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Vocabulary Builder Reference from...

Craig Venter: On the verge of creating synthetic life | TED Talk

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

All Words

IMPORTANT

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Session 1: Word List

genome

n. the complete set or sequence of genes of a human, animal, plant, or other living things

(1) sequencing of the human **genome**, (2) **genome** analyses

The human **genome** contains approximately three billion chemical base pairs.

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**.

gene

n. the fundamental unit of heredity and the sequence of nucleotides in DNA that codes for the creation of RNA or protein.

synonym: factor, cistron

(1) **gene** expression, (2) **gene** cloning

A defective **gene** is responsible for the disease.

digit

n. one of the elements that collectively form a system of numeration; a finger, thumb, or toe

synonym: number, integer, numeral

(1) **digit** identifier, (2) the **digit** in the hundreds place

We must enter a six- **digit** number to unlock the safe.

biology

n. the scientific study of life and the natural processes of living things

(1) evolutionary **biology**, (2) cell and molecular **biology**

In junior high school, we had to dissect a frog in **biology** class.

digital

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

synonym: numerical, computerized, cyber

(1) a **digital** watch, (2) **digital** electronic signature

Sensors convert physical phenomena into **digital** signals.

phase

n. any stage in a series of events, change, or development

synonym: degree, stage, step

(1) enter on the last **phase**, (2) two- **phase** structure

The era of the industrial revolution was a crucial **phase** of history.

synthesize

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

synonym: incorporate, amalgamate

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

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

quest

n. a long or challenging search for something

synonym: exploration, inquisition, pursuit

(1) the **quest** for truth, (2) on a **quest** for happiness

That adventurer traveled in **quest** of buried treasure.

pare

v. to trim or cut away the outer edges or excess of something, often about physical objects or figurative concepts; to reduce or simplify something to its most essential or crucial elements

synonym: trim, shave, reduce

(1) **pare** an apple, (2) **pare** back wasteful spending

I must **pare** down my wardrobe and donate some of my clothes to charity.

minimal

adj. tiny in amount; the least possible

synonym: tiniest, essential, minimum

(1) **minimal** effort, (2) **minimal** amount

The process was carried out at **minimal** cost.

component

n. one of several parts that combines with others to form something bigger

synonym: element, part, factor

(1) key **component**, (2) spare **components** for cars

The researchers try to discover a common **component** in all types of successful organizations.

sequence

n. a series of related events, actions, numbers, etc., which have a particular order

synonym: arrangement, succession, series

(1) the **sequence** of the seasons, (2) the DNA **sequence**

We do move forward with those tasks in **sequence** next week.

analog

adj. relating to or using signals or information represented by a continuous physical quantity such as spatial position, voltage, etc.

(1) an **analog** watch, (2) digitization of **analog** sounds

Mercury thermometers are a type of **analog** sensor.

regenerate

v. to improve or renew an area, institution, system, etc., especially by making it more active or successful

synonym: renew, revive, improve

(1) **regenerate** bone tissue, (2) a **regenerate** sinner
The new CEO's primary mission is to **regenerate** the company on the verge of bankruptcy.

universe

n. everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy

synonym : cosmos, macrocosm

(1) theory of the **universe**, (2) expansion of the **universe**
The **universe** is about 13.8 billion years old.

organism

n. a tiny living thing

synonym : being, creature

(1) aerobic **organism**, (2) group of **organisms**

A diversified plant species generally enhances beneficial **organism** populations.

genital

adj. of or relating to the external and internal reproductive organs

synonym : reproductive, genetic, sexual

(1) **genital** bleeding, (2) pain in the **genital** area

The **genital** organs of the human body are necessary for reproduction.

replicate

v. to make an exact copy of something; to repeat a process or experiment to confirm the results

synonym : duplicate, imitate, reproduce

(1) **replicate** the cell, (2) **replicate** data

The experiment was **replicated** several times to ensure accuracy.

laboratory

n. a workplace for doing scientific research or teaching science; a lab

synonym : lab, workshop, testing room

(1) **laboratory** accident, (2) anthropology **laboratory**

Animal protection groups call for an end to animal testing in a

laboratory.

metabolism

n. the set of chemical reactions in cells or organisms that are necessary for life-sustaining

(1) **metabolism** enzyme, (2) hemoglobin **metabolism**

Better sleep leads to increased **metabolism**.

relative

adj. considered and evaluated through comparison with something else

synonym: comparative, proximate, congeneric

(1) a remote **relative**, (2) **relative** factors

Most countries prohibit sexual activity between certain close **relatives**.

unlikely

adj. not probable or likely to happen

synonym: doubtful, questionable, far-fetched

(1) **unlikely** event, (2) it is **unlikely** that he would win the game

The passage of the bill is **unlikely**.

yield

n. the total output of crops, profits, etc. that are produced;
(verb) to produce or supply helpful something, such as a profit, an amount of food, or information

synonym: proceeds, harvest, output

(1) corn **yield**, (2) the **yield** on the bond

The company's stock gives a high **yield**.

decide

v. to make up someone's mind about something; to come to a conclusion or judgment after considering options

synonym: choose, determine, settle

(1) **decide** a question, (2) **decide** on a course of action

She couldn't **decide** whether to order the pizza or the pasta for dinner.

chromosome

n. a long and string-like DNA molecule containing the part or all of the genetic material of an organism that controls what an animal or plant is like

synonym : DNA

(1) a sex **chromosome**, (2) the end of **chromosome**
Human females normally have two X **chromosomes**.

vary

v. to become different in terms of size, shape, etc.

synonym : alter, contrast, differ

(1) **vary** according to the age, (2) **vary** directly with the price
Maximum heart rates **vary** a lot for each individual.

fundamental

adj. forming an essential base or core from which everything else develops or is affected

synonym : basic, essential, entire

(1) **fundamental** education, (2) **fundamental** rights
Human behavior has **fundamental** characteristics.

chemistry

n. the branch of the natural sciences dealing with the composition of substances and their properties and reactions

(1) professor of **chemistry**, (2) the **chemistry** of soil
He is familiar with **chemistry** and biology.

permit

v. to allow for something to happen or be done; (noun) the act of giving a formal, usually written, authorization

synonym : allow, authorize, concede

(1) **permit** application, (2) work **permit**

The teacher will not **permit** any students to leave the classroom early.

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.

inert

adj. lacking the ability to move or act, often used to describe an object or substance that is inactive or non-reactive

synonym : motionless, inactive, dormant

(1) **inert** gases, (2) **inert** ingredients

The rock was completely **inert** and didn't react when we tried to break it open.

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.

pace

n. the speed at which someone or something moves, or the rate at which something happens or changes

synonym: gait, rate, speed

(1) at your own **pace**, (2) the runner's **pace**

The economy is growing at a supercharged **pace**.

exponential

adj. becoming more and more rapid; of or involving mathematical exponents

(1) **exponential** growth, (2) **exponential** function

Since the 1990s, the Internet has continued to experience **exponential** growth.

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.

moving

adj. causing strong emotions or feelings, especially sadness or sympathy

synonym: emotional, poignant, touching

(1) **moving** experience, (2) **moving** ceremony

His **moving** speech about his struggles with addiction brought tears to the audience's eyes.

curve

n. a bend or angle in a line or surface that deviates from a straight or flat path; a gradual or smooth change in direction or shape

synonym : bend, arc, turn

(1) learning **curve**, (2) yield **curve**

The **curve** in the road was so sharp that I had to slow down to navigate it safely.

bioethics

n. the study of ethical issues related to life sciences and healthcare, particularly those related to the moral implications of scientific advances in medicine and biology

synonym : medical ethics, bio-morality

(1) **bioethics** committee, (2) **bioethics** research

Using animals in medical research raises complex questions about **bioethics** and animal welfare.

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.

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.

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.

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.

phi

n. the 21st letter of the Greek alphabet, used in mathematics and sciences to represent various concepts such as the golden ratio, magnetic flux, and phase angle

(1) golden **phi** ratio, (2) **phi** coefficient

The mathematician explained the significance of **phi** in the sequence of Fibonacci numbers.

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.

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.

exciting

adj. causing a lot of interest or excitement

synonym: exhilarating, stimulating, thrilling

(1) **exciting** football player, (2) **exciting** news
The findings of the experiment were both **exciting** and unexpected.

viral

adj. relating to or caused by a virus

(1) fight **viral** infections, (2) detect a **viral** code

This device can more accurately detect **viral** pathogens.

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.

release

v. to set free or allow to escape from confinement

synonym: free, let go, discharge

(1) **release** a prisoner, (2) **release** CO2 into the air

The animal rights group worked to **release** the dolphins back into the wild.

coli

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

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

The study of Escherichia **coli** has led to important advancements in areas such as antibiotic resistance, gut microbiome, and synthetic biology.

industrious

adj. hardworking, diligent, and persistent in effort

synonym: diligent, hardworking, assiduous

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

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

software

n. a set of computer programs and associated documentation and data for doing particular

computational jobs

synonym : program, system, operating system

(1) **software** architect, (2) copyrighted **software**

The company specializes in both hardware and **software**.

hardware

n. durable tools, machinery, and other equipment; the physical and electronic parts of a computer or other electronic systems

synonym : gear, apparatus, gadget

(1) the **hardware** department, (2) a vast inventory of **hardware**

The mouse and keyboard are essential **hardware** for operating a PC.

cassette

n. a small, rectangular plastic case containing magnetic tape used to record and playback audio or data on devices such as tape players or recorders; a pre-recorded tape containing music, speech, or other sound recordings

synonym : tape, cartridge, recording

(1) **cassette** tape, (2) **cassette** player

I found an old **cassette** with my favorite songs from the 80s.

critic

n. someone who expresses opinions about the quality of books, music, etc.

synonym : pundit, analyst, attacker

(1) art **critic**, (2) severe **critic**

Advocates for legal reform hear less harsh words from their **critics**.

accurate

adj. correct and exact in all details

synonym : exact, precise, proper

(1) provide **accurate** information, (2) **accurate** measurements

The official transcript contains **accurate** academic records.

accuracy

n. the state or degree of being exact or correct; the ability to perform something with proficiency and without mistake

synonym : precision, exactness, truthfulness

(1) degree of **accuracy**, (2) the **accuracy** of his compass
To assure **accuracy**, I recommend investing in high-quality test kits.

overlap

v. to partially cover something by going beyond its edge

synonym : overlay, cover, bespread

(1) **overlap** one another, (2) **overlap** in many areas
There was no **overlap** between their proposals.

unique

adj. being the only one of its kind; unlike anything else

synonym : one-of-a-kind, unparalleled, incomparable

(1) a **unique** teacher, (2) **unique** design

The painting is **unique**, and there is no other like it.

element

n. a fundamental or essential part of something

synonym : component, feature, essence

(1) new design **elements**, (2) nonmetallic **elements**

Natural selection is an essential **element** in Darwin's theory of evolution.

watermark

n. a visible or invisible design or pattern that is embedded into paper or other surfaces and is used to prevent counterfeiting or illegal copying

synonym : logo, insignia, emblem

(1) copyright **watermark**, (2) **watermark** logo

The **watermark** on the document ensured that it could not be forged or duplicated without permission.

roughly

adv. approximately but not precisely; with a violent manner

synonym : approximately, more or less, around

(1) **roughly** explain my idea, (2) **roughly** speaking

Five miles is **roughly** similar to eight kilometers.

amino

n. compounds and functional groups that contain a basic nitrogen atom with a lone pair (NH₂) that combine to make protein

(1) **amino** compound, (2) **amino** acid

This company was granted a patent for its **amino** resin manufacturing process.

acid

n. sour; water-soluble chemicals with a sour flavor; any of a variety of generally liquid compounds capable of reacting with and occasionally dissolving other materials

synonym: sour

(1) an **acid** reaction, (2) good source of essential amino **acids**

During pregnancy, the stomach generates less **acid** than usual.

designate

v. to indicate, specify, or name someone or something for a particular purpose or job; to give a name or title to something

synonym: indicate, nominate, label

(1) **designate** a representative, (2) **designated** driver

He was **designated** as the team captain for the upcoming game.

initially

adv. at the beginning; at first

synonym: originally, primarily, firstly

(1) **initially** anticipated, (2) diagnosed **initially** as a tumor

This train departed later than **initially** scheduled.

autograph

n. a person's signature or handwritten inscription, especially that of a famous or admired individual

synonym: signature, sign-off, inscription

(1) **autograph** collection, (2) celebrity **autograph**

I was thrilled to get the **autograph** of my favorite musician after the concert.

disappoint

v. to fail to meet someone or their hopes or expectations;
to make someone feel sad

synonym: sadden, dismay, frustrate

(1) **disappoint** the audience, (2) don't **disappoint** me

She worked very hard not to **disappoint** her boss's expectations.

poetry

n. poems in general as a genre of literature

synonym: ode, poesy, verse

(1) modern **poetry**, (2) book of **poetry**

Different cultures have different comfortable word rhythms, so the composition of **poetry** varies greatly.

