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Antoine Gourévitch: What is deep tech? A look at how it could shape the future | TED Talk

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

All Words

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Session 1: Word List

lab *n.* a workplace for the conduct of scientific research; a laboratory

synonym: workshop, laboratory, research chamber

(1) **lab** instrument, (2) medical **lab**

The Prime Minister will pay a courtesy visit to the Nobel laureate's **lab**.

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**.

swift *adj.* happening, moving, or capable of moving quickly

synonym: quick, speedy, brisk

(1) take **swift** action, (2) a **swift** current of a river

Her voice was **swift**, yet ever the last words fell lingeringly.

heal *v.* to make a wound or injury to become well again

synonym: recover, bring around, mend

(1) **heal** a broken bone, (2) **heal** the hurt mind
It will take time for her mental scars to **heal**.

technological

adj. based on scientific and industrial progress
synonym : specialized, technical

(1) **technological** advancement, (2) **technological** policy
Technological advances have disrupted many industries.

chapter

n. a separate section of a written work usually numbered and titled
synonym : section, phase, episode

(1) an introductory **chapter**, (2) **chapter** of a political party
The final **chapter** provides a summary of the discussion.

innovation

n. the creation of a new device or process resulting from study and experimentation
synonym : invention, initiation, creation

(1) **innovation** leader, (2) cutting-edge **innovation**
The vegetarian burger was an **innovation** that quickly spread to the United Kingdom.

engineer

n. a person whose job is designing, building, or maintaining something such as machines, structures, or software
synonym : architect, creator, builder

(1) a civil **engineer**, (2) **engineer** shortage
The **engineer** will repair my telephone tomorrow morning.

pandemic

n. an outbreak of a disease that affects many people over a very wide area
synonym : outbreak

(1) flu **pandemic**, (2) global **pandemic**
They fear a **pandemic** of a new type of virus.

develop

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

created

synonym: evolve, progress, advance

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

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

approve

v. to think that someone or something is favorable, acceptable, or appropriate; to officially accept a plan, request, etc.

synonym: accept, authorize, agree

(1) **approve** a measures, (2) unanimously **approve** a resolution

My boss wouldn't **approve** of the plan.

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.

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.

nanoscale

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

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

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

blockchain

n. a system in which a growing list of payment records, called blocks, made in cryptocurrency is maintained across several computers that are securely linked

(1) **blockchain** platform, (2) the scalability of **blockchain**
Cryptocurrencies are only one form of implementation of **blockchain** technology.

quantum

n. the smallest amount or unit of something, especially (electromagnetic) energy

(1) probabilistic **quantum** theory, (2) laws of **quantum** mechanics

Big techs are now eager to develop **quantum** computers.

compute

v. to make a mathematical calculation

synonym: calculate

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

combine

v. to join or merge to form a single thing or group

synonym: coalesce, cohere, blend

(1) **combine** chemically with another substance,
(2) **combine** augmented reality

Hydrogen and oxygen **combine** to form water.

blend

v. to mix or combine two or more substances

synonym: combine, mix, intermingle

(1) **blend** all the elements, (2) **blend** milk and cream

The toad altered its appearance to better **blend** in with its new environments.

start-up

n. a newly established company or business

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

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

venture

n. a business project or activity that is risky or daring

synonym: enterprise, undertaking, adventure

(1) **venture** capital, (2) a joint **venture**

The **venture** into the new market was risky, but it paid off.

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.

identify

v. to recognize someone or something and say or prove who or what they are

synonym : determine, specify, recognize

(1) **identify** handwriting, (2) **identify** gene sequences

I will introduce you to how to **identify** the leading causes of the malfunction.

constraint

n. a limit or restriction on something, such as an action, behavior, or thought

synonym : limitation, restriction, bound

(1) **constraint** on business activity, (2) strict time

constraints

The budget **constraint** forced them to make difficult decisions.

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.

nuclear

adj. of or relating to or constituting the nucleus of an atom; deriving destructive energy from the release of atomic energy

synonym : atomic

(1) **nuclear** fusion, (2) use of **nuclear** power

Many countries have now agreed to a treaty banning the use of **nuclear** weapons.

fusion

n. the process of combining two or more things to form a single entity

synonym : merger, consolidation, amalgamation

(1) heat **fusion**, (2) **fusion** cuisine

Nuclear **fusion** is a process in which atomic nuclei combine to form heavier nuclei.

mobility

n. the ability to move or be moved freely or easily from one place, job, or social class to another

synonym : flexibility, maneuverability

(1) lack in **mobility**, (2) improve social **mobility**

I have limited **mobility** in my arms.

robotaxi

n. a type of autonomous vehicle that operates as a taxi service, transporting passengers without the need for a driver

synonym : autonomous taxi, self-driving cab, robotic cab

(1) **robotaxi** service, (2) self-driving **robotaxi**

The cost of transportation could be significantly reduced with the adoption of **robotaxis**.

hub

n. the central or main part of a particular place, activity, network, etc.; the central part of a car wheel, fan, propeller, etc., through which the shaft or axle passes

synonym : center, junction, focal point

(1) a **hub** of commerce, (2) education **hub**

This airport has taken the first step to become an international **hub** airport.

emerging

adj. starting to exist, mature, or become well-known

synonym : arising, occurring, state-of-the-art

(1) **emerging** country, (2) **emerging** technologies

Emerging technologies have dramatically improved productivity in various industries.

intelligence

n. the ability to learn, comprehend, or make judgments or conclusions based on reasons

synonym : brains, brightness, cleverness

(1) an **intelligence** test, (2) field of artificial **intelligence**
In terms of **intelligence**, he was head and shoulders above his classmates.

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.

platform

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

synonym : stage, podium, forum

(1) an arrival **platform**, (2) a digital **platform** for enterprise
The speaker mounted the **platform** and started to speak.

accelerate

v. to make something faster or earlier; to cause to develop or progress more quickly

synonym : speed up, quicken, rev

(1) **accelerate** a chemical reaction, (2) **accelerate** the car
The government tried to **accelerate** the commercialization of this development.

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.

rely

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

synonym : depend, count, lean

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

ecosystem

n. all the plants and living creatures in an area and the way they affect each other and the environment

(1) marine **ecosystem**, (2) change the **ecosystem**

Human conservation efforts often fail unexpectedly because they disturb the balance of the **ecosystem**.

cycle

n. an interval during which a recurring sequence of events occurs; a bicycle or motorcycle

synonym: revolution, rotation, bike

(1) the **cycle** of the seasons, (2) go to the workplace by **cycle**

The food chain causes a material **cycle**.

discipline

n. the practice of training people to obey rules or a code of behavior, using and punishments if these are broken; a region of activity, knowledge, or influence

synonym: training, restraint, field

(1) break **discipline**, (2) rigid **discipline**

He quickly learned the military **discipline**.

cooperation

n. the act or situation of working together with someone towards a shared purpose, benefit, etc.

synonym: collaboration, affiliation, alliance

(1) **cooperation** with strategic partners, (2) thoroughgoing **cooperation**

The **cooperation** between businesses and universities created this groundbreaking product.

competition

n. a situation in which someone is attempting to beat or outperform another

synonym: contest, match, fight

(1) the first round of the **competition**, (2) intraspecific **competition**

Global **competition** is rising in virtually every industry.

ultimate

adj. furthest or highest in degree or order

synonym : highest, maximum, foremost

(1) the **ultimate** goal in life, (2) the **ultimate** luxury

Management must take **ultimate** responsibility for the accident.

transform

v. to change in outward structure or looks;

synonym : alter, convert, change

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

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

ongoing

adj. continuing to exist or develop, or currently happening

synonym : continuous, current, proceeding

(1) still **ongoing**, (2) **ongoing** support

The new prime minister has vowed to take measures against the **ongoing** economic crisis.

pioneer

n. inventor; explorer; someone who is among the first to achieve something

synonym : frontiersperson, innovator, trailblazer

(1) act as a **pioneer**, (2) early **pioneers**

John Whitney was a computer animation **pioneer**.

disrupt

v. to prevent or stop something, especially an event, activity, or process, from continuing in the usual way by causing a problem or disturbance

synonym : interrupt, disturb, break into

(1) **disrupt** a well-ordered condition, (2) **disrupt** sleep

I'm so sorry to **disrupt** you when you're pretty busy.

aerospace

adj. pertaining to the design, engineering, science, and technology related to the Earth's atmosphere and the exploration or use of space beyond it

synonym : aeronautical, space, aviation

(1) **aerospace** engineering, (2) **aerospace** and defense industry

NASA is an **aerospace** organization that explores space and improves aviation technology.

reuse

v. to use something again or more than once

synonym: reprocess, recycle, rehash

(1) **reuse** the materials, (2) **reuse** existing knowledge

The supermarket encourages shoppers to **reuse** plastic bags.

rocket

n. a large tube-shaped object that moves very fast by a stream of gases let out behind it, used for space travel or as a weapon

synonym: projectile, missile

(1) **rocket** attack against the enemy, (2) **rocket** fuel

The **rocket** launch platform is visible from this hill.

spaceship

n. (especially in science fiction) a spacecraft designed to carry a crew into interstellar space

synonym: starship, rocket, spacecraft

(1) a **spaceship** to survey the moon, (2) alien **spaceship**

They launched a crewless **spaceship** into space.

achieve

v. to successfully complete a task or goal, often through hard work, perseverance, and dedication; to attain or accomplish something that one has set out to do

synonym: accomplish, attain, reach

(1) **achieve** success, (2) **achieve** milestones

I will work hard to **achieve** my goals and realize my dreams.

