "live" organisms or systems, particularly in scientific research or experimentation

228. They took the _____ step toward reconciliation.

adj. of or happening at the beginning; (noun) the first letter of a word, especially a person's name

ANSWERS: 225. advantages, 226. incapacitate, 227. vivo, 228. initial