chew

v. to crush or grind something, especially food, with the teeth and then swallow it

synonym: masticate, crush, grind

(1) **chew** each word, (2) **chew** a stick of gum

My dog loves to **chew** on bones.

enzyme

n. a substance produced by a living organism that acts as a catalyst to bring about a specific biochemical reaction

synonym: catalyst, activator, accelerator

(1) **enzyme** reaction, (2) lack of digestive **enzymes**

A deficiency in the **enzyme** can lead to a medical condition.

abundance

n. a significant amount of something; the situation in which there is too much of something

synonym: plenty, affluence, plentitude

(1) an age of **abundance**, (2) an **abundance** of examples

A healthy farm provides an **abundance** of food.

extreme

adj. very great in amount or degree

synonym: farthestmost, outermost, fierce

(1) **extreme** sports, (2) **extreme** weather events

Solar gravity creates **extreme** pressures and temperatures.

robust

adj. sturdy and healthy in form, constitution, or construction; strong enough to withstand or overcome intellectual challenges or adversity

synonym : healthy, strong, booming

(1) **robust** growth, (2) a **robust** appetite

The experiment yielded **robust** results that support his theory.

automatic

adj. able to work or operate with little or no direct human control; independent of external control

synonym : mechanical, robotic, intuitive

(1) **automatic** operation, (2) the **automatic** shrinking of the pupils

In passenger aircraft, it is common to use an **automatic** pilot during cruising.

playoff

n. a series of games or matches played among teams or individuals to determine the winner of a competition or championship, particularly in sports

synonym : elimination game, finals

(1) **playoff** game, (2) 18-hole **playoff**

The team made it to the **playoff** round and is one step closer to the championship.

readily

adv. easily or willingly; without hesitation or difficulty; quickly or promptly

synonym : easily, effortlessly, willingly

(1) **readily** available, (2) **readily** accessible

The user manual can **readily** find the information you're looking for.

exhaust

n. the system in a vehicle that removes waste gases from the engine; (verb) to make someone completely tired

synonym : emission, fumes, (verb) deplete

(1) **exhaust** pipe, (2) **exhaust** a topic

The factory's **exhaust** fumes polluted the air and affected the health of the nearby residents.

modern

adj. of or belonging to the present time or recent times

synonym: contemporary, stylish, current

(1) **modern** poetry, (2) pre- **modern** agricultural society

Their headquarters are in a **modern** skyscraper.

molecular

adj. of or relating to molecules (= a group of two or more atoms held together by attractive forces known as chemical bonds)

synonym: microscopic, atomic

(1) **molecular** structure, (2) **molecular** biology

Molecular weight is the sum of all the atoms.

mechanism

n. a part of a machine, or a set of parts that performs a task; a natural or established process that occurs during a specific situation or reaction

synonym: means, method, system

(1) the **mechanism** for DNA replication, (2) defense

mechanism

He discovered unique **mechanisms** for photochemical reactions.

homologous

adj. having the same or similar structure, position, or function, particularly in different species or organisms; related by common ancestry

synonym: corresponding, analogous, similar

(1) **homologous** genes, (2) **homologous** structures

Homologous recombination is a process that can occur during DNA repair.

recombine

v. to combine or put together again or differently; to cause genetic recombination (= the process by which genetic material is broken and joined to other genetic material)

(1) **recombine** at the surface, (2) ability to **recombine**

Some scientists argue that the genes in food should not be artificially **recombined**.

radiology

n. the branch of medicine that uses medical imaging technologies such as X-rays, CT scans, MRIs, and ultrasound to diagnose and treat diseases and injuries

synonym : medical imaging, radiography, radioscopy

(1) interventional **radiology**, (2) diagnostic **radiology**

The patient underwent a **radiology** scan to diagnose their medical condition.

radiation

n. the energy that comes from a nuclear reaction in the form of rays, waves, or particles and that can be hazardous to health

synonym : dissemination, emission, irradiation

(1) exposure to **radiation**, (2) electromagnetic **radiation**

He tried every possible treatment, including chemotherapy and **radiation** therapy.

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.

desiccate

v. to remove moisture and liquids from something thoroughly

synonym : dehydrate, dry up, exsiccate

(1) **desiccate** food, (2) **desiccated** milk

The bricks were **desiccated** by the hot air completely.

vacuum

n. a space empty of matter; a device or tool used for cleaning or removing debris by creating suction

synonym : void, emptiness, gap

(1) **vacuum** cleaner, (2) **vacuum** packing

Please use the **vacuum** to clean up the mess on the floor.

absolutely

adv. without restriction or limitation; completely or utterly
synonym : completely, utterly, definitely

(1) **absolutely** against, (2) **absolutely** obsessed with the girl

I am **absolutely** opposed to his idea because of morality.

aqueous

adj. of or pertaining to water; containing, dissolved in, or related to water; watery or liquid in nature
synonym : watery, liquid, fluid

(1) **aqueous** medium, (2) **aqueous** environment

The medication must be stored in an **aqueous** solution to maintain effectiveness.

environment

n. the natural world such as air, water, and land in which humans, animals, and plants live
synonym : atmosphere, surroundings, climate

(1) **environment** affairs, (2) chaotic **environment**

Every human is responsible for taking care of the Earth's **environment**.

micrograph

n. a photograph or image that has been taken through a microscope or magnifying lens, typically used for scientific or medical purposes
synonym : microphotograph

(1) **micrograph** image, (2) high-resolution **micrograph**

The **micrograph** of the cell shows detailed structures that the naked eye cannot see.

yeast

n. a type of fungus that is used in making alcoholic drinks such as beer and wine or to make bread rise
synonym : leaven, fungus

(1) **yeast** cell, (2) **yeast-leavened** bread

They carefully nurture a **yeast** fungus used to produce sake.

automatically

adv. without needing a direct human control
synonym : mechanically, unconsciously, spontaneously

(1) record driving **automatically**, (2) **automatically** adjusted
Our subscription plan is **automatically** renewed.

electron

n. a tiny particle with the negative electrical charge

synonym: negatron

(1) flow of **electrons**, (2) beam of **electrons**

The outermost **electron** shell determines the chemical properties of an atom.

microscope

n. an instrument used to see objects or substances that are too small to be seen with the naked eye

synonym: lens, magnifier, eyepiece

(1) **microscope** slide, (2) electron **microscope**

I used an optical **microscope** to observe the small organisms in the water sample.

humming

adj. producing a continuous, low, vibrating sound like that of the bee

synonym: buzzing, droning, vibrating

(1) **humming** sound, (2) **humming** bird

The **humming** of the bees filled the air as she walked through the garden.

define

v. to state or explain precisely the nature, scope, or meaning of something

synonym: characterize, depict, express

(1) **define** a word, (2) **define** my position

To advance this discussion, we must **define** "success" rigorously.

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.

font

n. a complete set of characters in a particular style and size used for printing text or displaying information on a screen

synonym: typeface, typography, lettering

(1) **font** size, (2) script **font**

I changed the **font** on my resume to make it more visually appealing.

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.

obvious

adj. easy to see, discover or understand

synonym: apparent, conspicuous, evident

(1) **obvious** reasons, (2) his conclusion was **obvious**

There are **obvious** differences between the two wine-producing regions.

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.

eukaryotic

n. organisms whose cell nuclei are surrounded by a nuclear envelope

(1) **eukaryotic** algae, (2) **eukaryotic** genome

Mitochondria exist in every **eukaryotic** cell.

nucleus

n. the central and most important part of something; (biology) a part of the cell containing DNA and RNA and responsible for growth and reproduction; (physics) the very dense central region of an atom

synonym : core, heart, middle

(1) form a **nucleus**, (2) the **nucleus** of a team

DNA is stored in the **nucleus** of a cell.

clone

n. a plant or animal whose genetic information is identical to that of a parent organism from which it was created; an unauthorized copy or imitation

synonym : duplicate, imitation, reproduction

(1) **clone** embryo, (2) recombinant **clone**

He is like an exact **clone** of his brother.

archaea

n. a group of single-celled microorganisms distinguished from bacteria by their unique cell wall structure and biochemical characteristics, which are found in extreme environments such as hot springs and salt flats

synonym : microbe, microorganism

(1) **archaea** microorganism, (2) thermophile **archaea**

The study of **archaea** is important for understanding the origins of life on Earth

integrate

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

synonym : mix, merge, combine

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

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

transplant

v. to move or transfer something from one place or person to another; to take living tissue or an organ from one person, animal, part of the body, etc. and put it into or onto another

synonym : relocate, emigrate, graft

(1) **transplant** a heart, (2) **transplant** my family to America
He tried to **transplant** the seedling into a larger pot.

purify

v. to remove harmful substances from something and increase the concentration of it

synonym: refine, filter, clarify

(1) **purify** hydrogen gas, (2) **purify** the blood

The equipment is frequently used to **purify** and distribute drinking water.

microbe

n. a tiny living thing that can only be seen with a microscope and that may cause disease

synonym: germ, microorganism, bacterium

(1) pathogenic **microbe**, (2) **microbes** sterilizer

Microbes thrive on the surface of the human skin.

distant

adj. far away in space, time, or where you are; far apart in relevance, relationship, or kinship

synonym: far, isolated, remote

(1) a **distant** memory, (2) **distant** ancestors

The sun set over the crest of **distant** hills.

digest

v. to transform food into absorbable substances; break down

synonym: absorb, condense

(1) **digest** information, (2) help **digest** food

Most babies can readily **digest** a wide variety of foods.

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.

stunning

adj. causing a strong emotional reaction of admiration, surprise, or shock due to its beauty, rarity, or excellence

synonym : beautiful, breathtaking, magnificent

(1) **stunning** beauty, (2) **stunning** disclosure

The **stunning** sunset took everyone's breath away.

appreciate

v. to value and acknowledge the worth of someone or something; to be grateful for something or someone

synonym : acknowledge, admire, enjoy

(1) **appreciate** her feedback, (2) **appreciate** the value

We would **appreciate** an early reply.

sophisticated

adj. having a great deal of worldly experience and knowledge of people's behavior, culture, and fashion

synonym : refined, cultured, worldly

(1) **sophisticated** look, (2) a **sophisticated** lifestyle

Marketing strategies are growing more **sophisticated**.

graphics

n. images, designs, or drawings used in websites, books, magazines, etc.

synonym : drawings, illustrations, pictures

(1) computer **graphics**, (2) **graphics** engine

My dream is to become a great **graphics** designer like her.

evolution

n. a gradual process of transformation of living things

synonym : elaboration, expansion, transition

(1) human **evolution**, (2) **evolution** theory

They study the **evolution** of the universe.

trait

n. a particular feature of your nature

synonym : attribute, feature, quality

(1) chemical **trait**, (2) personality **traits**

Multiple genes may influence behavioral **traits** concurrently.

restriction

n. a limitation or constraint placed on something, or the act of limiting or constraining something

synonym : limitation, constraint, control

(1) nutritional **restriction**, (2) **restriction** on trade

The **restriction** on travel during the pandemic made it difficult for people to see their loved ones.

recognize

v. to acknowledge or realize something or someone; to identify, remember, or become aware of something that was previously known or encountered

synonym: acknowledge, identify, admit

(1) **recognize** talent, (2) **recognize** achievement

It's important to **recognize** your strengths and weaknesses.

characteristic

n. a typical feature or quality that can identify, tell apart, or describe something or somebody

synonym: feature, quality, attribute

(1) stripes **characteristic** of the zebra, (2) my friend's **characteristic** laugh

Bananas have their **characteristic** taste and odor.

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.