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.

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.

vertical

adj. upright or perpendicular to a horizontal surface or line
synonym : perpendicular, upright, plumb

(1) **vertical** takeoff, (2) **vertical** axis

The ladder leaned against the **vertical** surface of the building.

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.

modular

adj. consisting of distinct or separable parts or units that can be joined together and form a complete whole

synonym : interchangeable, standard, transposable

(1) build a **modular** system, (2) **modular** furniture

Computers have a **modular** structure, making it easy to upgrade essential functions.

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.

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**.

aspect

n. one part or feature of a situation, problem, subject, etc.
synonym: characteristic, element, factor

(1) nontechnical **aspects** of the job, (2) **aspects** of social, political, and economic life

His professional experience includes all **aspects** of media production.

creative

adj. relating to or involving the use of skill and original and unusual ideas to create something

synonym: imaginative, innovative, inventive

(1) **creative** writing, (2) barren of **creative** spirit

All the supervisor has to do is assign tasks that make his subordinates more **creative**.

physics

n. the science of matter and energy and their interactions

(1) nuclear **physics**, (2) laws of **physics**

He studied the **physics** of radiation.

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.

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.

knight

n. a mounted soldier in the past, typically one of noble birth trained to fight in armor; (today in Great Britain) a person honored by the sovereign for personal merit

synonym : noble, cavalier, chevalier

(1) the black **knight**, (2) white **knight**

In medieval Europe, a monarch or feudal lord granted the title of the **knight** to a warrior who had demonstrated skill and bravery in battle.

automated

adj. carried out by machines or computers to replace or decrease human labor

synonym : computerized, mechanical, laborsaving

(1) **automated** manual transmission, (2) **automated** way

The plant will continue operating through an **automated** system 24 hours a day.

robotic

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

synonym : automated, mechanical, laborsaving

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

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

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.

internal

adj. of or relating to the inside of something

synonym : interior, inner, domestic

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

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

metagenomics

n. the study of genetic material recovered from environmental samples rather than from individual organisms to understand the diversity and function of microbial communities

synonym: metagenome analysis, environmental genomics, community genomics

(1) **metagenomics** technology, (2) **metagenomics** sequencing

The field of **metagenomics** studies the genetic material found in complex microbial communities.

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**.

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.

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.

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.

microorganism

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

synonym: germ, microbe, bacterium

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

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

mammalian

adj. of or relating to mammals, a class of warm-blooded vertebrate animals that typically nurse their young and have hair or fur on their skin; characterized by mammalian qualities, such as nurturing and protective behavior

synonym: animal, mammal-like, warm-blooded

(1) **mammalian** embryo, (2) **mammalian** evolution

Mammalian milk is known to be rich in protein and essential vitamins.

converge

v. to move or draw together at a specific location; (of lines) to move towards the same point where they join or meet

synonym: congregate, assemble, concentrate

(1) **converge** of a series, (2) **converge** from different points

The two rivers **converge** into one near this area.

facility

n. a building or place that provides a particular service or is used for a particular industry

synonym: building, structure, installation

(1) a cell phone with an internet **facility**, (2) **facility** design

This company has an entire recycling **facility**, including major reprocessing plants.

operate

v. to work in a particular way; to supervise something

synonym: work, use, employ

(1) **operate** 24 hours a day, (2) manually **operate** a machine

This machine is too difficult to **operate** for me.

investor

n. someone who puts money or capital into something to gain financial returns

synonym: financier, banker, stockholder

(1) **investor** lawsuit, (2) a real estate **investor**

Institutional **investors** refrained from buying stocks amid the booming economy.

rethink

v. to consider again a plan, idea, etc., especially to change it

synonym: reexplore, review, reconsider

(1) **rethink** a marketing plan, (2) **rethink** the role of the manager

We have to **rethink** our company's product lineup for further growth.

govern

v. to legally control and direct a country, city, group of people, etc. and be responsible for introducing new laws, organizing and maintaining public services

synonym: control, rule, preside

(1) a nation's right to **govern**, (2) **govern** a public enterprise

The regulations **governing** medical malpractice claims are rigorous.

oriented

adj. referring to someone or something that is focused or directed toward a particular goal or objective; organized around a specific principle or approach

synonym: aligned, directed, focused

(1) **oriented** graph, (2) technology- **oriented**

The company is very customer- **oriented** and strives to provide excellent service.

nitrogen

n. a chemical element with the symbol N and atomic number 7, which is a highly reactive element that forms part of many compounds, including amino acids and proteins

(1) heavy **nitrogen**, (2) **nitrogen** absorption

Nitrogen gas is used to inflate car tires because it does not

react with rubber.

fertilizer

n. a natural or chemical substance added to soil to make plants grow more successfully

synonym: manure

(1) a chemical **fertilizer**, (2) nonsynthetic **fertilizer**

Nitrogen fixation by the Haber-Bosch method leads to the mass production of **fertilizers**.

greenhouse

n. a building with walls and roof made chiefly of transparent material, such as glass, for growing plants in

synonym: conservatory

(1) exotic plants in a **greenhouse**, (2) emissions of **greenhouse** gases

The **greenhouse** effect is a phenomenon that happens naturally.

pollute

v. to make an area or substance, such as land, air, water, etc., dirty or harmful to living things by adding waste matter or harmful chemicals

synonym: contaminate, corrupt, degrade

(1) **pollute** the air, (2) **pollute** the thread

We should do our best not to **pollute** the environment.

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.

intersect

v. to meet or cross one another

synonym: cross, bisect, cut

(1) **intersect** at a point, (2) railways **intersect** the country

Her multidisciplinary works **intersect** music and picture with

writing.

disciplinary

adj. of or relating to the punishment of people who break the rules; of or relating to a specific field of academic study

synonym : corrective, punitive, instructive

(1) **disciplinary** action, (2) take **disciplinary** measures

The school's **disciplinary** committee met to discuss the student's behavior.

concrete

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

synonym : actual, factual, hardened

(1) a **concrete** noun, (2) **concrete** examples

The president asked for a more **concrete** plan.

commonwealth

n. a community of nations or people or a state in which the people hold the supreme power

synonym : federation, union, republic

(1) the **commonwealth** of learning, (2) **commonwealth** authority

The **Commonwealth** of Nations is an association of 54 countries, mostly former territories of the British Empire.

breakthrough

n. a sudden, dramatic, and important discovery or development that helps to improve a situation or provide an answer to a problem

synonym : advance, progress, innovation

(1) **breakthrough** in the negotiations, (2) **breakthrough** discovery

A technique called deep learning has led to **breakthroughs** in AI.

calculation

n. the act or process of using numbers to judge an amount of something

synonym : analysis, computation, estimate

(1) make a **calculation**, (2) **calculation** of loss and gain

The error in the **calculation** was attributable to rounding.

simulate

v. to make a pretense of someone's behavior or looks; to reproduce something that exists in real life using computers, models, etc., usually for study or training purposes

synonym: pretend, imitate, mimic

(1) **simulate** climate change, (2) **simulate** a future scenario
He had painted the wood to **simulate** stone.

doable

adj. possible to do; capable of existing, taking place, or proving true

synonym: realizable, accomplishable, achievable

(1) make a **doable** plan, (2) **doable** in daily life
This project is **doable** despite the tight schedule.

corporate

adj. of or relating to a large company

synonym: business, commercial, organizational

(1) **corporate** right, (2) **corporate** environment
The **corporate** office has decided to lay off 10% of the workforce.

invest

v. to put money, effort, time, etc. into something to make a profit or achieve a result

synonym: fund, sponsor, support

(1) **invest** in stocks, (2) **invest** capital
The government should view children as national assets and actively **invest** in them.

plasma

n. (biology) the yellow-colored liquid component of blood, in which blood cells are suspended; (physics) one of the four fundamental states of matter consisting of positive ions and free electrons

(1) **plasma** membrane, (2) high-temperature **plasma**
Blood **plasma** makes up about half of the volume of blood.