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**.

transfer

v. to move, pass, or change from one person, place, or situation to another

synonym: move, relocate, shift

(1) **transfer** a file, (2) **transfer** power

She **transferred** the money from her savings account to her checking account.

alchemy

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

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

synonym: sorcery, magic, transmutation

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

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

dramatically

adv. in a very impressive manner

synonym: greatly, noticeably, suddenly

(1) he confessed **dramatically**, (2) the cabin pressure fell **dramatically**

Life expectancy has grown **dramatically** this century.

argue

v. to express differing opinions or points of view, often in a heated or contentious manner; to present a case or reasoning to persuade or convince others

synonym: debate, dispute, quarrel

(1) **argue** a case, (2) **argue** passionately

The couple began to **argue** over which restaurant to go to for dinner.

genesis

n. the origin or beginning of something; the first book of the biblical scriptures of both Judaism and Christianity, describing the creation of the Earth and humankind

synonym: beginning, creation, provenance

(1) the **genesis** of civilization, (2) in the Book of **Genesis**

The politician's remarks became the **genesis** of the clash between the two countries.

explosion

n. a violent release induced by a chemical or nuclear reaction

synonym: burst, eruption, outbreak

(1) a lot of **explosions**, (2) site of the **explosion**

A broken gas pipe triggered the **explosion**.

massive

adj. enormous amount; very heavy and solid

synonym: enormous, giant, immense

(1) **massive** amounts, (2) **massive** stars

The recent economic downturn has resulted in **massive** layoffs.

speciation

n. the evolutionary process by which populations evolve to become distinct species

(1) chemical **speciation**, (2) **speciation** of wildlife

Speciation allows for divergent evolutionary trends within species.

context

n. the circumstances, facts, or conditions that surround a particular event, situation, or statement and that give it meaning

synonym: background, setting, environment

(1) historical **context**, (2) legal **context**

It's important to understand the **context** of a situation before making a decision.

planet

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

synonym: earth, world, globe

(1) **planet** like the Earth, (2) save the **planet**

Mercury is the closest **planet** to the sun.

fee

n. a sum of money charged for a particular service

synonym: charge, cost, expense

(1) **fee** calculation, (2) service **fee**

The lawyer's **fee** for the case was \$10,000.

medicinal

adj. of or relating to the treatment or cure of disease

synonym: curative, therapeutic, healing

(1) **medicinal** chemistry, (2) traditional **medicinal**

The **medicinal** properties of this herb have been known to

help with various ailments.

fuel *n.* a substance that is typically burned to generate heat or energy
synonym: energy, power, gas
(1) biomass **fuel**, (2) smokeless **fuel**
The **fuel** scarcity most severely impacted the manufacturing sector

stretch *v.* to make or be capable of making anything longer or broader without hurting or breaking
synonym: lengthen, prolong, extend
(1) **stretch** along the coast, (2) **stretch** a story
Some herds have been observed to **stretch** hundreds of kilometers.

coal *n.* a combustible black or brownish-black sedimentary rock that is found below the ground and burnt to produce heat
synonym: ember
(1) a **coal-fired** ship, (2) construction of new **coal** plants
We combust **coal** and other fossil fuels to generate electricity.

barrel *n.* a large round container made of wood, metal, or plastic, with flat ends and, usually, curved sides; one of several units of volume
synonym: cask, firkin, drum
(1) a **barrel** of beer, (2) \$30 a **barrel**
One rotten apple spoils the whole **barrel**.

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

atmosphere

n. the mass of air that surrounds the Earth; the pervading tone or mood of a place, situation, or creative work

synonym : air, ambiance, circumstances

(1) carbon dioxide in the **atmosphere**, (2) a convivial

atmosphere

The spaceship began to burn up as it approached the Earth's **atmosphere**.

database

n. a large amount of data stored in a computer system in such a way that it can be searched and updated easily

(1) **database** administrator, (2) employee **database**

Each country's officials can access the central **database**.

electronics

n. the branch of physics and technology that deals with the behavior and control of electrons and the use of electronic devices and systems

synonym : technology, gadgets, circuitry

(1) **electronics** industry, (2) **electronics** store

The company specializes in manufacturing and selling cutting-edge **electronics**.

diversity

n. the quality or fact of many different types of things or people being included in something; a range of different things or people

synonym : variety, multiplicity, variousness

(1) the **diversity** policy of the university, (2) lingual **diversity**

He was impressed by the range and **diversity** of the collection.

primarily

adv. mainly

synonym : largely, mainly, mostly

(1) intended **primarily** for young people, (2) **primarily** affect adults

All peaceful cooperation is based **primarily** on mutual trust.

imaginary

adj. existing only in someone's mind

synonym : fictional, ideal, fantastical

(1) **imaginary** number, (2) **imaginary** pregnancy
Little children tend to have **imaginary** friends.

technique

n. a particular way or art of doing something that needs skill

synonym: approach, procedure, strategy

(1) a **technique** in martial arts, (2) the **technique** applied to construction

Jockey's superior **technique** brought him victory.

synthesis

n. the combination of components or elements to form a more complex whole; the creation of something new through combining parts or elements

synonym: combination, integration, compound

(1) **synthesis** of ammonia, (2) protein **synthesis** inhibitor

The chemical **synthesis** of the new drug was a breakthrough in medical research.

combination

n. a collection of things that have been combined; an assemblage of separate parts or qualities

synonym: blend, hybrid, compounding

(1) genic **combinations**, (2) **combination** number

The **combination** to the safe was a secret.

optimize

v. to make the best or most effective use of something

synonym: advance, amend, improve

(1) **optimize** a process, (2) **optimize** control for cooling

The essence of economics is to **optimize** the allocation of limited resources.

octane

n. a hydrocarbon compound (C₈H₁₈) that is a component of gasoline and is used as a measure of fuel quality, with higher octane ratings indicating better performance and greater resistance to engine knock

synonym: fuel, gas, gasoline

(1) **octane** compound, (2) low- **octane** fuel

Premium gas has a higher **octane** rating, which makes it more expensive than regular gasoline.

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.

vaccine

n. a substance that is put into the body and protects them from disease by causing them to produce antibodies (= proteins that attack harmful bacteria, viruses, etc.)

synonym: vaccinum

(1) development of **vaccines**, (2) an oral **vaccine**

The mRNA **vaccine** was approved in less than a year because it did not contain the fragments of the target virus.

viability

n. the ability of something to be successful or to continue to exist

synonym: feasibility, practicability, workability

(1) cellular **viability**, (2) **viability** of the business

The project's **viability** was uncertain, so we put it on hold.

snapshot

n. an informal photograph, especially one taken quickly

synonym: photo, picture, print

(1) take a **snapshot**, (2) developed **snapshot**

There were framed **snapshots** of family and friends in her room.

necessarily

adv. in an essential manner; in such a way as could not be otherwise

synonym: inevitable, certainly, automatically

(1) not **necessarily** a problem, (2) **necessarily** true

This accident was something that happened **necessarily**.

generation

n. all the people born and living at about the same time, regarded collectively; the production of heat or electricity

synonym: cohort, age group, era

(1) **generation** gap, (2) the **generation** of electricity

The younger **generation** has different values and beliefs than the older one.

ethanol

n. a colorless, flammable alcohol that is produced by the fermentation of sugars and is commonly used as a fuel, solvent, and in the manufacture of alcoholic beverages

synonym: alcohol, ethyl alcohol, grain alcohol

(1) **ethanol** plant, (2) **ethanol** production

The production of **ethanol** can have environmental benefits if produced from renewable sources.

butanol

n. a colorless liquid alcohol compound with four carbon atoms, commonly used as a solvent or as a fuel additive

synonym: butyl alcohol

(1) **butanol** solvent, (2) **butanol** production

Due to its low vapor pressure, **butanol** fuel is considered safer for storage and transport than other biofuels.

avail

v. to help or benefit; to use or take advantage of

synonym: help, benefit, serve

(1) **avail** you little, (2) **avail** ourselves of this opportunity

Their financing options are reasonable and easy to **avail**.

feedstock

n. the raw material or substances that are used to make a product, particularly in industrial or manufacturing processes

synonym: raw material, input, supply

(1) **feedstock** supply, (2) **feedstock** procurement

Corn is a common **feedstock** for ethanol production.

sunlight

n. the light emitted by the sun; the rays of the sun

synonym: daylight, rays, sunshine

(1) a glare of **sunlight**, (2) in direct **sunlight**

Radiation from **sunlight** has a different wavelength.

temperature

n. the degree of hotness or coldness of a thing or place
synonym : climate, warmth, degree

(1) extreme **temperatures**, (2) the atmospheric **temperature**

Cities around the world set records for highest **temperatures** this summer.

methane

n. a chemical compound with the chemical formula CH₄ with no smell or color, often used as a fuel

(1) atmospheric **methane**, (2) reduce **methane** emissions

The ignition of **methane** gas in the plant killed five employees.

hydrogen

n. the chemical element that is the lightest gas is colorless, odorless, tasteless, and combines with oxygen to form water

(1) **hydrogen** gas, (2) heavy **hydrogen**

The **hydrogen** and the oxygen react and then form water.

capture

v. to catch a person or an animal and confine them in an area which they cannot escape

synonym : catch, arrest, imprison

(1) **capture** a glimpse, (2) **capture** customers' hearts

I was able to **capture** the moment on film.

modest

adj. having or showing a humble estimate of one's merits, importance, etc.; free from vanity, egotism, boastfulness, or great pretensions

synonym : unassuming, humble, unpretentious

(1) **modest** income, (2) only a **modest** fee

Despite his many achievements, he remained **modest** and down-to-earth.

petrol

n. a flammable liquid made from petroleum that is used as a fuel in internal combustion engines, commonly known

as gasoline in North America

synonym : gasoline, fuel, gas

(1) **petrol** station, (2) **petrol** engine

I must fill my car with **petrol** before going on a long road trip.

instant

adj. happening immediately, with no delay

synonym : immediate, urgent, moment

(1) get **instant** access, (2) an **instant** reply

His pleasant face turned cold in an **instant**.

influenza

n. (formal for flu) a highly contagious viral disease that causes fever, severe aching, and catarrh and often occurs in epidemics

synonym : grippe, flu

(1) an epidemic outbreak of **influenza**, (2) **influenza B** strain

The research institute allocated a lot of money to study the cause and prevention of **influenza**.

advance

v. to go or move forward; to develop in a positive way

synonym : progress, boost, come along

(1) **advance** the technology, (2) **advance** a cooperative relationship

Scientific knowledge will **advance** significantly with the power of AI.

evolutionary

adj. relating to or denoting how living things develop or change from earlier forms

synonym : developmental, mutative, transformative

(1) ecology and **evolutionary** biology, (2) the **evolutionary** process

Evolutionary algorithms can find ways to optimize that humans do not anticipate.

synthetic

adj. made by combining chemical substances as opposed to being naturally occurring

synonym : artificial, manufactured, fabricated

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

Synthetic diamonds play an essential role as machine tool blades.

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.

improvisation

n. the act of making something up on the spot or creating or performing something without preparation

synonym : spontaneity, ad-lib, extemporization

(1) **improvisation** on stage, (2) jazz **improvisation**

He created a beautiful piece of music using only **improvisation**.

survive

v. to live or exist despite a dangerous event or period

synonym : endure, persist, stay

(1) **survive** a blizzard, (2) **survive** a plane crash

These birds can only **survive** in temperate climates.

Session 2: Spelling

1. severe cr___c *n.* someone who expresses opinions about the quality of books, music, etc.
2. the nu____s of a team *n.* the central and most important part of something; (biology) a part of the cell containing DNA and RNA and responsible for growth and reproduction; (physics) the very dense central region of an atom
3. ex____ng news *adj.* causing a lot of interest or excitement
4. biomass f__l *n.* a substance that is typically burned to generate heat or energy
5. a lot of ex_____ons *n.* a violent release induced by a chemical or nuclear reaction
6. human ev_____on *n.* a gradual process of transformation of living things
7. mo_____ar biology *adj.* of or relating to molecules (= a group of two or more atoms held together by attractive forces known as chemical bonds)
8. av__l you little *v.* to help or benefit; to use or take advantage of
9. corn yi__d *n.* the total output of crops, profits, etc. that are produced; (verb) to produce or supply helpful something, such as a profit, an amount of food, or information
10. ar__e a case *v.* to express differing opinions or points of view, often in a heated or contentious manner; to present a case or reasoning to persuade or convince others

ANSWERS: 1. critic, 2. nucleus, 3. exciting, 4. fuel, 5. explosion, 6. evolution, 7. molecular, 8. avail, 9. yield, 10. argue

11. tra_____nt a heart *v.* to move or transfer something from one place or person to another; to take living tissue or an organ from one person, animal, part of the body, etc. and put it into or onto another
12. exp_____al growth *adj.* becoming more and more rapid; of or involving mathematical exponents
13. ar_____a microorganism *n.* a group of single-celled microorganisms distinguished from bacteria by their unique cell wall structure and biochemical characteristics, which are found in extreme environments such as hot springs and salt flats
14. de___e on a course of action *v.* to make up someone's mind about something; to come to a conclusion or judgment after considering options
15. de_____te food *v.* to remove moisture and liquids from something thoroughly
16. traditional me_____al *adj.* of or relating to the treatment or cure of disease
17. op_____ze control for cooling *v.* to make the best or most effective use of something
18. da_____se administrator *n.* a large amount of data stored in a computer system in such a way that it can be searched and updated easily
19. low-oc___e fuel *n.* a hydrocarbon compound (C₈H₁₈) that is a component of gasoline and is used as a measure of fuel quality, with higher octane ratings indicating better performance and greater resistance to engine knock

ANSWERS: 11. transplant, 12. exponential, 13. archaea, 14. decide, 15. desiccate, 16. medicinal, 17. optimize, 18. database, 19. octane

20. mo_____ar structure *adj.* of or relating to molecules (= a group of two or more atoms held together by attractive forces known as chemical bonds)
21. ex_____e weather events *adj.* very great in amount or degree
22. anthropology lab_____ry *n.* a workplace for doing scientific research or teaching science; a lab
23. not nec_____ly a problem *adv.* in an essential manner; in such a way as could not be otherwise
24. va_____m packing *n.* a space empty of matter; a device or tool used for cleaning or removing debris by creating suction
25. ro_____y speaking *adv.* approximately but not precisely; with a violent manner
26. 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
27. 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
28. ar__e passionately *v.* to express differing opinions or points of view, often in a heated or contentious manner; to present a case or reasoning to persuade or convince others
29. development of va_____es *n.* a substance that is put into the body and protects them from disease by causing them to produce antibodies (= proteins that attack harmful bacteria, viruses, etc.)

ANSWERS: 20. molecular, 21. extreme, 22. laboratory, 23. necessarily, 24. vacuum, 25. roughly, 26. discovery, 27. protein, 28. argue, 29. vaccine

30. spe_____on of wildlife *n.* the evolutionary process by which populations evolve to become distinct species
31. spare co_____nts for cars *n.* one of several parts that combines with others to form something bigger
32. an epidemic outbreak of in_____za *n.* (formal for flu) a highly contagious viral disease that causes fever, severe aching, and catarrh and often occurs in epidemics
33. art cr____c *n.* someone who expresses opinions about the quality of books, music, etc.
34. tr_____er power *v.* to move, pass, or change from one person, place, or situation to another
35. the ac_____cy of his compass *n.* the state or degree of being exact or correct; the ability to perform something with proficiency and without mistake
36. am__o compound *n.* compounds and functional groups that contain a basic nitrogen atom with a lone pair (NH₂) that combine to make protein
37. defense me_____sm *n.* a part of a machine, or a set of parts that performs a task; a natural or established process that occurs during a specific situation or reaction
38. reduce me_____e emissions *n.* a chemical compound with the chemical formula CH₄ with no smell or color, often used as a fuel
39. mo_____le behavior *n.* a group of two or more atoms held together by attractive forces known as chemical bonds

ANSWERS: 30. speciation, 31. component, 32. influenza, 33. critic, 34. transfer, 35. accuracy, 36. amino, 37. mechanism, 38. methane, 39. molecule

40. mo___t income *adj.* having or showing a humble estimate of one's merits, importance, etc.; free from vanity, egotism, boastfulness, or great pretensions
41. an ab_____ce of examples *n.* a significant amount of something; the situation in which there is too much of something
42. et_____l plant *n.* a colorless, flammable alcohol that is produced by the fermentation of sugars and is commonly used as a fuel, solvent, and in the manufacture of alcoholic beverages
43. de___e my position *v.* to state or explain precisely the nature, scope, or meaning of something
44. bu_____l production *n.* a colorless liquid alcohol compound with four carbon atoms, commonly used as a solvent or as a fuel additive
45. developed sn_____ot *n.* an informal photograph, especially one taken quickly
46. my friend's cha_____tic laugh *n.* a typical feature or quality that can identify, tell apart, or describe something or somebody
47. provide ac_____te information *adj.* correct and exact in all details
48. bu_____l solvent *n.* a colorless liquid alcohol compound with four carbon atoms, commonly used as a solvent or as a fuel additive
49. ecology and evo_____ary biology *adj.* relating to or denoting how living things develop or change from earlier forms
50. in_____za B strain *n.* (formal for flu) a highly contagious viral disease that causes fever, severe aching, and catarrh and often occurs in epidemics

ANSWERS: 40. modest, 41. abundance, 42. ethanol, 43. define, 44. butanol, 45. snapshot, 46. characteristic, 47. accurate, 48. butanol, 49. evolutionary, 50. influenza

51. the qu__t for truth *n.* a long or challenging search for something
52. celebrity au_____ph *n.* a person's signature or handwritten inscription, especially that of a famous or admired individual
53. the cabin pressure fell dra_____lly *adv.* in a very impressive manner
54. dis_____nt the audience *v.* to fail to meet someone or their hopes or expectations; to make someone feel sad
55. commercial pha_____cal products *adj.* relating to the production and selling of the medical drugs
56. an an___g watch *adj.* relating to or using signals or information represented by a continuous physical quantity such as spatial position, voltage, etc.
57. a di_____l watch *adj.* processing or storing information as a succession of 1 and 0 to show that a signal is present or missing; relating to the use of computer technology, especially the internet
58. v__y according to the age *v.* to become different in terms of size, shape, etc.
59. di_____l electronic signature *adj.* processing or storing information as a succession of 1 and 0 to show that a signal is present or missing; relating to the use of computer technology, especially the internet
60. in__t gases *adj.* lacking the ability to move or act, often used to describe an object or substance that is inactive or non-reactive

ANSWERS: 51. quest, 52. autograph, 53. dramatically, 54. disappoint, 55. pharmaceutical, 56. analog, 57. digital, 58. vary, 59. digital, 60. inert

61. ro___t growth *adj.* sturdy and healthy in form, constitution, or construction; strong enough to withstand or overcome intellectual challenges or adversity
62. fight vi___l infections *adj.* relating to or caused by a virus
63. mic_____pe slide *n.* an instrument used to see objects or substances that are too small to be seen with the naked eye
64. hom_____us genes *adj.* having the same or similar structure, position, or function, particularly in different species or organisms; related by common ancestry
65. 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
66. mic_____ph image *n.* a photograph or image that has been taken through a microscope or magnifying lens, typically used for scientific or medical purposes
67. 18-hole pl_____f *n.* a series of games or matches played among teams or individuals to determine the winner of a competition or championship, particularly in sports
68. the runner's p___e *n.* the speed at which someone or something moves, or the rate at which something happens or changes

ANSWERS: 61. robust, 62. viral, 63. microscope, 64. homologous, 65. process, 66. micrograph, 67. playoff, 68. pace

69. 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
70. extreme tem_____res *n.* the degree of hotness or coldness of a thing or place
71. a reckless at_____t *n.* an act or effort of trying to do something, especially something difficult
72. genic com_____ons *n.* a collection of things that have been combined; an assemblage of separate parts or qualities
73. un_____ly event *adj.* not probable or likely to happen
74. a com_____ed process *adj.* involving a lot of different things or parts in a way that is difficult to understand or analyze
75. the atmospheric tem_____re *n.* the degree of hotness or coldness of a thing or place
76. 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
77. \$30 a ba____l *n.* a large round container made of wood, metal, or plastic, with flat ends and, usually, curved sides; one of several units of volume

ANSWERS: 69. bacteria, 70. temperature, 71. attempt, 72. combination, 73. unlikely, 74. complicated, 75. temperature, 76. panel, 77. barrel

78. pe___l station *n.* a flammable liquid made from petroleum that is used as a fuel in internal combustion engines, commonly known as gasoline in North America
79. oc___e compound *n.* a hydrocarbon compound (C₈H₁₈) that is a component of gasoline and is used as a measure of fuel quality, with higher octane ratings indicating better performance and greater resistance to engine knock
80. deg_____te into a disagreement *v.* (of a person, animal, or plant) to become worse in health or physical condition
81. st_____ng disclosure *adj.* causing a strong emotional reaction of admiration, surprise, or shock due to its beauty, rarity, or excellence
82. computer gr_____cs *n.* images, designs, or drawings used in websites, books, magazines, etc.
83. toxic ch_____als *adj.* relating to or connected with chemistry;
84. a vast inventory of ha_____re *n.* durable tools, machinery, and other equipment; the physical and electronic parts of a computer or other electronic systems
85. spread of the vi___s *n.* a tiny infectious organic material that causes disease in people, animals, and plants
86. carbon dioxide in the atm_____re *n.* the mass of air that surrounds the Earth; the pervading tone or mood of a place, situation, or creative work

ANSWERS: 78. petrol, 79. octane, 80. degenerate, 81. stunning, 82. graphics, 83. chemical, 84. hardware, 85. virus, 86. atmosphere

87. the te_____ue applied to construction *n.* a particular way or art of doing something that needs skill
88. p__e an apple *v.* to trim or cut away the outer edges or excess of something, often about physical objects or figurative concepts; to reduce or simplify something to its most essential or crucial elements
89. record driving aut_____lly *adv.* without needing a direct human control
90. re_____e CO2 into the air *v.* to set free or allow to escape from confinement
91. ac_____te a receptor *v.* make something start working, more active or dynamic
92. com_____on number *n.* a collection of things that have been combined; an assemblage of separate parts or qualities
93. the di_____ty policy of the university *n.* the quality or fact of many different types of things or people being included in something; a range of different things or people
94. p_i coefficient *n.* the 21st letter of the Greek alphabet, used in mathematics and sciences to represent various concepts such as the golden ratio, magnetic flux, and phase angle
95. chaotic env_____nt *n.* the natural world such as air, water, and land in which humans, animals, and plants live
96. fe_____ck supply *n.* the raw material or substances that are used to make a product, particularly in industrial or manufacturing processes

ANSWERS: 87. technique, 88. pare, 89. automatically, 90. release, 91. activate, 92. combination, 93. diversity, 94. phi, 95. environment, 96. feedstock

97. fe_____ck procurement *n.* the raw material or substances that are used to make a product, particularly in industrial or manufacturing processes
98. on a qu__t for happiness *n.* a long or challenging search for something
99. im_____ry pregnancy *adj.* existing only in someone's mind
100. fun_____al education *adj.* forming an essential base or core from which everything else develops or is affected
101. lack of digestive en___es *n.* a substance produced by a living organism that acts as a catalyst to bring about a specific biochemical reaction
102. a ro___t appetite *adj.* sturdy and healthy in form, constitution, or construction; strong enough to withstand or overcome intellectual challenges or adversity
103. diagnostic ra_____gy *n.* the branch of medicine that uses medical imaging technologies such as X-rays, CT scans, MRIs, and ultrasound to diagnose and treat diseases and injuries
104. have ge_____c testing *adj.* of or relating to genes (= parts of the DNA in cells) or the science of genes
105. mi_____l amount *adj.* tiny in amount; the least possible
106. re_____y accessible *adv.* easily or willingly; without hesitation or difficulty; quickly or promptly
107. g__e cloning *n.* the fundamental unit of heredity and the sequence of nucleotides in DNA that codes for the creation of RNA or protein.

ANSWERS: 97. feedstock, 98. quest, 99. imaginary, 100. fundamental, 101. enzyme, 102. robust, 103. radiology, 104. genetic, 105. minimal, 106. readily, 107. gene

108. au_____ic operation *adj.* able to work or operate with little or no direct human control; independent of external control
109. ev_____on theory *n.* a gradual process of transformation of living things
110. cl__e embryo *n.* a plant or animal whose genetic information is identical to that of a parent organism from which it was created; an unauthorized copy or imitation
111. reg_____te bone tissue *v.* to improve or renew an area, institution, system, etc., especially by making it more active or successful
112. become increasingly com_____ed *adj.* involving a lot of different things or parts in a way that is difficult to understand or analyze
113. 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
114. ad_____e the technology *v.* to go or move forward; to develop in a positive way
115. script f__t *n.* a complete set of characters in a particular style and size used for printing text or displaying information on a screen
116. book of po___y *n.* poems in general as a genre of literature

ANSWERS: 108. automatic, 109. evolution, 110. clone, 111. regenerate, 112. complicated, 113. bacteria, 114. advance, 115. font, 116. poetry

117. env_____nt affairs *n.* the natural world such as air, water, and land in which humans, animals, and plants live
118. a strain of vi__s *n.* a tiny infectious organic material that causes disease in people, animals, and plants
119. ov_____p in many areas *v.* to partially cover something by going beyond its edge
120. ability to re_____ne *v.* to combine or put together again or differently; to cause genetic recombination (= the process by which genetic material is broken and joined to other genetic material)
121. copyright wa_____rk *n.* a visible or invisible design or pattern that is embedded into paper or other surfaces and is used to prevent counterfeiting or illegal copying
122. mi_____l effort *adj.* tiny in amount; the least possible
123. va____m cleaner *n.* a space empty of matter; a device or tool used for cleaning or removing debris by creating suction
124. de_____ted driver *v.* to indicate, specify, or name someone or something for a particular purpose or job; to give a name or title to something
125. re_____te the cell *v.* to make an exact copy of something; to repeat a process or experiment to confirm the results
126. app_____te her feedback *v.* to value and acknowledge the worth of someone or something; to be grateful for something or someone

ANSWERS: 117. environment, 118. virus, 119. overlap, 120. recombine, 121. watermark, 122. minimal, 123. vacuum, 124. designate, 125. replicate, 126. appreciate