collaborate

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

synonym: cooperate, unite, get together

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

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

government

n. the group of people with authority to control a country or state

synonym: administration, regime, state

(1) **government** bureaucracy, (2) **government** funding

The federal **government** is planning to increase taxes for the next fiscal year.

adopt

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

synonym: accept, assume, take on

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

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

assume

v. to think or accept something to be true without having proof of it; to take or begin to have power; to begin to exhibit a specific quality or appearance

synonym: guess, presume, suppose

(1) **assume** a lousy attitude to his boss, (2) **assume** an important role

The following example **assumes** that the capacity of each battery is the same.

prototype

n. a first or preliminary example of something such as a device or vehicle from which other forms are developed

synonym: mock-up, precursor, model

(1) complete a **prototype** product, (2) early **prototype**

The flying car is presently in the **prototype** stage.

anticipate

v. to expect or predict that something will happen; to tell in advance

synonym : forecast, predict, expect

(1) **anticipate** your kind cooperation, (2) **anticipate** a black future

We **anticipate** heavy snowfall tomorrow.

friction

n. the force that opposes motion between two objects in contact, especially by producing heat and wear, and is proportional to the normal force between the objects

synonym : rub, scrape, resistance

(1) **friction** force, (2) surface **friction**

The **friction** between the two countries was causing tension.

aviation

n. the activity or process of designing, building, flying, and maintaining aircraft

synonym : flying, flight, aeronautics

(1) global **aviation** industry, (2) civil **aviation**

The **aviation** expert analyzed the fluid around the aircraft.

aim

v. to try or plan to get or achieve something

synonym : aspire, direct, target

(1) **aim** at a specific target, (2) **aim** to be a nurse

We **aim** for an overseas expansion.

urban

adj. relating to or located in a town or city

synonym : metropolitan, civic

(1) **urban** planning, (2) **urban** property owners

Only a small number of **urban** utilities offer sanitation services.

flee

v. to leave by running away, especially out of fear or danger

synonym : exit, escape, run away

(1) **flee** their homes, (2) **flee** abroad

It is a basic instinct to **flee** from a dangerous situation.

merge

v. to combine or integrate things, or to cause this to happen

synonym: combine, join, coalesce

(1) **merge** into a new party, (2) **merge** those systems into a new one

This consulting firm decided to **merge** the two companies into one.

economics

n. the branch of social science that deals with the production, consumption, and transfer of goods and services

synonym: social science, finance, business

(1) welfare **economics**, (2) **economics** professor

His class will cover an introduction to agricultural **economics**.

lighthouse

n. a tower or other structure that is equipped with a powerful light designed to guide ships safely to harbor or warn them of impending danger

synonym: beacon, pharos, guiding light

(1) **lighthouse** beacon, (2) **lighthouse** keeper

Tourists gathered at the **lighthouse's** base to take photos and admire the view.

ruthless

adj. lacking in pity or compassion; willing to do whatever it takes to achieve their goals, regardless of the consequences for others

synonym: heartless, pitiless, merciless

(1) show **ruthless** behavior, (2) **ruthless** brutality

The dictator was known for his **ruthless** tactics and had no qualms about using violence to maintain power.

parameter

n. a numerical or other measurable factors that characterize a system or set of data

synonym: factor, variable, characteristic

(1) **parameter** estimation, (2) **parameter** tuning

The temperature range was one of the critical **parameters** we had to consider when designing the experiment.

transparent

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

synonym : translucent, evident, diaphanous

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

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

circuit

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

synonym : route, course, rotation

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

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

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.

fermentation

n. the chemical breakdown of a substance by bacteria, yeasts, or other microorganisms, typically involving effervescence and the giving off of the heat

synonym : brewing, culturing, pickling

(1) oxidative **fermentation**, (2) **fermentation** tank

The process of **fermentation** is used to make beer, wine, and many other products.

petroleum

n. a flammable liquid consisting of a complex mixture of hydrocarbons that occurs naturally in certain rock formations and can also be refined to produce fuels such as gasoline, diesel, and jet fuel

synonym : oil, crude oil, fossil fuel

(1) liquefied **petroleum** gas, (2) crude **petroleum**

The country's economy relies heavily on its **petroleum** industry.

- 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
- cultivate** *v.* to prepare and foster land for growing crops or plants
synonym: boost, foster, nurture
(1) **cultivate** a field, (2) **cultivate** relationships
University is a great place to **cultivate** our minds and expertise.
- eliminate** *v.* to remove or get rid of someone or something
synonym: wipe out, destroy, eradicate
(1) **eliminate** contestants, (2) **eliminate** sexual barriers
We can **eliminate** this possibility from those consumptions.
- congest** *v.* to make something blocked or crowded so as to hinder or prevent freedom of movement or flow of liquid
synonym: clog, choke, crowd
(1) **congest** in a vein, (2) **congest** a highway
The roads to the airport were heavily **congested**.
- plague** *n.* any epidemic disease with a high death rate; (also called pest) a serious, sometimes fatal, infection spread by rats that causes fever and swellings on the body
synonym: epidemic, pandemic, pest
(1) catch the **plague**, (2) deadly **plague**
Our farm experienced a **plague** of locusts this year.
- opportune** *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
synonym: suitable, timely, practical
(1) **opportune** occasion, (2) an **opportune** remark
The phone rang at the most **opportune** time.

invite

v. to ask someone to come or join; to offer an opportunity or possibility for something to happen or take place

synonym: ask, request, summon

(1) **invite** guests, (2) **invite** criticism

We want to **invite** you to our annual charity event.

Session 2: Spelling

1. pa_____er tuning *n.* a numerical or other measurable factors that characterize a system or set of data
2. liquefied pe_____um gas *n.* a flammable liquid consisting of a complex mixture of hydrocarbons that occurs naturally in certain rock formations and can also be refined to produce fuels such as gasoline, diesel, and jet fuel
3. build a mo_____r system *adj.* consisting of distinct or separable parts or units that can be joined together and form a complete whole
4. a cell phone with an internet fa_____ty *n.* a building or place that provides a particular service or is used for a particular industry
5. a joint ve_____e *n.* a business project or activity that is risky or daring
6. white kn_____t *n.* a mounted soldier in the past, typically one of noble birth trained to fight in armor; (today in Great Britain) a person honored by the sovereign for personal merit
7. tra_____nt crystal *adj.* easy to perceive, detect, or understand; (of a material or article) permitting light to pass through freely
8. welfare ec_____cs *n.* the branch of social science that deals with the production, consumption, and transfer of goods and services

ANSWERS: 1. parameter, 2. petroleum, 3. modular, 4. facility, 5. venture, 6. knight, 7. transparent, 8. economics

- | | |
|---|--|
| 9. two-ph__e structure | <i>n.</i> any stage in a series of events, change, or development |
| 10. the te_____ue applied to construction | <i>n.</i> a particular way or art of doing something that needs skill |
| 11. si_____te a future scenario | <i>v.</i> to make a pretense of someone's behavior or looks; to reproduce something that exists in real life using computers, models, etc., usually for study or training purposes |
| 12. tr_____rm an education system | <i>v.</i> to change in outward structure or looks; |
| 13. bre_____ugh discovery | <i>n.</i> a sudden, dramatic, and important discovery or development that helps to improve a situation or provide an answer to a problem |
| 14. as___ts of social, political, and economic life | <i>n.</i> one part or feature of a situation, problem, subject, etc. |
| 15. in___e criticism | <i>v.</i> to ask someone to come or join; to offer an opportunity or possibility for something to happen or take place |
| 16. ni_____en absorption | <i>n.</i> a chemical element with the symbol N and atomic number 7, which is a highly reactive element that forms part of many compounds, including amino acids and proteins |
| 17. an introductory ch_____r | <i>n.</i> a separate section of a written work usually numbered and titled |
| 18. early pr_____pe | <i>n.</i> a first or preliminary example of something such as a device or vehicle from which other forms are developed |

ANSWERS: 9. phase, 10. technique, 11. simulate, 12. transform, 13. breakthrough, 14. aspect, 15. invite, 16. nitrogen, 17. chapter, 18. prototype

19. exotic plants in a gre_____se *n.* a building with walls and roof made chiefly of transparent material, such as glass, for growing plants in
20. au_____ed way *adj.* carried out by machines or computers to replace or decrease human labor
21. field of artificial int_____nce *n.* the ability to learn, comprehend, or make judgments or conclusions based on reasons
22. a sp_____ip to survey the moon *n.* (especially in science fiction) a spacecraft designed to carry a crew into interstellar space
23. au_____ed manual transmission *adj.* carried out by machines or computers to replace or decrease human labor
24. co_____te right *adj.* of or relating to a large company
25. sy_____ic fiber *adj.* made by combining chemical substances as opposed to being naturally occurring
26. in___e guests *v.* to ask someone to come or join; to offer an opportunity or possibility for something to happen or take place
27. toxic ch_____als *adj.* relating to or connected with chemistry;
28. ant_____te a black future *v.* to expect or predict that something will happen; to tell in advance
29. f__e their homes *v.* to leave by running away, especially out of fear or danger
30. ae_____ce engineering *adj.* pertaining to the design, engineering, science, and technology related to the Earth's atmosphere and the exploration or use of space beyond it