127. chemical tr__t	<i>n.</i>	a particular feature of your nature
128. pa____le energy	<i>n.</i>	a small piece of something; a word or piece of a term with grammatical function but little or no significance
129. new design el____ts	<i>n.</i>	a fundamental or essential part of something
130. st____h a story	<i>v.</i>	to make or be capable of making anything longer or broader without hurting or breaking
131. a di____t memory	<i>adj.</i>	far away in space, time, or where you are; far apart in relevance, relationship, or kinship
132. exp____nt design	<i>n.</i>	the scientific test conducted to observe what happens and gain new knowledge
133. ov____p one another	<i>v.</i>	to partially cover something by going beyond its edge
134. c__w a stick of gum	<i>v.</i>	to crush or grind something, especially food, with the teeth and then swallow it
135. re____e a prisoner	<i>v.</i>	to set free or allow to escape from confinement
136. major pha____cal companies	<i>adj.</i>	relating to the production and selling of the medical drugs
137. a remote re____ve	<i>adj.</i>	considered and evaluated through comparison with something else
138. re____e one word with another	<i>v.</i>	to take the place of something
139. flow of el____ons	<i>n.</i>	a tiny particle with the negative electrical charge

ANSWERS: 127. trait, 128. particle, 129. element, 130. stretch, 131. distant, 132. experiment, 133. overlap, 134. chew, 135. release, 136. pharmaceutical, 137. relative, 138. replace, 139. electron

140. golden p_i ratio *n.* the 21st letter of the Greek alphabet, used in mathematics and sciences to represent various concepts such as the golden ratio, magnetic flux, and phase angle
141. his conclusion was ob____s *adj.* easy to see, discover or understand
142. a ch____al compound *adj.* relating to or connected with chemistry;
143. aq____s medium *adj.* of or pertaining to water; containing, dissolved in, or related to water; watery or liquid in nature
144. su____e a blizzard *v.* to live or exist despite a dangerous event or period
145. bi____cs research *n.* the study of ethical issues related to life sciences and healthcare, particularly those related to the moral implications of scientific advances in medicine and biology
146. mo____g experience *adj.* causing strong emotions or feelings, especially sadness or sympathy
147. it is un____ly that he would win the game *adj.* not probable or likely to happen
148. so____re architect *n.* a set of computer programs and associated documentation and data for doing particular computational jobs
149. deg____te into recession *v.* (of a person, animal, or plant) to become worse in health or physical condition
150. ac____te measurements *adj.* correct and exact in all details

ANSWERS: 140. phi, 141. obvious, 142. chemical, 143. aqueous, 144. survive, 145. bioethics, 146. moving, 147. unlikely, 148. software, 149. degenerate, 150. accurate

151. ma_____e amounts *adj.* enormous amount; very heavy and solid
152. de_____te a representative *v.* to indicate, specify, or name someone or something for a particular purpose or job; to give a name or title to something
153. ob_____s reasons *adj.* easy to see, discover or understand
154. nutritional res_____on *n.* a limitation or constraint placed on something, or the act of limiting or constraining something
155. pu____y the blood *v.* to remove harmful substances from something and increase the concentration of it
156. bi_____cs committee *n.* the study of ethical issues related to life sciences and healthcare, particularly those related to the moral implications of scientific advances in medicine and biology
157. su_____e a plane crash *v.* to live or exist despite a dangerous event or period
158. the me_____sm for DNA replication *n.* a part of a machine, or a set of parts that performs a task; a natural or established process that occurs during a specific situation or reaction
159. pe____l engine *n.* a flammable liquid made from petroleum that is used as a fuel in internal combustion engines, commonly known as gasoline in North America
160. c__i cells *n.* a bacterium of the genus *Escherichia* that is commonly found in the human gut and is used as a model organism in molecular biology and biochemistry

ANSWERS: 151. massive, 152. designate, 153. obvious, 154. restriction, 155. purify, 156. bioethics, 157. survive, 158. mechanism, 159. petrol, 160. coli

161. legal co_____t *n.* the circumstances, facts, or conditions that surround a particular event, situation, or statement and that give it meaning
162. at your own p___e *n.* the speed at which someone or something moves, or the rate at which something happens or changes
163. protein sy_____is inhibitor *n.* the combination of components or elements to form a more complex whole; the creation of something new through combining parts or elements
164. ex_____t a topic *n.* the system in a vehicle that removes waste gases from the engine; (verb) to make someone completely tired
165. the se_____ce of the seasons *n.* a series of related events, actions, numbers, etc., which have a particular order
166. 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
167. ca_____e a glimpse *v.* to catch a person or an animal and confine them in an area which they cannot escape
168. small mo_____les *n.* a group of two or more atoms held together by attractive forces known as chemical bonds
169. copyrighted so_____re *n.* a set of computer programs and associated documentation and data for doing particular computational jobs

ANSWERS: 161. context, 162. pace, 163. synthesis, 164. exhaust, 165. sequence, 166. structure, 167. capture, 168. molecule, 169. software

170. ye__t-leavened bread *n.* a type of fungus that is used in making alcoholic drinks such as beer and wine or to make bread rise
171. electromagnetic ra_____on *n.* the energy that comes from a nuclear reaction in the form of rays, waves, or particles and that can be hazardous to health
172. euk_____ic algae *n.* organisms whose cell nuclei are surrounded by a nuclear envelope
173. get in_____t access *adj.* happening immediately, with no delay
174. expansion of the un_____se *n.* everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy
175. euk_____ic genome *n.* organisms whose cell nuclei are surrounded by a nuclear envelope
176. diagnosed in_____ly as a tumor *adv.* at the beginning; at first
177. am__o acid *n.* compounds and functional groups that contain a basic nitrogen atom with a lone pair (NH₂) that combine to make protein
178. the ge_____s of civilization *n.* the origin or beginning of something; the first book of the biblical scriptures of both Judaism and Christianity, describing the creation of the Earth and humankind
179. syn_____ze information *v.* to combine a substance to make a more complex product or compound

ANSWERS: 170. yeast, 171. radiation, 172. eukaryotic, 173. instant, 174. universe, 175. eukaryotic, 176. initially, 177. amino, 178. genesis, 179. synthesize

180. charged pa____le *n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
181. professor of ch____ry *n.* the branch of the natural sciences dealing with the composition of substances and their properties and reactions
182. the ha____re department *n.* durable tools, machinery, and other equipment; the physical and electronic parts of a computer or other electronic systems
183. g__e expression *n.* the fundamental unit of heredity and the sequence of nucleotides in DNA that codes for the creation of RNA or protein.
184. chemical spe____on *n.* the evolutionary process by which populations evolve to become distinct species
185. f__t size *n.* a complete set of characters in a particular style and size used for printing text or displaying information on a screen
186. wa____rk logo *n.* a visible or invisible design or pattern that is embedded into paper or other surfaces and is used to prevent counterfeiting or illegal copying
187. work pe____t *v.* to allow for something to happen or be done; (noun) the act of giving a formal, usually written, authorization
188. yield cu__e *n.* a bend or angle in a line or surface that deviates from a straight or flat path; a gradual or smooth change in direction or shape

ANSWERS: 180. particle, 181. chemistry, 182. hardware, 183. gene, 184. speciation, 185. font, 186. watermark, 187. permit, 188. curve

189. fun_____al rights *adj.* forming an essential base or core from which everything else develops or is affected
190. thermophile ar_____a *n.* a group of single-celled microorganisms distinguished from bacteria by their unique cell wall structure and biochemical characteristics, which are found in extreme environments such as hot springs and salt flats
191. di____t information *v.* to transform food into absorbable substances; break down
192. intended pr_____ly for young people *adv.* mainly
193. sy_____ic fertilizer *adj.* made by combining chemical substances as opposed to being naturally occurring
194. ca_____te player *n.* a small, rectangular plastic case containing magnetic tape used to record and playback audio or data on devices such as tape players or recorders; a pre-recorded tape containing music, speech, or other sound recordings
195. hu_____g sound *adj.* producing a continuous, low, vibrating sound like that of the bee
196. vi_____ty of the business *n.* the ability of something to be successful or to continue to exist
197. tr_____er a file *v.* to move, pass, or change from one person, place, or situation to another
198. the evo_____ary process *adj.* relating to or denoting how living things develop or change from earlier forms

ANSWERS: 189. fundamental, 190. archaea, 191. digest, 192. primarily, 193. synthetic, 194. cassette, 195. humming, 196. viability, 197. transfer, 198. evolutionary

199. de___e a word
v. to state or explain precisely the nature, scope, or meaning of something
200. hom_____us structures
adj. having the same or similar structure, position, or function, particularly in different species or organisms; related by common ancestry
201. a sex chr_____me
n. a long and string-like DNA molecule containing the part or all of the genetic material of an organism that controls what an animal or plant is like
202. sop_____ted look
adj. having a great deal of worldly experience and knowledge of people's behavior, culture, and fashion
203. in direct su_____ht
n. the light emitted by the sun; the rays of the sun
204. hu_____g bird
adj. producing a continuous, low, vibrating sound like that of the bee
205. in_____ly anticipated
adv. at the beginning; at first
206. 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
207. key co_____nt
n. one of several parts that combines with others to form something bigger
208. lingual di_____ty
n. the quality or fact of many different types of things or people being included in something; a range of different things or people

ANSWERS: 199. define, 200. homologous, 201. chromosome, 202. sophisticated, 203. sunlight, 204. humming, 205. initially, 206. panel, 207. component, 208. diversity

209. st____h along the coast *v.* to make or be capable of making anything longer or broader without hurting or breaking
210. di____t ancestors *adj.* far away in space, time, or where you are; far apart in relevance, relationship, or kinship
211. pl____f game *n.* a series of games or matches played among teams or individuals to determine the winner of a competition or championship, particularly in sports
212. imp_____ion on stage *n.* the act of making something up on the spot or creating or performing something without preparation
213. a reg_____te sinner *v.* to improve or renew an area, institution, system, etc., especially by making it more active or successful
214. 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
215. personality tr__ts *n.* a particular feature of your nature
216. don't dis_____nt me *v.* to fail to meet someone or their hopes or expectations; to make someone feel sad
217. a te_____ue in martial arts *n.* a particular way or art of doing something that needs skill
218. atmospheric me_____e *n.* a chemical compound with the chemical formula CH₄ with no smell or color, often used as a fuel

ANSWERS: 209. stretch, 210. distant, 211. playoff, 212. improvisation, 213. regenerate, 214. discovery, 215. trait, 216. disappoint, 217. technique, 218. methane

219. a glare of su_____ht *n.* the light emitted by the sun; the rays of the sun
220. de___e a question *v.* to make up someone's mind about something; to come to a conclusion or judgment after considering options
221. gen_____on gap *n.* all the people born and living at about the same time, regarded collectively; the production of heat or electricity
222. ge___e analyses *n.* the complete set or sequence of genes of a human, animal, plant, or other living things
223. 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
224. mi_____es sterilizer *n.* a tiny living thing that can only be seen with a microscope and that may cause disease
225. app_____te the value *v.* to value and acknowledge the worth of someone or something; to be grateful for something or someone
226. only a mo___t fee *adj.* having or showing a humble estimate of one's merits, importance, etc.; free from vanity, egotism, boastfulness, or great pretensions
227. im_____ry number *adj.* existing only in someone's mind
228. mo___n poetry *adj.* of or belonging to the present time or recent times
229. ind_____us worker *adj.* hardworking, diligent, and persistent in effort

ANSWERS: 219. sunlight, 220. decide, 221. generation, 222. genome, 223. protein, 224. microbe, 225. appreciate, 226. modest, 227. imaginary, 228. modern, 229. industrious

230. the at____t to rescue the hostages *n.* an act or effort of trying to do something, especially something difficult
231. ca_____e customers' hearts *v.* to catch a person or an animal and confine them in an area which they cannot escape
232. pre-mo____n agricultural society *adj.* of or belonging to the present time or recent times
233. op_____ze a process *v.* to make the best or most effective use of something
234. form a nu_____s *n.* the central and most important part of something; (biology) a part of the cell containing DNA and RNA and responsible for growth and reproduction; (physics) the very dense central region of an atom
235. pr_____ly affect adults *adv.* mainly
236. syn_____ze molecules *v.* to combine a substance to make a more complex product or compound
237. enter on the last ph__e *n.* any stage in a series of events, change, or development
238. pe____t application *v.* to allow for something to happen or be done; (noun) the act of giving a formal, usually written, authorization
239. hy_____en gas *n.* the chemical element that is the lightest gas is colorless, odorless, tasteless, and combines with oxygen to form water
240. co_____t fat into energy *v.* to have a talk with someone; (adjective) reversed in order, relation, or action

ANSWERS: 230. attempt, 231. capture, 232. modern, 233. optimize, 234. nucleus, 235. primarily, 236. synthesize, 237. phase, 238. permit, 239. hydrogen, 240. convert

241. take a sn____ot *n.* an informal photograph, especially one taken quickly
242. theory of the un____se *n.* everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy
243. nuclear me____ne *n.* a soft, thin layer that forms animal or vegetable tissue
244. re____te data *v.* to make an exact copy of something; to repeat a process or experiment to confirm the results
245. a ge____c disorder *adj.* of or relating to genes (= parts of the DNA in cells) or the science of genes
246. nonmetallic el____ts *n.* a fundamental or essential part of something
247. heavy hy____en *n.* the chemical element that is the lightest gas is colorless, odorless, tasteless, and combines with oxygen to form water
248. high-resolution mic____ph *n.* a photograph or image that has been taken through a microscope or magnifying lens, typically used for scientific or medical purposes
249. good source of essential amino
a__ds *n.* sour; water-soluble chemicals with a sour flavor; any of a variety of generally liquid compounds capable of reacting with and occasionally dissolving other materials
250. ac____te a motor *v.* make something start working, more active or dynamic

ANSWERS: 241. snapshot, 242. universe, 243. membrane, 244. replicate, 245. genetic, 246. element, 247. hydrogen, 248. micrograph, 249. acid, 250. activate

251. al_____y experiment *n.* a medieval chemical philosophy and speculative theory that aimed to transform base metals into gold or produce a universal elixir that could cure all diseases and grant immortality; a process of transformation or creation that appears magical or mysterious
252. ex_____e sports *adj.* very great in amount or degree
253. ca_____te tape *n.* a small, rectangular plastic case containing magnetic tape used to record and playback audio or data on devices such as tape players or recorders; a pre-recorded tape containing music, speech, or other sound recordings
254. nec_____ly true *adv.* in an essential manner; in such a way as could not be otherwise
255. et_____l production *n.* a colorless, flammable alcohol that is produced by the fermentation of sugars and is commonly used as a fuel, solvent, and in the manufacture of alcoholic beverages
256. beam of el_____ons *n.* a tiny particle with the negative electrical charge
257. in_____te into the existing system *v.* to combine one thing with another so that they form a whole or work together; to accept equal participation for members of all races and ethnic groups
258. evolutionary bi_____y *n.* the scientific study of life and the natural processes of living things

ANSWERS: 251. alchemy, 252. extreme, 253. cassette, 254. necessarily, 255. ethanol, 256. electron, 257. integrate, 258. biology

259. ro____y explain my idea
adv. approximately but not precisely; with a violent manner
260. al____y of emotions
n. a medieval chemical philosophy and speculative theory that aimed to transform base metals into gold or produce a universal elixir that could cure all diseases and grant immortality; a process of transformation or creation that appears magical or mysterious
261. aq____s environment
adj. of or pertaining to water; containing, dissolved in, or related to water; watery or liquid in nature
262. jazz imp______ion
n. the act of making something up on the spot or creating or performing something without preparation
263. pain in the ge____l area
adj. of or relating to the external and internal reproductive organs
264. aut______lly adjusted
adv. without needing a direct human control
265. digitization of an____g sounds
adj. relating to or using signals or information represented by a continuous physical quantity such as spatial position, voltage, etc.
266. me____al chemistry
adj. of or relating to the treatment or cure of disease
267. ele______cs store
n. the branch of physics and technology that deals with the behavior and control of electrons and the use of electronic devices and systems
268. re____y available
adv. easily or willingly; without hesitation or difficulty; quickly or promptly

ANSWERS: 259. roughly, 260. alchemy, 261. aqueous, 262. improvisation, 263. genital, 264. automatically, 265. analog, 266. medicinal, 267. electronics, 268. readily

269. in__t ingredients *adj.* lacking the ability to move or act, often used to describe an object or substance that is inactive or non-reactive
270. in_____te both businesses *v.* to combine one thing with another so that they form a whole or work together; to accept equal participation for members of all races and ethnic groups
271. historical co_____t *n.* the circumstances, facts, or conditions that surround a particular event, situation, or statement and that give it meaning
272. sy_____ic fiber *adj.* made by combining chemical substances as opposed to being naturally occurring
273. the di__t in the hundreds place *n.* one of the elements that collectively form a system of numeration; a finger, thumb, or toe
274. detect a vi__l code *adj.* relating to or caused by a virus
275. cell and molecular bi_____y *n.* the scientific study of life and the natural processes of living things
276. electron mic_____pe *n.* an instrument used to see objects or substances that are too small to be seen with the naked eye
277. eve_____ly become obsolete *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
278. the DNA se_____ce *n.* a series of related events, actions, numbers, etc., which have a particular order
279. site of the ex_____on *n.* a violent release induced by a chemical or nuclear reaction

ANSWERS: 269. inert, 270. integrate, 271. context, 272. synthetic, 273. digit, 274. viral, 275. biology, 276. microscope, 277. eventually, 278. sequence, 279. explosion

280. re____ve factors *adj.* considered and evaluated through comparison with something else
281. en___e reaction *n.* a substance produced by a living organism that acts as a catalyst to bring about a specific biochemical reaction
282. learning cu___e *n.* a bend or angle in a line or surface that deviates from a straight or flat path; a gradual or smooth change in direction or shape
283. a ba___l of beer *n.* a large round container made of wood, metal, or plastic, with flat ends and, usually, curved sides; one of several units of volume
284. construction of new c___l plants *n.* a combustible black or brownish-black sedimentary rock that is found below the ground and burnt to produce heat
285. in the Book of Ge____s *n.* the origin or beginning of something; the first book of the biblical scriptures of both Judaism and Christianity, describing the creation of the Earth and humankind
286. eve_____ly succeed *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
287. a c___l-fired ship *n.* a combustible black or brownish-black sedimentary rock that is found below the ground and burnt to produce heat
288. group of or____sms *n.* a tiny living thing
289. recombinant cl___e *n.* a plant or animal whose genetic information is identical to that of a parent organism from which it was created; an unauthorized copy or imitation

ANSWERS: 280. relative, 281. enzyme, 282. curve, 283. barrel, 284. coal, 285. genesis, 286. eventually, 287. coal, 288. organism, 289. clone

290. two-ph__e structure *n.* any stage in a series of events, change, or development
291. abs_____ly against *adv.* without restriction or limitation; completely or utterly
292. ex_____ng football player *adj.* causing a lot of interest or excitement
293. re_____ze achievement *v.* to acknowledge or realize something or someone; to identify, remember, or become aware of something that was previously known or encountered
294. help di____t food *v.* to transform food into absorbable substances; break down
295. interventional ra_____gy *n.* the branch of medicine that uses medical imaging technologies such as X-rays, CT scans, MRIs, and ultrasound to diagnose and treat diseases and injuries
296. pu____y hydrogen gas *v.* to remove harmful substances from something and increase the concentration of it
297. st_____ng beauty *adj.* causing a strong emotional reaction of admiration, surprise, or shock due to its beauty, rarity, or excellence
298. co_____t base 10 to base 16 *v.* to have a talk with someone; (adjective) reversed in order, relation, or action
299. the gen_____on of electricity *n.* all the people born and living at about the same time, regarded collectively; the production of heat or electricity
300. pathogenic mi_____e *n.* a tiny living thing that can only be seen with a microscope and that may cause disease

ANSWERS: 290. phase, 291. absolutely, 292. exciting, 293. recognize, 294. digest, 295. radiology, 296. purify, 297. stunning, 298. convert, 299. generation, 300. microbe

301. abs_____ly obsessed with the girl *adv.* without restriction or limitation; completely or utterly
302. save the pl____t *n.* any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a star
303. an in_____t reply *adj.* happening immediately, with no delay
304. ele_____cs industry *n.* the branch of physics and technology that deals with the behavior and control of electrons and the use of electronic devices and systems
305. v__y directly with the price *v.* to become different in terms of size, shape, etc.
306. series of exp_____nts *n.* the scientific test conducted to observe what happens and gain new knowledge
307. an oral va_____e *n.* a substance that is put into the body and protects them from disease by causing them to produce antibodies (= proteins that attack harmful bacteria, viruses, etc.)
308. smokeless f__l *n.* a substance that is typically burned to generate heat or energy
309. lab_____ry accident *n.* a workplace for doing scientific research or teaching science; a lab
310. the au_____ic shrinking of the pupils *adj.* able to work or operate with little or no direct human control; independent of external control
311. stripes cha_____tic of the zebra *n.* a typical feature or quality that can identify, tell apart, or describe something or somebody

ANSWERS: 301. absolutely, 302. planet, 303. instant, 304. electronics, 305. vary, 306. experiment, 307. vaccine, 308. fuel, 309. laboratory, 310. automatic, 311. characteristic

312. a sop_____ted lifestyle *adj.* having a great deal of worldly experience and knowledge of people's behavior, culture, and fashion
313. c__w each word *v.* to crush or grind something, especially food, with the teeth and then swallow it
314. a un___e teacher *adj.* being the only one of its kind; unlike anything else
315. ma_____e stars *adj.* enormous amount; very heavy and solid
316. p__e back wasteful spending *v.* to trim or cut away the outer edges or excess of something, often about physical objects or figurative concepts; to reduce or simplify something to its most essential or crucial elements
317. res_____on on trade *n.* a limitation or constraint placed on something, or the act of limiting or constraining something
318. tra_____nt my family to America *v.* to move or transfer something from one place or person to another; to take living tissue or an organ from one person, animal, part of the body, etc. and put it into or onto another
319. mo___g ceremony *adj.* causing strong emotions or feelings, especially sadness or sympathy
320. un___e design *adj.* being the only one of its kind; unlike anything else
321. the end of chr_____me *n.* a long and string-like DNA molecule containing the part or all of the genetic material of an organism that controls what an animal or plant is like

ANSWERS: 312. sophisticated, 313. chew, 314. unique, 315. massive, 316. pare, 317. restriction, 318. transplant, 319. moving, 320. unique, 321. chromosome

322. an a__d reaction *n.* sour; water-soluble chemicals with a sour flavor; any of a variety of generally liquid compounds capable of reacting with and occasionally dissolving other materials
323. the ch_____ry of soil *n.* the branch of the natural sciences dealing with the composition of substances and their properties and reactions
324. cellular vi_____ty *n.* the ability of something to be successful or to continue to exist
325. ex_____t pipe *n.* the system in a vehicle that removes waste gases from the engine; (verb) to make someone completely tired
326. re_____ze talent *v.* to acknowledge or realize something or someone; to identify, remember, or become aware of something that was previously known or encountered
327. di__t identifier *n.* one of the elements that collectively form a system of numeration; a finger, thumb, or toe
328. exposure to ra_____on *n.* the energy that comes from a nuclear reaction in the form of rays, waves, or particles and that can be hazardous to health
329. met_____sm enzyme *n.* the set of chemical reactions in cells or organisms that are necessary for life-sustaining
330. ye__t cell *n.* a type of fungus that is used in making alcoholic drinks such as beer and wine or to make bread rise

ANSWERS: 322. acid, 323. chemistry, 324. viability, 325. exhaust, 326. recognize, 327. digit, 328. radiation, 329. metabolism, 330. yeast

331. ge_____l bleeding	<i>adj.</i> of or relating to the external and internal reproductive organs
332. hemoglobin met_____sm	<i>n.</i> the set of chemical reactions in cells or organisms that are necessary for life-sustaining
333. a convivial atm_____re	<i>n.</i> the mass of air that surrounds the Earth; the pervading tone or mood of a place, situation, or creative work
334. degree of ac_____cy	<i>n.</i> the state or degree of being exact or correct; the ability to perform something with proficiency and without mistake
335. de_____ted milk	<i>v.</i> to remove moisture and liquids from something thoroughly
336. au_____ph collection	<i>n.</i> a person's signature or handwritten inscription, especially that of a famous or admired individual
337. service f_e	<i>n.</i> a sum of money charged for a particular service
338. cell me_____nes	<i>n.</i> a soft, thin layer that forms animal or vegetable tissue
339. employee da_____se	<i>n.</i> a large amount of data stored in a computer system in such a way that it can be searched and updated easily
340. exp_____al function	<i>adj.</i> becoming more and more rapid; of or involving mathematical exponents
341. re_____e a phone	<i>v.</i> to take the place of something
342. E. c__i bacteria strain	<i>n.</i> a bacterium of the genus Escherichia that is commonly found in the human gut and is used as a model organism in molecular biology and biochemistry

ANSWERS: 331. genital, 332. metabolism, 333. atmosphere, 334. accuracy, 335. desiccate, 336. autograph, 337. fee, 338. membrane, 339. database, 340. exponential, 341. replace, 342. coli

343. he confessed dra_____lly *adv.* in a very impressive manner
344. gr_____cs engine *n.* images, designs, or drawings used in websites, books, magazines, etc.
345. re_____ne at the surface *v.* to combine or put together again or differently; to cause genetic recombination (= the process by which genetic material is broken and joined to other genetic material)
346. av__l ourselves of this opportunity *v.* to help or benefit; to use or take advantage of
347. an age of ab_____ce *n.* a significant amount of something; the situation in which there is too much of something
348. f_e calculation *n.* a sum of money charged for a particular service
349. sy_____is of ammonia *n.* the combination of components or elements to form a more complex whole; the creation of something new through combining parts or elements
350. sequencing of the human ge___e *n.* the complete set or sequence of genes of a human, animal, plant, or other living things
351. modern po___y *n.* poems in general as a genre of literature
352. 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: 343. dramatically, 344. graphics, 345. recombine, 346. avail, 347. abundance, 348. fee, 349. synthesis, 350. genome, 351. poetry, 352. process