ANSWERS: 19. greenhouse, 20. automated, 21. intelligence, 22. spaceship, 23. automated, 24. corporate, 25. synthetic, 26. invite, 27. chemical, 28. anticipate, 29. flee, 30. aerospace

- | | |
|------------------------------------|--|
| 31. ur__n planning | <i>adj.</i> relating to or located in a town or city |
| 32. col_____te with the police | <i>v.</i> to work with someone else to produce or achieve something |
| 33. el_____te sexual barriers | <i>v.</i> to remove or get rid of someone or something |
| 34. deadly pl___e | <i>n.</i> any epidemic disease with a high death rate; (also called pest) a serious, sometimes fatal, infection spread by rats that causes fever and swellings on the body |
| 35. ve_____al takeoff | <i>adj.</i> upright or perpendicular to a horizontal surface or line |
| 36. ve_____e capital | <i>n.</i> a business project or activity that is risky or daring |
| 37. h__l a broken bone | <i>v.</i> to make a wound or injury to become well again |
| 38. ac_____e milestones | <i>v.</i> to successfully complete a task or goal, often through hard work, perseverance, and dedication; to attain or accomplish something that one has set out to do |
| 39. railways in_____ct the country | <i>v.</i> to meet or cross one another |
| 40. a real estate in_____or | <i>n.</i> someone who puts money or capital into something to gain financial returns |
| 41. bl__d all the elements | <i>v.</i> to mix or combine two or more substances |
| 42. a chemical fer_____er | <i>n.</i> a natural or chemical substance added to soil to make plants grow more successfully |

ANSWERS: 31. urban, 32. collaborate, 33. eliminate, 34. plague, 35. vertical, 36. venture, 37. heal, 38. achieve, 39. intersect, 40. investor, 41. blend, 42. fertilizer

43. di____t sleep *v.* to prevent or stop something, especially an event, activity, or process, from continuing in the usual way by causing a problem or disturbance
44. op_____ne occasion *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
45. education h_b *n.* the central or main part of a particular place, activity, network, etc.; the central part of a car wheel, fan, propeller, etc., through which the shaft or axle passes
46. inn_____on leader *n.* the creation of a new device or process resulting from study and experimentation
47. crude pe_____um *n.* a flammable liquid consisting of a complex mixture of hydrocarbons that occurs naturally in certain rock formations and can also be refined to produce fuels such as gasoline, diesel, and jet fuel
48. break dis_____ne *n.* the practice of training people to obey rules or a code of behavior, using and punishments if these are broken; a region of activity, knowledge, or influence
49. a civil en_____er *n.* a person whose job is designing, building, or maintaining something such as machines, structures, or software
50. in____t capital *v.* to put money, effort, time, etc. into something to make a profit or achieve a result

ANSWERS: 43. disrupt, 44. opportune, 45. hub, 46. innovation, 47. petroleum, 48. discipline, 49. engineer, 50. invest

51. in___t in stocks *v.* to put money, effort, time, etc. into something to make a profit or achieve a result
52. ro____xi service *n.* a type of autonomous vehicle that operates as a taxi service, transporting passengers without the need for a driver
53. the first round of the com_____on *n.* a situation in which someone is attempting to beat or outperform another
54. the cy__e of the seasons *n.* an interval during which a recurring sequence of events occurs; a bicycle or motorcycle
55. as___e an important role *v.* to think or accept something to be true without having proof of it; to take or begin to have power; to begin to exhibit a specific quality or appearance
56. com_____lth authority *n.* a community of nations or people or a state in which the people hold the supreme power
57. re__e the materials *v.* to use something again or more than once
58. co_____t in a vein *v.* to make something blocked or crowded so as to hinder or prevent freedom of movement or flow of liquid
59. re_____k a marketing plan *v.* to consider again a plan, idea, etc., especially to change it
60. oxidative fer_____ion *n.* the chemical breakdown of a substance by bacteria, yeasts, or other microorganisms, typically involving effervescence and the giving off of the heat

ANSWERS: 51. invest, 52. robotaxi, 53. competition, 54. cycle, 55. assume, 56. commonwealth, 57. reuse, 58. congest, 59. rethink, 60. fermentation

61. 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
62. cutting-edge inn_____on *n.* the creation of a new device or process resulting from study and experimentation
63. the com_____lth of learning *n.* a community of nations or people or a state in which the people hold the supreme power
64. de_____p a skill *v.* to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created
65. make a do___e plan *adj.* possible to do; capable of existing, taking place, or proving true
66. ur___n property owners *adj.* relating to or located in a town or city
67. con_____nt on business activity *n.* a limit or restriction on something, such as an action, behavior, or thought
68. lig_____se beacon *n.* a tower or other structure that is equipped with a powerful light designed to guide ships safely to harbor or warn them of impending danger
69. flow of el_____ons *n.* a tiny particle with the negative electrical charge
70. 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

ANSWERS: 61. enzyme, 62. innovation, 63. commonwealth, 64. develop, 65. doable, 66. urban, 67. constraint, 68. lighthouse, 69. electron, 70. digital

71. na_____le device *adj.* on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale
72. surface fr_____on *n.* the force that opposes motion between two objects in contact, especially by producing heat and wear, and is proportional to the normal force between the objects
73. technology-or_____ed *adj.* referring to someone or something that is focused or directed toward a particular goal or objective; organized around a specific principle or approach
74. em_____ng country *adj.* starting to exist, mature, or become well-known
75. dis_____ary action *adj.* of or relating to the punishment of people who break the rules; of or relating to a specific field of academic study
76. nu_____r fusion *adj.* of or relating to or constituting the nucleus of an atom; deriving destructive energy from the release of atomic energy
77. cu_____te a field *v.* to prepare and foster land for growing crops or plants
78. fun_____al rights *adj.* forming an essential base or core from which everything else develops or is affected
79. alien sp_____ip *n.* (especially in science fiction) a spacecraft designed to carry a crew into interstellar space

ANSWERS: 71. nanoscale, 72. friction, 73. oriented, 74. emerging, 75. disciplinary, 76. nuclear, 77. cultivate, 78. fundamental, 79. spaceship

80. de____p a strategy *v.* to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created
81. improve social mo____ty *n.* the ability to move or be moved freely or easily from one place, job, or social class to another
82. fr____on force *n.* the force that opposes motion between two objects in contact, especially by producing heat and wear, and is proportional to the normal force between the objects
83. 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
84. as____e a lousy attitude to his boss *v.* to think or accept something to be true without having proof of it; to take or begin to have power; to begin to exhibit a specific quality or appearance
85. me__e into a new party *v.* to combine or integrate things, or to cause this to happen
86. self-driving ro____xi *n.* a type of autonomous vehicle that operates as a taxi service, transporting passengers without the need for a driver
87. tr____rm heat into power *v.* to change in outward structure or looks;

ANSWERS: 80. develop, 81. mobility, 82. friction, 83. discovery, 84. assume, 85. merge, 86. robotaxi, 87. transform

88. a digital pl_____rm for enterprise *n.* the raised flat space close to the track at a train station where passengers get on or off the train; (technology) a computational or digital environment in which a piece of software is executed
89. gov_____nt bureaucracy *n.* the group of people with authority to control a country or state
90. so_____re architect *n.* a set of computer programs and associated documentation and data for doing particular computational jobs
91. l_b instrument *n.* a workplace for the conduct of scientific research; a laboratory
92. co_____e augmented reality *v.* to join or merge to form a single thing or group
93. sy_____ic fertilizer *adj.* made by combining chemical substances as opposed to being naturally occurring
94. high-temperature pl____a *n.* (biology) the yellow-colored liquid component of blood, in which blood cells are suspended; (physics) one of the four fundamental states of matter consisting of positive ions and free electrons
95. a_m at a specific target *v.* to try or plan to get or achieve something
96. en_____er shortage *n.* a person whose job is designing, building, or maintaining something such as machines, structures, or software
97. r__y on convenience stores *v.* to require a specific thing or the assistance and support of someone or something to continue, run properly, or succeed.

ANSWERS: 88. platform, 89. government, 90. software, 91. lab, 92. combine, 93. synthetic, 94. plasma, 95. aim, 96. engineer, 97. rely

98. ad_____e a cooperative relationship *v.* to go or move forward; to develop in a positive way
99. 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
100. ma_____an embryo *adj.* of or relating to mammals, a class of warm-blooded vertebrate animals that typically nurse their young and have hair or fur on their skin; characterized by mammalian qualities, such as nurturing and protective behavior
101. ind_____us student *adj.* hardworking, diligent, and persistent in effort
102. 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
103. an int_____nce test *n.* the ability to learn, comprehend, or make judgments or conclusions based on reasons
104. ro_____c guide operation *adj.* of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots

ANSWERS: 98. advance, 99. process, 100. mammalian, 101. industrious, 102. bacteria, 103. intelligence, 104. robotic

105. ap_____e a measures *v.* to think that someone or something is favorable, acceptable, or appropriate; to officially accept a plan, request, etc.
106. a nation's right to go____n *v.* to legally control and direct a country, city, group of people, etc. and be responsible for introducing new laws, organizing and maintaining public services
107. act as a pi_____r *n.* inventor; explorer; someone who is among the first to achieve something
108. an op_____ne remark *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
109. co_____ge of a series *v.* to move or draw together at a specific location; (of lines) to move towards the same point where they join or meet
110. nontechnical as____ts of the job *n.* one part or feature of a situation, problem, subject, etc.
111. the black kn____t *n.* a mounted soldier in the past, typically one of noble birth trained to fight in armor; (today in Great Britain) a person honored by the sovereign for personal merit
112. cu_____te relationships *v.* to prepare and foster land for growing crops or plants
113. in_____ct at a point *v.* to meet or cross one another
114. a sw__t current of a river *adj.* happening, moving, or capable of moving quickly
115. co_____t a highway *v.* to make something blocked or crowded so as to hinder or prevent freedom of movement or flow of liquid

ANSWERS: 105. approve, 106. govern, 107. pioneer, 108. opportune, 109. converge, 110. aspect, 111. knight, 112. cultivate, 113. intersect, 114. swift, 115. congest

116. things at the na_____le *adj.* on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale
117. di_____t a well-ordered condition *v.* to prevent or stop something, especially an event, activity, or process, from continuing in the usual way by causing a problem or disturbance
118. el_____te contestants *v.* to remove or get rid of someone or something
119. ac_____e success *v.* to successfully complete a task or goal, often through hard work, perseverance, and dedication; to attain or accomplish something that one has set out to do
120. fa_____ty design *n.* a building or place that provides a particular service or is used for a particular industry
121. 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
122. ae_____ce and defense industry *adj.* pertaining to the design, engineering, science, and technology related to the Earth's atmosphere and the exploration or use of space beyond it
123. 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
124. a tra_____nt lie *adj.* easy to perceive, detect, or understand; (of a material or article) permitting light to pass through freely

ANSWERS: 116. nanoscale, 117. disrupt, 118. eliminate, 119. achieve, 120. facility, 121. database, 122. aerospace, 123. digital, 124. transparent

125. smokeless f__l *n.* a substance that is typically burned to generate heat or energy
126. ad__t a child *v.* to choose to follow something; to legally take a child from another family and care for them as if they were one's own
127. change the ec_____em *n.* all the plants and living creatures in an area and the way they affect each other and the environment
128. id_____fy gene sequences *v.* to recognize someone or something and say or prove who or what they are
129. po_____e the air *v.* to make an area or substance, such as land, air, water, etc., dirty or harmful to living things by adding waste matter or harmful chemicals
130. fer_____ion tank *n.* the chemical breakdown of a substance by bacteria, yeasts, or other microorganisms, typically involving effervescence and the giving off of the heat
131. probabilistic qu_____m theory *n.* the smallest amount or unit of something, especially (electromagnetic) energy
132. acc_____te a chemical reaction *v.* to make something faster or earlier; to cause to develop or progress more quickly
133. early pi_____rs *n.* inventor; explorer; someone who is among the first to achieve something
134. re_____k the role of the manager *v.* to consider again a plan, idea, etc., especially to change it

ANSWERS: 125. fuel, 126. adopt, 127. ecosystem, 128. identify, 129. pollute, 130. fermentation, 131. quantum, 132. accelerate, 133. pioneer, 134. rethink

135. lack in mo____ty *n.* the ability to move or be moved freely or easily from one place, job, or social class to another
136. mo___n poetry *adj.* of or belonging to the present time or recent times
137. cal_____on of loss and gain *n.* the act or process of using numbers to judge an amount of something
138. ro___t fuel *n.* a large tube-shaped object that moves very first by a stream of gases let out behind it, used for space travel or as a weapon
139. pathogenic mic_____ism *n.* a very small living thing that may exist in its single-celled form or as a colony of cells and is too small to be seen without a microscope
140. ro___t attack against the enemy *n.* a large tube-shaped object that moves very first by a stream of gases let out behind it, used for space travel or as a weapon
141. enter on the last ph__e *n.* any stage in a series of events, change, or development
142. biomass f__l *n.* a substance that is typically burned to generate heat or energy
143. heavy ni_____en *n.* a chemical element with the symbol N and atomic number 7, which is a highly reactive element that forms part of many compounds, including amino acids and proteins
144. tec_____cal advancement *adj.* based on scientific and industrial progress

ANSWERS: 135. mobility, 136. modern, 137. calculation, 138. rocket, 139. microorganism, 140. rocket, 141. phase, 142. fuel, 143. nitrogen, 144. technological

145. ch_____r of a political party *n.* a separate section of a written work usually numbered and titled
146. take dis_____ary measures *adj.* of or relating to the punishment of people who break the rules; of or relating to a specific field of academic study
147. ind_____us worker *adj.* hardworking, diligent, and persistent in effort
148. a te_____ue in martial arts *n.* a particular way or art of doing something that needs skill
149. 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.
150. take sw__t action *adj.* happening, moving, or capable of moving quickly
151. global av_____on industry *n.* the activity or process of designing, building, flying, and maintaining aircraft
152. still on_____g *adj.* continuing to exist or develop, or currently happening
153. co_____e the value *v.* to make a mathematical calculation
154. tec_____cal policy *adj.* based on scientific and industrial progress
155. coo_____on with strategic partners *n.* the act or situation of working together with someone towards a shared purpose, benefit, etc.
156. op_____e 24 hours a day *v.* to work in a particular way; to supervise something

ANSWERS: 145. chapter, 146. disciplinary, 147. industrious, 148. technique, 149. analog, 150. swift, 151. aviation, 152. ongoing, 153. compute, 154. technological, 155. cooperation, 156. operate

157. pre-mo___n agricultural society *adj.* of or belonging to the present time or recent times
158. acc_____te the car *v.* to make something faster or earlier; to cause to develop or progress more quickly
159. ad__t a bill *v.* to choose to follow something; to legally take a child from another family and care for them as if they were one's own
160. 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
161. co_____e chemically with another substance *v.* to join or merge to form a single thing or group
162. mic_____isms in his gut *n.* a very small living thing that may exist in its single-celled form or as a colony of cells and is too small to be seen without a microscope
163. flu pa_____ic *n.* an outbreak of a disease that affects many people over a very wide area
164. ro_____c arm *adj.* of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots
165. evolutionary bi_____y *n.* the scientific study of life and the natural processes of living things
166. ec_____cs professor *n.* the branch of social science that deals with the production, consumption, and transfer of goods and services

ANSWERS: 157. modern, 158. accelerate, 159. adopt, 160. protein, 161. combine, 162. microorganism, 163. pandemic, 164. robotic, 165. biology, 166. economics

167. po_____e the thread *v.* to make an area or substance, such as land, air, water, etc., dirty or harmful to living things by adding waste matter or harmful chemicals
168. pa_____er estimation *n.* a numerical or other measurable factors that characterize a system or set of data
169. intraspecific com_____on *n.* a situation in which someone is attempting to beat or outperform another
170. employee da_____se *n.* a large amount of data stored in a computer system in such a way that it can be searched and updated easily
171. ad_____e the technology *v.* to go or move forward; to develop in a positive way
172. a co_____te noun *adj.* existing in a physical or material form rather than an abstract one; based on facts rather than ideas or guesses; made of or covered with cement
173. ru_____ss brutality *adj.* lacking in pity or compassion; willing to do whatever it takes to achieve their goals, regardless of the consequences for others
174. co_____e an average score *v.* to make a mathematical calculation
175. in_____or lawsuit *n.* someone who puts money or capital into something to gain financial returns
176. early-stage st_____up *n.* a newly established company or business
177. laws of qu_____m mechanics *n.* the smallest amount or unit of something, especially (electromagnetic) energy

ANSWERS: 167. pollute, 168. parameter, 169. competition, 170. database, 171. advance, 172. concrete, 173. ruthless, 174. compute, 175. investor, 176. start-up, 177. quantum

178. si____te climate change *v.* to make a pretense of someone's behavior or looks; to reproduce something that exists in real life using computers, models, etc., usually for study or training purposes
179. an an____g watch *adj.* relating to or using signals or information represented by a continuous physical quantity such as spatial position, voltage, etc.
180. complete a pr____pe product *n.* a first or preliminary example of something such as a device or vehicle from which other forms are developed
181. co____te examples *adj.* existing in a physical or material form rather than an abstract one; based on facts rather than ideas or guesses; made of or covered with cement
182. pl____a membrane *n.* (biology) the yellow-colored liquid component of blood, in which blood cells are suspended; (physics) one of the four fundamental states of matter consisting of positive ions and free electrons
183. 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: 178. simulate, 179. analog, 180. prototype, 181. concrete, 182. plasma, 183. process

184. col_____te on a press release *v.* to work with someone else to produce or achieve something
185. the ul_____te goal in life *adj.* furthest or highest in degree or order
186. rigid dis_____ne *n.* the practice of training people to obey rules or a code of behavior, using and punishments if these are broken; a region of activity, knowledge, or influence
187. mo_____r furniture *adj.* consisting of distinct or separable parts or units that can be joined together and form a complete whole
188. catch the pl_____e *n.* any epidemic disease with a high death rate; (also called pest) a serious, sometimes fatal, infection spread by rats that causes fever and swellings on the body
189. fu_____n cuisine *n.* the process of combining two or more things to form a single entity
190. strict time con_____nts *n.* a limit or restriction on something, such as an action, behavior, or thought
191. go_____n a public enterprise *v.* to legally control and direct a country, city, group of people, etc. and be responsible for introducing new laws, organizing and maintaining public services
192. the in_____al economy *adj.* of or relating to the inside of something
193. blo_____in platform *n.* a system in which a growing list of payment records, called blocks, made in cryptocurrency is maintained across several computers that are securely linked

ANSWERS: 184. collaborate, 185. ultimate, 186. discipline, 187. modular, 188. plague, 189. fusion, 190. constraint, 191. govern, 192. internal, 193. blockchain

194. civil av_____on *n.* the activity or process of designing, building, flying, and maintaining aircraft
195. fun_____al education *adj.* forming an essential base or core from which everything else develops or is affected
196. or_____ed graph *adj.* referring to someone or something that is focused or directed toward a particular goal or objective; organized around a specific principle or approach
197. co_____te environment *adj.* of or relating to a large company
198. bre_____ugh in the negotiations *n.* a sudden, dramatic, and important discovery or development that helps to improve a situation or provide an answer to a problem
199. the scalability of blo_____in *n.* a system in which a growing list of payment records, called blocks, made in cryptocurrency is maintained across several computers that are securely linked
200. barren of cr_____ve spirit *adj.* relating to or involving the use of skill and original and unusual ideas to create something
201. marine ec_____em *n.* all the plants and living creatures in an area and the way they affect each other and the environment
202. have ge_____c testing *adj.* of or relating to genes (= parts of the DNA in cells) or the science of genes
203. h__l the hurt mind *v.* to make a wound or injury to become well again

ANSWERS: 194. aviation, 195. fundamental, 196. oriented, 197. corporate, 198. breakthrough, 199. blockchain, 200. creative, 201. ecosystem, 202. genetic, 203. heal

204. met_____ics technology *n.* the study of genetic material recovered from environmental samples rather than from individual organisms to understand the diversity and function of microbial communities
205. gov_____nt funding *n.* the group of people with authority to control a country or state
206. a_m to be a nurse *v.* to try or plan to get or achieve something
207. bl__d milk and cream *v.* to mix or combine two or more substances
208. 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
209. a ch_____al compound *adj.* relating to or connected with chemistry;
210. 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
211. federal ci_____t courts *n.* (in electrical engineering) an electrical device that provides a path for electrical current to flow; a journey or route around a particular place or area
212. a ge_____c disorder *adj.* of or relating to genes (= parts of the DNA in cells) or the science of genes
213. nonsynthetic fer_____er *n.* a natural or chemical substance added to soil to make plants grow more successfully

ANSWERS: 204. metagenomics, 205. government, 206. aim, 207. blend, 208. integrate, 209. chemical, 210. protein, 211. circuit, 212. genetic, 213. fertilizer

214. on____g support *adj.* continuing to exist or develop, or currently happening
215. en___e reaction *n.* a substance produced by a living organism that acts as a catalyst to bring about a specific biochemical reaction
216. a h_b of commerce *n.* the central or main part of a particular place, activity, network, etc.; the central part of a car wheel, fan, propeller, etc., through which the shaft or axle passes
217. make a cal_____on *n.* the act or process of using numbers to judge an amount of something
218. emissions of gre_____se gases *n.* a building with walls and roof made chiefly of transparent material, such as glass, for growing plants in
219. in____al organs *adj.* of or relating to the inside of something
220. heat fu___n *n.* the process of combining two or more things to form a single entity
221. ve_____al axis *adj.* upright or perpendicular to a horizontal surface or line
222. go to the workplace by cy__e *n.* an interval during which a recurring sequence of events occurs; a bicycle or motorcycle
223. st_____up business *n.* a newly established company or business
224. an arrival pl_____rm *n.* the raised flat space close to the track at a train station where passengers get on or off the train; (technology) a computational or digital environment in which a piece of software is executed

ANSWERS: 214. ongoing, 215. enzyme, 216. hub, 217. calculation, 218. greenhouse, 219. internal, 220. fusion, 221. vertical, 222. cycle, 223. start-up, 224. platform

225. em_____ng technologies *adj.* starting to exist, mature, or become well-known
226. cr_____ve writing *adj.* relating to or involving the use of skill and original and unusual ideas to create something
227. ma_____an evolution *adj.* of or relating to mammals, a class of warm-blooded vertebrate animals that typically nurse their young and have hair or fur on their skin; characterized by mammalian qualities, such as nurturing and protective behavior
228. ant_____te your kind cooperation *v.* to expect or predict that something will happen; to tell in advance
229. medical l_b *n.* a workplace for the conduct of scientific research; a laboratory
230. 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
231. r__y entirely on him *v.* to require a specific thing or the assistance and support of someone or something to continue, run properly, or succeed.
232. co_____ge from different points *v.* to move or draw together at a specific location; (of lines) to move towards the same point where they join or meet
233. copyrighted so_____re *n.* a set of computer programs and associated documentation and data for doing particular computational jobs

ANSWERS: 225. emerging, 226. creative, 227. mammalian, 228. anticipate, 229. lab, 230. bacteria, 231. rely, 232. converge, 233. software

234. the great di_____ry of the century	<i>n.</i>	the act or process of finding information, a place, or an object, or learning about something that was previously not known
235. nuclear ph_____s	<i>n.</i>	the science of matter and energy and their interactions
236. me__e those systems into a new one	<i>v.</i>	to combine or integrate things, or to cause this to happen
237. laws of ph_____s	<i>n.</i>	the science of matter and energy and their interactions
238. re__e existing knowledge	<i>v.</i>	to use something again or more than once
239. beam of el_____ons	<i>n.</i>	a tiny particle with the negative electrical charge
240. f__e abroad	<i>v.</i>	to leave by running away, especially out of fear or danger
241. unanimously ap_____e a resolution	<i>v.</i>	to think that someone or something is favorable, acceptable, or appropriate; to officially accept a plan, request, etc.
242. do___e in daily life	<i>adj.</i>	possible to do; capable of existing, taking place, or proving true
243. manually op_____e a machine	<i>v.</i>	to work in a particular way; to supervise something
244. met_____ics sequencing	<i>n.</i>	the study of genetic material recovered from environmental samples rather than from individual organisms to understand the diversity and function of microbial communities

ANSWERS: 234. discovery, 235. physics, 236. merge, 237. physics, 238. reuse, 239. electron, 240. flee, 241. approve, 242. doable, 243. operate, 244. metagenomics

245. global pa_____ic *n.* an outbreak of a disease that affects many people over a very wide area
246. the ul_____te luxury *adj.* furthest or highest in degree or order
247. use of nu_____r power *adj.* of or relating to or constituting the nucleus of an atom; deriving destructive energy from the release of atomic energy
248. ci_____t breaker *n.* (in electrical engineering) an electrical device that provides a path for electrical current to flow; a journey or route around a particular place or area
249. thoroughgoing coo_____on *n.* the act or situation of working together with someone towards a shared purpose, benefit, etc.
250. show ru_____ss behavior *adj.* lacking in pity or compassion; willing to do whatever it takes to achieve their goals, regardless of the consequences for others
251. cell and molecular bi_____y *n.* the scientific study of life and the natural processes of living things
252. 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
253. id_____fy handwriting *v.* to recognize someone or something and say or prove who or what they are
254. lig_____se keeper *n.* a tower or other structure that is equipped with a powerful light designed to guide ships safely to harbor or warn them of impending danger

ANSWERS: 245. pandemic, 246. ultimate, 247. nuclear, 248. circuit, 249. cooperation, 250. ruthless, 251. biology, 252. integrate, 253. identify, 254. lighthouse

ANSWERS:

Session 3: Fill in the Blanks

1. 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
2. This project is _____ despite the tight schedule.
adj. possible to do; capable of existing, taking place, or proving true
3. In terms of _____ he was head and shoulders above his classmates.
n. the ability to learn, comprehend, or make judgments or conclusions based on reasons
4. The food chain causes a material _____.
n. an interval during which a recurring sequence of events occurs; a bicycle or motorcycle
5. University is a great place to _____ our minds and expertise.
v. to prepare and foster land for growing crops or plants
6. His professional experience includes all _____ of media production.
n. one part or feature of a situation, problem, subject, etc.
7. The era of the industrial revolution was a crucial _____ of history.
n. any stage in a series of events, change, or development
8. We want to _____ you to our annual charity event.
v. to ask someone to come or join; to offer an opportunity or possibility for something to happen or take place

ANSWERS: 1. biology, 2. doable, 3. intelligence, 4. cycle, 5. cultivate, 6. aspects, 7. phase, 8. invite

9. Human conservation efforts often fail unexpectedly because they disturb the balance of the _____.
- n.* all the plants and living creatures in an area and the way they affect each other and the environment
10. Their headquarters are in a _____ skyscraper.
- adj.* of or belonging to the present time or recent times
11. This _____ is a producer of respiratory disease.
- n.* a very small living thing that may exist in its single-celled form or as a colony of cells and is too small to be seen without a microscope
12. The _____ scarcity most severely impacted the manufacturing sector
- n.* a substance that is typically burned to generate heat or energy
13. _____ technologies have dramatically improved productivity in various industries.
- adj.* starting to exist, mature, or become well-known
14. It is a basic instinct to _____ from a dangerous situation.
- v.* to leave by running away, especially out of fear or danger
15. The _____ between businesses and universities created this groundbreaking product.
- n.* the act or situation of working together with someone towards a shared purpose, benefit, etc.
16. The regulations _____ medical malpractice claims are rigorous.
- v.* to legally control and direct a country, city, group of people, etc. and be responsible for introducing new laws, organizing and maintaining public services

ANSWERS: 9. ecosystem, 10. modern, 11. microorganism, 12. fuel, 13. Emerging, 14. flee, 15. cooperation, 16. governing

17. The speaker mounted the _____ and started to speak.
n. the raised flat space close to the track at a train station where passengers get on or off the train; (technology) a computational or digital environment in which a piece of software is executed
18. The _____ into the new market was risky, but it paid off.
n. a business project or activity that is risky or daring
19. He studied the _____ of radiation.
n. the science of matter and energy and their interactions
20. The toad altered its appearance to better _____ in with its new environments.
v. to mix or combine two or more substances
21. We should do our best not to _____ the environment.
v. to make an area or substance, such as land, air, water, etc., dirty or harmful to living things by adding waste matter or harmful chemicals
22. He was known to be very _____ and would often work late into the night.
adj. hardworking, diligent, and persistent in effort
23. Many countries have now agreed to a treaty banning the use of _____ weapons.
adj. of or relating to or constituting the nucleus of an atom; deriving destructive energy from the release of atomic energy
24. The supermarket encourages shoppers to _____ plastic bags.
v. to use something again or more than once

ANSWERS: 17. platform, 18. venture, 19. physics, 20. blend, 21. pollute, 22. industrious, 23. nuclear, 24. reuse

25. The _____ of Nations is an association of 54 countries, mostly former territories of the British Empire.
- n.* a community of nations or people or a state in which the people hold the supreme power
26. _____ diamonds play an essential role as machine tool blades.
- adj.* made by combining chemical substances as opposed to being naturally occurring
27. 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
28. The error in the _____ was attributable to rounding.
- n.* the act or process of using numbers to judge an amount of something
29. The _____ office has decided to lay off 10% of the workforce.
- adj.* of or relating to a large company
30. 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
31. It will take time for her mental scars to _____.
- v.* to make a wound or injury to become well again
32. 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

ANSWERS: 25. Commonwealth, 26. Synthetic, 27. database, 28. calculation, 29. corporate, 30. protein, 31. heal, 32. integrate

33. 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.

34. An intelligent battery has a voltage monitoring _____.

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

35. Babies heavily _____ on others for food.

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

36. Jockey's superior _____ brought him victory.

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

37. We can _____ this possibility from those consumptions.

v. to remove or get rid of someone or something

38. I have limited _____ in my arms.

n. the ability to move or be moved freely or easily from one place, job, or social class to another

39. The prime minister canceled visits to other countries to resolve _____ disputes.

adj. of or relating to the inside of something

40. The process of _____ is used to make beer, wine, and many other products.

n. the chemical breakdown of a substance by bacteria, yeasts, or other microorganisms, typically involving effervescence and the giving off of the heat

ANSWERS: 33. analog, 34. circuit, 35. rely, 36. technique, 37. eliminate, 38. mobility, 39. internal, 40. fermentation

41. All the supervisor has to do is assign tasks that make his subordinates more _____.
- adj.* relating to or involving the use of skill and original and unusual ideas to create something
42. The _____ expert analyzed the fluid around the aircraft.
- n.* the activity or process of designing, building, flying, and maintaining aircraft
43. The focus of these initiatives is to make the financial system more _____.
- adj.* easy to perceive, detect, or understand; (of a material or article) permitting light to pass through freely
44. The _____ will repair my telephone tomorrow morning.
- n.* a person whose job is designing, building, or maintaining something such as machines, structures, or software
45. They fear a _____ of a new type of virus.
- n.* an outbreak of a disease that affects many people over a very wide area
46. This airport has taken the first step to become an international ____ airport.
- n.* the central or main part of a particular place, activity, network, etc.; the central part of a car wheel, fan, propeller, etc., through which the shaft or axle passes
47. His class will cover an introduction to agricultural _____.
- n.* the branch of social science that deals with the production, consumption, and transfer of goods and services
48. Human behavior has _____ characteristics.
- adj.* forming an essential base or core from which everything else develops or is affected

ANSWERS: 41. creative, 42. aviation, 43. transparent, 44. engineer, 45. pandemic, 46. hub, 47. economics, 48. fundamental

49. NASA is an _____ organization that explores space and improves aviation technology.

adj. pertaining to the design, engineering, science, and technology related to the Earth's atmosphere and the exploration or use of space beyond it

50. The two rivers _____ into one near this area.

v. to move or draw together at a specific location; (of lines) to move towards the same point where they join or meet

51. Her voice was _____ yet ever the last words fell lingeringly.

adj. happening, moving, or capable of moving quickly

52. 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

53. This machine is too difficult to _____ for me.

v. to work in a particular way; to supervise something

54. The company is very customer-_____ and strives to provide excellent service.

adj. referring to someone or something that is focused or directed toward a particular goal or objective; organized around a specific principle or approach

55. 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

56. The _____ launch platform is visible from this hill.

n. a large tube-shaped object that moves very fast by a stream of gases let out behind it, used for space travel or as a weapon

ANSWERS: 49. aerospace, 50. converge, 51. swift, 52. enzyme, 53. operate, 54. oriented, 55. digital, 56. rocket

57. Institutional _____ refrained from buying stocks amid the booming economy.
- n.* someone who puts money or capital into something to gain financial returns
58. The cost of transportation could be significantly reduced with the adoption of _____.
- n.* a type of autonomous vehicle that operates as a taxi service, transporting passengers without the need for a driver
59. The phone rang at the most _____ time.
- adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
60. The field of _____ studies the genetic material found in complex microbial communities.
- n.* the study of genetic material recovered from environmental samples rather than from individual organisms to understand the diversity and function of microbial communities
61. The surgeon removed the tumor using _____ video assistance.
- adj.* of or relating to mechanical robots; (robotics) the interdisciplinary branch of computer science and engineering with the practical use of robots
62. Scientific knowledge will _____ significantly with the power of AI.
- v.* to go or move forward; to develop in a positive way
63. In medieval Europe, a monarch or feudal lord granted the title of the _____ to a warrior who had demonstrated skill and bravery in battle.
- n.* a mounted soldier in the past, typically one of noble birth trained to fight in armor; (today in Great Britain) a person honored by the sovereign for personal merit

ANSWERS: 57. investors, 58. robotaxis, 59. opportune, 60. metagenomics, 61. robotic, 62. advance, 63. knight

64. The new prime minister has vowed to take measures against the _____ economic crisis.

adj. continuing to exist or develop, or currently happening

65. Management must take _____ responsibility for the accident.

adj. furthest or highest in degree or order

66. He quickly learned the military _____.

n. the practice of training people to obey rules or a code of behavior, using and punishments if these are broken; a region of activity, knowledge, or influence

67. The dictator was known for his _____ tactics and had no qualms about using violence to maintain power.

adj. lacking in pity or compassion; willing to do whatever it takes to achieve their goals, regardless of the consequences for others

68. 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

69. The Prime Minister will pay a courtesy visit to the Nobel laureate's _____.

n. a workplace for the conduct of scientific research; a laboratory

70. The government tried to _____ the commercialization of this development.

v. to make something faster or earlier; to cause to develop or progress more quickly

71. Tourists gathered at the _____ base to take photos and admire the view.

n. a tower or other structure that is equipped with a powerful light designed to guide ships safely to harbor or warn them of impending danger

ANSWERS: 64. ongoing, 65. ultimate, 66. discipline, 67. ruthless, 68. genetic, 69. lab, 70. accelerate, 71. lighthouse's

72. This company has an entire recycling _____ including major reprocessing plants.
- n.* a building or place that provides a particular service or is used for a particular industry
73. _____ milk is known to be rich in protein and essential vitamins.
- adj.* of or relating to mammals, a class of warm-blooded vertebrate animals that typically nurse their young and have hair or fur on their skin; characterized by mammalian qualities, such as nurturing and protective behavior
74. 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
75. My boss wouldn't _____ of the plan.
- v.* to think that someone or something is favorable, acceptable, or appropriate; to officially accept a plan, request, etc.
76. _____ advances have disrupted many industries.
- adj.* based on scientific and industrial progress
77. The roads to the airport were heavily _____.
- v.* to make something blocked or crowded so as to hinder or prevent freedom of movement or flow of liquid
78. The company specializes in both hardware and _____.
- n.* a set of computer programs and associated documentation and data for doing particular computational jobs

ANSWERS: 72. facility, 73. Mammalian, 74. process, 75. approve, 76. Technological, 77. congested, 78. software

79. The outermost _____ shell determines the chemical properties of an atom.
n. a tiny particle with the negative electrical charge
80. Her multidisciplinary works _____ music and picture with writing.
v. to meet or cross one another
81. Nitrogen fixation by the Haber-Bosch method leads to the mass production of _____.
n. a natural or chemical substance added to soil to make plants grow more successfully
82. I'm so sorry to _____ you when you're pretty busy.
v. to prevent or stop something, especially an event, activity, or process, from continuing in the usual way by causing a problem or disturbance
83. The school's _____ committee met to discuss the student's behavior.
adj. of or relating to the punishment of people who break the rules; of or relating to a specific field of academic study
84. I will introduce you to how to _____ the leading causes of the malfunction.
v. to recognize someone or something and say or prove who or what they are
85. This process improves the strength of the metal by controlling the _____ lattice structure of the metal.
adj. on a scale that can be measured in nanometres (= one billionth of a meter); on a very small scale
86. _____ 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

ANSWERS: 79. electron, 80. intersect, 81. fertilizers, 82. disrupt, 83. disciplinary, 84. identify, 85. nanoscale, 86. Bacteria

87. We ____ for an overseas expansion.

v. to try or plan to get or achieve something

88. The flying car is presently in the _____ stage.

n. a first or preliminary example of something such as a device or vehicle from which other forms are developed

89. This consulting firm decided to _____ the two companies into one.

v. to combine or integrate things, or to cause this to happen

90. The vegetarian burger was an _____ that quickly spread to the United Kingdom.

n. the creation of a new device or process resulting from study and experimentation

91. The national assembly has _____ the budget.

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

92. _____ gas is used to inflate car tires because it does not react with rubber.

n. a chemical element with the symbol N and atomic number 7, which is a highly reactive element that forms part of many compounds, including amino acids and proteins

93. Cryptocurrencies are only one form of implementation of _____ technology.

n. a system in which a growing list of payment records, called blocks, made in cryptocurrency is maintained across several computers that are securely linked

94. The _____ effect is a phenomenon that happens naturally.

n. a building with walls and roof made chiefly of transparent material, such as glass, for growing plants in

ANSWERS: 87. aim, 88. prototype, 89. merge, 90. innovation, 91. adopted, 92. Nitrogen, 93. blockchain, 94. greenhouse

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

adj. relating to or connected with chemistry;

96. I will work hard to _____ my goals and realize my dreams.

v. to successfully complete a task or goal, often through hard work, perseverance, and dedication; to attain or accomplish something that one has set out to do

97. The federal _____ is planning to increase taxes for the next fiscal year.

n. the group of people with authority to control a country or state

98. Blood _____ makes up about half of the volume of blood.

n. (biology) the yellow-colored liquid component of blood, in which blood cells are suspended; (physics) one of the four fundamental states of matter consisting of positive ions and free electrons

99. Computers have a _____ structure, making it easy to upgrade essential functions.

adj. consisting of distinct or separable parts or units that can be joined together and form a complete whole

100. I tried to _____ the efficiency of the investment.

v. to make a mathematical calculation

101. Big techs are now eager to develop _____ computers.

n. the smallest amount or unit of something, especially (electromagnetic) energy

102. The government should view children as national assets and actively _____ in them.

v. to put money, effort, time, etc. into something to make a profit or achieve a result

ANSWERS: 95. chemical, 96. achieve, 97. government, 98. plasma, 99. modular, 100. compute, 101. quantum, 102. invest

103. Global _____ is rising in virtually every industry.

n. a situation in which someone is attempting to beat or outperform another

104. They launched a crewless _____ into space.

n. (especially in science fiction) a spacecraft designed to carry a crew into interstellar space

105. A technique called deep learning has led to _____ in AI.

n. a sudden, dramatic, and important discovery or development that helps to improve a situation or provide an answer to a problem

106. The ladder leaned against the _____ surface of the building.

adj. upright or perpendicular to a horizontal surface or line

107. We have to _____ our company's product lineup for further growth.

v. to consider again a plan, idea, etc., especially to change it

108. Our farm experienced a _____ of locusts this year.

n. any epidemic disease with a high death rate; (also called pest) a serious, sometimes fatal, infection spread by rats that causes fever and swellings on the body

109. 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

110. The following example _____ that the capacity of each battery is the same.

v. to think or accept something to be true without having proof of it; to take or begin to have power; to begin to exhibit a specific quality or appearance

ANSWERS: 103. competition, 104. spaceship, 105. breakthroughs, 106. vertical, 107. rethink, 108. plague, 109. discovery, 110. assumes

111. The president asked for a more _____ plan.

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

112. The country's economy relies heavily on its _____ industry.

n. a flammable liquid consisting of a complex mixture of hydrocarbons that occurs naturally in certain rock formations and can also be refined to produce fuels such as gasoline, diesel, and jet fuel

113. He had painted the wood to _____ stone.

v. to make a pretense of someone's behavior or looks; to reproduce something that exists in real life using computers, models, etc., usually for study or training purposes

114. We _____ heavy snowfall tomorrow.

v. to expect or predict that something will happen; to tell in advance

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

v. to change in outward structure or looks;

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

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

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

n. a newly established company or business

118. Hydrogen and oxygen _____ to form water.

v. to join or merge to form a single thing or group

ANSWERS: 111. concrete, 112. petroleum, 113. simulate, 114. anticipate, 115. transformed, 116. collaborate, 117. start-up, 118. combine

119. The temperature range was one of the critical _____ we had to consider when designing the experiment.

n. a numerical or other measurable factors that characterize a system or set of data

120. The final _____ provides a summary of the discussion.

n. a separate section of a written work usually numbered and titled

121. Only a small number of _____ utilities offer sanitation services.

adj. relating to or located in a town or city

122. The budget _____ forced them to make difficult decisions.

n. a limit or restriction on something, such as an action, behavior, or thought

123. John Whitney was a computer animation _____.

n. inventor; explorer; someone who is among the first to achieve something

124. We must _____ a new system to streamline our workflow and increase efficiency.

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

125. The _____ between the two countries was causing tension.

n. the force that opposes motion between two objects in contact, especially by producing heat and wear, and is proportional to the normal force between the objects

126. Nuclear _____ is a process in which atomic nuclei combine to form heavier nuclei.

n. the process of combining two or more things to form a single entity

ANSWERS: 119. parameters, 120. chapter, 121. urban, 122. constraint, 123. pioneer, 124. develop, 125. friction, 126. fusion

127. The plant will continue operating through an _____ system 24 hours a day.
adj. carried out by machines or computers to replace or decrease human labor

ANSWERS: 127. automated