353. ind_____us student *adj.* hardworking, diligent, and persistent in effort
354. pl___t like the Earth *n.* any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a star
355. 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
356. ad_____e a cooperative relationship *v.* to go or move forward; to develop in a positive way
357. the yi__d on the bond *n.* the total output of crops, profits, etc. that are produced; (verb) to produce or supply helpful something, such as a profit, an amount of food, or information
358. aerobic or_____sm *n.* a tiny living thing

ANSWERS: 353. industrious, 354. planet, 355. structure, 356. advance, 357. yield, 358. organism

Session 3: Fill in the Blanks

1. The _____ of the bees filled the air as she walked through the garden.
adj. producing a continuous, low, vibrating sound like that of the bee
2. The human _____ contains approximately three billion chemical base pairs.
n. the complete set or sequence of genes of a human, animal, plant, or other living things
3. We do move forward with those tasks in _____ next week.
n. a series of related events, actions, numbers, etc., which have a particular order
4. All peaceful cooperation is based _____ on mutual trust.
adv. mainly
5. The spaceship began to burn up as it approached the Earth's _____.
n. the mass of air that surrounds the Earth; the pervading tone or mood of a place, situation, or creative work
6. The ignition of _____ gas in the plant killed five employees.
n. a chemical compound with the chemical formula CH₄ with no smell or color, often used as a fuel
7. The experiment yielded _____ results that support his theory.
adj. sturdy and healthy in form, constitution, or construction; strong enough to withstand or overcome intellectual challenges or adversity
8. 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

ANSWERS: 1. humming, 2. genome, 3. sequence, 4. primarily, 5. atmosphere, 6. methane, 7. robust, 8. molecule

9. The younger _____ has different values and beliefs than the older one.
n. all the people born and living at about the same time, regarded collectively; the production of heat or electricity
10. _____ algorithms can find ways to optimize that humans do not anticipate.
adj. relating to or denoting how living things develop or change from earlier forms
11. We combust _____ and other fossil fuels to generate electricity.
n. a combustible black or brownish-black sedimentary rock that is found below the ground and burnt to produce heat
12. He created a beautiful piece of music using only _____.
n. the act of making something up on the spot or creating or performing something without preparation
13. I must fill my car with _____ before going on a long road trip.
n. a flammable liquid made from petroleum that is used as a fuel in internal combustion engines, commonly known as gasoline in North America
14. The user manual can _____ find the information you're looking for.
adv. easily or willingly; without hesitation or difficulty; quickly or promptly
15. The new CEO's primary mission is to _____ the company on the verge of bankruptcy.
v. to improve or renew an area, institution, system, etc., especially by making it more active or successful
16. The passage of the bill is _____.
adj. not probable or likely to happen

ANSWERS: 9. generation, 10. Evolutionary, 11. coal, 12. improvisation, 13. petrol, 14. readily, 15. regenerate, 16. unlikely

17. Little children tend to have _____ friends.

adj. existing only in someone's mind

18. The spider can _____ multiple different silk proteins.

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

19. The findings of the experiment were both _____ and unexpected.

adj. causing a lot of interest or excitement

20. Animal protection groups call for an end to animal testing in a _____.

n. a workplace for doing scientific research or teaching science; a lab

21. The painting is _____ and there is no other like it.

adj. being the only one of its kind; unlike anything else

22. In passenger aircraft, it is common to use an _____ pilot during cruising.

adj. able to work or operate with little or no direct human control; independent of external control

23. 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

24. Their headquarters are in a _____ skyscraper.

adj. of or belonging to the present time or recent times

25. The _____ organs of the human body are necessary for reproduction.

adj. of or relating to the external and internal reproductive organs

ANSWERS: 17. imaginary, 18. synthesize, 19. exciting, 20. laboratory, 21. unique, 22. automatic, 23. process, 24. modern, 25. genital

26. Their financing options are reasonable and easy to _____.
- v.* to help or benefit; to use or take advantage of
27. We must enter a six-_____ number to unlock the safe.
- n.* one of the elements that collectively form a system of numeration; a finger, thumb, or toe
28. He was _____ as the team captain for the upcoming game.
- v.* to indicate, specify, or name someone or something for a particular purpose or job; to give a name or title to something
29. Natural selection is an essential _____ in Darwin's theory of evolution.
- n.* a fundamental or essential part of something
30. He was known to be very _____ and would often work late into the night.
- adj.* hardworking, diligent, and persistent in effort
31. He was impressed by the range and _____ of the collection.
- n.* the quality or fact of many different types of things or people being included in something; a range of different things or people
32. Eventually, the new design will _____ all older models.
- v.* to take the place of something
33. Please use the _____ to clean up the mess on the floor.
- n.* a space empty of matter; a device or tool used for cleaning or removing debris by creating suction
34. The _____ and the oxygen react and then form water.
- n.* the chemical element that is the lightest gas is colorless, odorless, tasteless, and combines with oxygen to form water

ANSWERS: 26. avail, 27. digit, 28. designated, 29. element, 30. industrious, 31. diversity, 32. replace, 33. vacuum, 34. hydrogen

35. The research institute allocated a lot of money to study the cause and prevention of _____.
- n.* (formal for flu) a highly contagious viral disease that causes fever, severe aching, and catarrh and often occurs in epidemics
36. _____ weight is the sum of all the atoms.
- adj.* of or relating to molecules (= a group of two or more atoms held together by attractive forces known as chemical bonds)
37. The lawyer's ____ for the case was \$10,000.
- n.* a sum of money charged for a particular service
38. Multiple genes may influence behavioral _____ concurrently.
- n.* a particular feature of your nature
39. During pregnancy, the stomach generates less ____ than usual.
- n.* sour; water-soluble chemicals with a sour flavor; any of a variety of generally liquid compounds capable of reacting with and occasionally dissolving other materials
40. Human behavior has _____ characteristics.
- adj.* forming an essential base or core from which everything else develops or is affected
41. The teacher will not _____ any students to leave the classroom early.
- v.* to allow for something to happen or be done; (noun) the act of giving a formal, usually written, authorization
42. I found an old _____ with my favorite songs from the 80s.
- n.* a small, rectangular plastic case containing magnetic tape used to record and playback audio or data on devices such as tape players or recorders; a pre-recorded tape containing music, speech, or other sound recordings

ANSWERS: 35. influenza, 36. Molecular, 37. fee, 38. traits, 39. acid, 40. fundamental, 41. permit, 42. cassette

43. Loud noises might harm the fragile ear _____.
- n.* a soft, thin layer that forms animal or vegetable tissue
44. 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
45. The chemical _____ of the new drug was a breakthrough in medical research.
- n.* the combination of components or elements to form a more complex whole; the creation of something new through combining parts or elements
46. This device can more accurately detect _____ pathogens.
- adj.* relating to or caused by a virus
47. The recent economic downturn has resulted in _____ layoffs.
- adj.* enormous amount; very heavy and solid
48. 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
49. It's important to _____ your strengths and weaknesses.
- v.* to acknowledge or realize something or someone; to identify, remember, or become aware of something that was previously known or encountered
50. The corporation _____ dominated the entire tobacco business.
- adv.* finally, particularly after a long time or a lot of struggle, complications, and so on

ANSWERS: 43. membrane, 44. degenerated, 45. synthesis, 46. viral, 47. massive, 48. virus, 49. recognize, 50. eventually

51. These birds can only _____ in temperate climates.

v. to live or exist despite a dangerous event or period

52. This company was granted a patent for its _____ resin manufacturing process.

n. compounds and functional groups that contain a basic nitrogen atom with a lone pair (NH₂) that combine to make protein

53. My dream is to become a great _____ designer like her.

n. images, designs, or drawings used in websites, books, magazines, etc.

54. The team made it to the _____ round and is one step closer to the championship.

n. a series of games or matches played among teams or individuals to determine the winner of a competition or championship, particularly in sports

55. The _____ is about 13.8 billion years old.

n. everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy

56. Our subscription plan is _____ renewed.

adv. without needing a direct human control

57. The process was carried out at _____ cost.

adj. tiny in amount; the least possible

58. The factory's _____ fumes polluted the air and affected the health of the nearby residents.

n. the system in a vehicle that removes waste gases from the engine; (verb) to make someone completely tired

ANSWERS: 51. survive, 52. amino, 53. graphics, 54. playoff, 55. universe, 56. automatically, 57. minimal, 58. exhaust

59. 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
60. I changed the _____ on my resume to make it more visually appealing.
- n.* a complete set of characters in a particular style and size used for printing text or displaying information on a screen
61. Jockey's superior _____ brought him victory.
- n.* a particular way or art of doing something that needs skill
62. She gave money to help set up a _____ laboratory.
- adj.* relating to the production and selling of the medical drugs
63. 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
64. The mathematician explained the significance of _____ in the sequence of Fibonacci numbers.
- n.* the 21st letter of the Greek alphabet, used in mathematics and sciences to represent various concepts such as the golden ratio, magnetic flux, and phase angle
65. Some scientists argue that the genes in food should not be artificially _____.
- v.* to combine or put together again or differently; to cause genetic recombination (= the process by which genetic material is broken and joined to other genetic material)

ANSWERS: 59. structure, 60. font, 61. technique, 62. pharmaceutical, 63. discovery, 64. phi, 65. recombined

66. His _____ showed highly positive results.
n. the scientific test conducted to observe what happens and gain new knowledge
67. They carefully nurture a _____ fungus used to produce sake.
n. a type of fungus that is used in making alcoholic drinks such as beer and wine or to make bread rise
68. Cities around the world set records for highest _____ this summer.
n. the degree of hotness or coldness of a thing or place
69. The economy is growing at a supercharged _____.
n. the speed at which someone or something moves, or the rate at which something happens or changes
70. The outermost _____ shell determines the chemical properties of an atom.
n. a tiny particle with the negative electrical charge
71. There are _____ differences between the two wine-producing regions.
adj. easy to see, discover or understand
72. The bricks were _____ by the hot air completely.
v. to remove moisture and liquids from something thoroughly
73. He found that it is difficult to _____ socially.
v. to combine one thing with another so that they form a whole or work together; to accept equal participation for members of all races and ethnic groups
74. Today, the study of _____ remains an important part of the history of science and philosophy
n. a medieval chemical philosophy and speculative theory that aimed to transform base metals into gold or produce a universal elixir that could cure all diseases and grant immortality; a process of transformation or creation that appears magical or mysterious

ANSWERS: 66. experiments, 67. yeast, 68. temperatures, 69. pace, 70. electron, 71. obvious, 72. desiccated, 73. integrate, 74. alchemy

75. We would _____ an early reply.
- v.* to value and acknowledge the worth of someone or something; to be grateful for something or someone
76. The mouse and keyboard are essential _____ for operating a PC.
- n.* durable tools, machinery, and other equipment; the physical and electronic parts of a computer or other electronic systems
77. That adventurer traveled in _____ of buried treasure.
- n.* a long or challenging search for something
78. I was thrilled to get the _____ of my favorite musician after the concert.
- n.* a person's signature or handwritten inscription, especially that of a famous or admired individual
79. The study of _____ is important for understanding the origins of life on Earth
- n.* a group of single-celled microorganisms distinguished from bacteria by their unique cell wall structure and biochemical characteristics, which are found in extreme environments such as hot springs and salt flats
80. The company specializes in manufacturing and selling cutting-edge _____.
- n.* the branch of physics and technology that deals with the behavior and control of electrons and the use of electronic devices and systems
81. He tried to _____ the seedling into a larger pot.
- v.* to move or transfer something from one place or person to another; to take living tissue or an organ from one person, animal, part of the body, etc. and put it into or onto another

ANSWERS: 75. appreciate, 76. hardware, 77. quest, 78. autograph, 79. archaea, 80. electronics, 81. transplant

82. _____ diamonds play an essential role as machine tool blades.
adj. made by combining chemical substances as opposed to being naturally occurring
83. The production of _____ can have environmental benefits if produced from renewable sources.
n. a colorless, flammable alcohol that is produced by the fermentation of sugars and is commonly used as a fuel, solvent, and in the manufacture of alcoholic beverages
84. Mitochondria exist in every _____ cell.
n. organisms whose cell nuclei are surrounded by a nuclear envelope
85. Bananas have their _____ taste and odor.
n. a typical feature or quality that can identify, tell apart, or describe something or somebody
86. The mRNA _____ was approved in less than a year because it did not contain the fragments of the target virus.
n. a substance that is put into the body and protects them from disease by causing them to produce antibodies (= proteins that attack harmful bacteria, viruses, etc.)
87. Five miles is _____ similar to eight kilometers.
adv. approximately but not precisely; with a violent manner
88. 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
89. Marketing strategies are growing more _____.
adj. having a great deal of worldly experience and knowledge of people's behavior, culture, and fashion

ANSWERS: 82. Synthetic, 83. ethanol, 84. eukaryotic, 85. characteristic, 86. vaccine, 87. roughly, 88. genetic, 89. sophisticated

90. Mercury is the closest _____ to the sun.

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

91. There were framed _____ of family and friends in her room.

- n.* an informal photograph, especially one taken quickly

92. This accident was something that happened _____.

- adv.* in an essential manner; in such a way as could not be otherwise

93. My dog loves to _____ on bones.

- v.* to crush or grind something, especially food, with the teeth and then swallow it

94. The _____ properties of this herb have been known to help with various ailments.

- adj.* of or relating to the treatment or cure of disease

95. A broken gas pipe triggered the _____.

- n.* a violent release induced by a chemical or nuclear reaction

96. To advance this discussion, we must _____ "success" rigorously.

- v.* to state or explain precisely the nature, scope, or meaning of something

97. The _____ on the document ensured that it could not be forged or duplicated without permission.

- n.* a visible or invisible design or pattern that is embedded into paper or other surfaces and is used to prevent counterfeiting or illegal copying

98. The couple began to _____ over which restaurant to go to for dinner.

- v.* to express differing opinions or points of view, often in a heated or contentious manner; to present a case or reasoning to persuade or convince others

ANSWERS: 90. planet, 91. snapshots, 92. necessarily, 93. chew, 94. medicinal, 95. explosion, 96. define, 97. watermark, 98. argue

99. His _____ speech about his struggles with addiction brought tears to the audience's eyes.

adj. causing strong emotions or feelings, especially sadness or sympathy

100. I am _____ opposed to his idea because of morality.

adv. without restriction or limitation; completely or utterly

101. The _____ scarcity most severely impacted the manufacturing sector

n. a substance that is typically burned to generate heat or energy

102. Since the 1990s, the Internet has continued to experience _____ growth.

adj. becoming more and more rapid; of or involving mathematical exponents

103. The official transcript contains _____ academic records.

adj. correct and exact in all details

104. In junior high school, we had to dissect a frog in _____ class.

n. the scientific study of life and the natural processes of living things

105. The _____ of the cell shows detailed structures that the naked eye cannot see.

n. a photograph or image that has been taken through a microscope or magnifying lens, typically used for scientific or medical purposes

106. The _____ on travel during the pandemic made it difficult for people to see their loved ones.

n. a limitation or constraint placed on something, or the act of limiting or constraining something

ANSWERS: 99. moving, 100. absolutely, 101. fuel, 102. exponential, 103. accurate, 104. biology, 105. micrograph, 106. restriction

107. One rotten apple spoils the whole _____.

- n.* a large round container made of wood, metal, or plastic, with flat ends and, usually, curved sides; one of several units of volume

108. He discovered unique _____ for photochemical reactions.

- n.* a part of a machine, or a set of parts that performs a task; a natural or established process that occurs during a specific situation or reaction

109. To assure _____ I recommend investing in high-quality test kits.

- n.* the state or degree of being exact or correct; the ability to perform something with proficiency and without mistake

110. Radiation from _____ has a different wavelength.

- n.* the light emitted by the sun; the rays of the sun

111. DNA is stored in the _____ of a cell.

- n.* the central and most important part of something; (biology) a part of the cell containing DNA and RNA and responsible for growth and reproduction; (physics) the very dense central region of an atom

112. He is like an exact _____ of his brother.

- n.* a plant or animal whose genetic information is identical to that of a parent organism from which it was created; an unauthorized copy or imitation

113. I want to _____ my sadness into strength.

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

114. The equipment is frequently used to _____ and distribute drinking water.

- v.* to remove harmful substances from something and increase the concentration of it

ANSWERS: 107. barrel, 108. mechanisms, 109. accuracy, 110. sunlight, 111. nucleus, 112. clone, 113. convert, 114. purify

115. Using animals in medical research raises complex questions about _____ and animal welfare.
- n.* the study of ethical issues related to life sciences and healthcare, particularly those related to the moral implications of scientific advances in medicine and biology
116. Despite his many achievements, he remained _____ and down-to-earth.
- adj.* having or showing a humble estimate of one's merits, importance, etc.; free from vanity, egotism, boastfulness, or great pretensions
117. He tried every possible treatment, including chemotherapy and _____ therapy.
- n.* the energy that comes from a nuclear reaction in the form of rays, waves, or particles and that can be hazardous to health
118. The researchers try to discover a common _____ in all types of successful organizations.
- n.* one of several parts that combines with others to form something bigger
119. The politician's remarks became the _____ of the clash between the two countries.
- n.* the origin or beginning of something; the first book of the biblical scriptures of both Judaism and Christianity, describing the creation of the Earth and humankind
120. A deficiency in the _____ can lead to a medical condition.
- n.* a substance produced by a living organism that acts as a catalyst to bring about a specific biochemical reaction
121. Sensors convert physical phenomena into _____ signals.
- adj.* processing or storing information as a succession of 1 and 0 to show that a signal is present or missing; relating to the use of computer technology, especially the internet

ANSWERS: 115. bioethics, 116. modest, 117. radiation, 118. component, 119. genesis, 120. enzyme, 121. digital

122. The experiment was _____ several times to ensure accuracy.
- v. to make an exact copy of something; to repeat a process or experiment to confirm the results
123. Scientific knowledge will _____ significantly with the power of AI.
- v. to go or move forward; to develop in a positive way
124. She couldn't _____ whether to order the pizza or the pasta for dinner.
- v. to make up someone's mind about something; to come to a conclusion or judgment after considering options
125. The third _____ was far more successful.
- n. an act or effort of trying to do something, especially something difficult
126. She _____ the money from her savings account to her checking account.
- v. to move, pass, or change from one person, place, or situation to another
127. The era of the industrial revolution was a crucial _____ of history.
- n. any stage in a series of events, change, or development
128. Each country's officials can access the central _____.
- n. a large amount of data stored in a computer system in such a way that it can be searched and updated easily
129. Some herds have been observed to _____ hundreds of kilometers.
- v. to make or be capable of making anything longer or broader without hurting or breaking
130. I was able to _____ the moment on film.
- v. to catch a person or an animal and confine them in an area which they cannot escape

ANSWERS: 122. replicated, 123. advance, 124. decide, 125. attempt, 126. transferred, 127. phase, 128. database, 129. stretch, 130. capture

131. Human females normally have two X _____.

- n.* a long and string-like DNA molecule containing the part or all of the genetic material of an organism that controls what an animal or plant is like

132. A diversified plant species generally enhances beneficial _____ populations.

- n.* a tiny living thing

133. _____ 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

134. The company's stock gives a high _____.

- n.* the total output of crops, profits, etc. that are produced; (verb) to produce or supply helpful something, such as a profit, an amount of food, or information

135. The sun set over the crest of _____ hills.

- adj.* far away in space, time, or where you are; far apart in relevance, relationship, or kinship

136. The company specializes in both hardware and _____.

- n.* a set of computer programs and associated documentation and data for doing particular computational jobs

137. A defective _____ is responsible for the disease.

- n.* the fundamental unit of heredity and the sequence of nucleotides in DNA that codes for the creation of RNA or protein.

138. The _____ in the road was so sharp that I had to slow down to navigate it safely.

- n.* a bend or angle in a line or surface that deviates from a straight or flat path; a gradual or smooth change in direction or shape

ANSWERS: 131. chromosomes, 132. organism, 133. Bacteria, 134. yield, 135. distant, 136. software, 137. gene, 138. curve

139. 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
140. Solar gravity creates _____ pressures and temperatures.
adj. very great in amount or degree
141. _____ thrive on the surface of the human skin.
n. a tiny living thing that can only be seen with a microscope and that may cause disease
142. I used an optical _____ to observe the small organisms in the water sample.
n. an instrument used to see objects or substances that are too small to be seen with the naked eye
143. 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
144. It's important to understand the _____ of a situation before making a decision.
n. the circumstances, facts, or conditions that surround a particular event, situation, or statement and that give it meaning
145. The medication must be stored in an _____ solution to maintain effectiveness.
adj. of or pertaining to water; containing, dissolved in, or related to water; watery or liquid in nature
146. 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

ANSWERS: 139. protein, 140. extreme, 141. Microbes, 142. microscope, 143. complicated, 144. context, 145. aqueous, 146. panel

147. The essence of economics is to _____ the allocation of limited resources.
v. to make the best or most effective use of something
148. His pleasant face turned cold in an _____.
adj. happening immediately, with no delay
149. Corn is a common _____ for ethanol production.
n. the raw material or substances that are used to make a product, particularly in industrial or manufacturing processes
150. Life expectancy has grown _____ this century.
adv. in a very impressive manner
151. A healthy farm provides an _____ of food.
n. a significant amount of something; the situation in which there is too much of something
152. Every human is responsible for taking care of the Earth's _____.
n. the natural world such as air, water, and land in which humans, animals, and plants live
153. The rock was completely _____ and didn't react when we tried to break it open.
adj. lacking the ability to move or act, often used to describe an object or substance that is inactive or non-reactive
154. _____ allows for divergent evolutionary trends within species.
n. the evolutionary process by which populations evolve to become distinct species

ANSWERS: 147. optimize, 148. instant, 149. feedstock, 150. dramatically, 151. abundance, 152. environment, 153. inert, 154. Speciation

155. The project's _____ was uncertain, so we put it on hold.

n. the ability of something to be successful or to continue to exist

156. The animal rights group worked to _____ the dolphins back into the wild.

v. to set free or allow to escape from confinement

157. Most babies can readily _____ a wide variety of foods.

v. to transform food into absorbable substances; break down

158. I must _____ down my wardrobe and donate some of my clothes to charity.

v. to trim or cut away the outer edges or excess of something, often about physical objects or figurative concepts; to reduce or simplify something to its most essential or crucial elements

159. Mercury thermometers are a type of _____ sensor.

adj. relating to or using signals or information represented by a continuous physical quantity such as spatial position, voltage, etc.

160. 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

161. Maximum heart rates _____ a lot for each individual.

v. to become different in terms of size, shape, etc.

162. This train departed later than _____ scheduled.

adv. at the beginning; at first

163. Premium gas has a higher _____ rating, which makes it more expensive than regular gasoline.

n. a hydrocarbon compound (C₈H₁₈) that is a component of gasoline and is used as a measure of fuel quality, with higher octane ratings indicating better performance and greater resistance to engine knock

ANSWERS: 155. viability, 156. release, 157. digest, 158. pare, 159. analog, 160. particles, 161. vary, 162. initially, 163. octane

164. The _____ sunset took everyone's breath away.

adj. causing a strong emotional reaction of admiration, surprise, or shock due to its beauty, rarity, or excellence

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

v. make something start working, more active or dynamic

166. There was no _____ between their proposals.

v. to partially cover something by going beyond its edge

167. _____ recombination is a process that can occur during DNA repair.

adj. having the same or similar structure, position, or function, particularly in different species or organisms; related by common ancestry

168. They study the _____ of the universe.

n. a gradual process of transformation of living things

169. Due to its low vapor pressure, _____ fuel is considered safer for storage and transport than other biofuels.

n. a colorless liquid alcohol compound with four carbon atoms, commonly used as a solvent or as a fuel additive

170. He is familiar with _____ and biology.

n. the branch of the natural sciences dealing with the composition of substances and their properties and reactions

171. The _____ to the safe was a secret.

n. a collection of things that have been combined; an assemblage of separate parts or qualities

ANSWERS: 164. stunning, 165. activate, 166. overlap, 167. Homologous, 168. evolution, 169. butanol, 170. chemistry, 171. combination

172. The firm has grown into a large _____ manufacturing.

adj. relating to or connected with chemistry;

173. The patient underwent a _____ scan to diagnose their medical condition.

n. the branch of medicine that uses medical imaging technologies such as X-rays, CT scans, MRIs, and ultrasound to diagnose and treat diseases and injuries

174. Better sleep leads to increased _____.

n. the set of chemical reactions in cells or organisms that are necessary for life-sustaining

175. Most countries prohibit sexual activity between certain close _____.

adj. considered and evaluated through comparison with something else

176. She worked very hard not to _____ her boss's expectations.

v. to fail to meet someone or their hopes or expectations; to make someone feel sad

177. The study of Escherichia _____ has led to important advancements in areas such as antibiotic resistance, gut microbiome, and synthetic biology.

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

178. Different cultures have different comfortable word rhythms, so the composition of _____ varies greatly.

n. poems in general as a genre of literature

179. Advocates for legal reform hear less harsh words from their _____.

n. someone who expresses opinions about the quality of books, music, etc.

ANSWERS: 172. chemical, 173. radiology, 174. metabolism, 175. relatives, 176. disappoint, 177. coli, 178. poetry, 179. critics

ANSWERS: