

Englist.me



Vocabulary Builder Reference from...

Enrico Ramirez-Ruiz: Your body was forged in the spectacular death of stars | TED Talk

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

All Words

IMPORTANT

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

Session 1: Word List

atom

n. the smallest unit of ordinary matter that forms a chemical element, composed of a nucleus and one or more electrons bound to the nucleus

synonym : particle, element, fraction

(1) oxygen **atom**, (2) neutral hydrogen **atoms**

The outermost electron shell of an **atom** determines its chemical characteristics.

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.

universal

adj. existing or affecting everywhere or everyone

synonym : common, broad, worldwide

(1) **universal** life, (2) principles of **universal** design

The picture earned near- **universal** acclaim from critics.

astrophysics

n. the branch of physics concerned with the study of the properties and behavior of celestial objects and the physical processes that govern the behavior and

evolution of the universe

(1) **astrophysics** research, (2) neutrino **astrophysics**

He was studying **astrophysics** in an attempt to understand the origins of the universe.

responsible

adj. answerable or accountable for something within one's power, control, or management

synonym: accountable, answerable, liable

(1) **responsible** action, (2) **responsible** for a customer service

She's a **responsible** pet owner who ensures her dog gets enough exercise and a healthy diet.

trace

v. to find or discover someone or something that was lost

synonym: seek, follow, depict

(1) **trace** a telephone call, (2) **trace** back to medieval times

Let's **trace** the origins of some familiar foreign words.

cosmic

adj. relating to the universe or cosmos; vast or limitless

synonym: astronomical, celestial, outer-space

(1) second **cosmic** velocity, (2) **cosmic** background radiation

Cosmic rays are high-energy particles that originate from outside the solar system.

achievement

n. a thing that someone has accomplished, primarily through their effort and ability

synonym: accomplishment, attainment, triumph

(1) student **achievement**, (2) a remarkable **achievement**

This **achievement** has never been formally accepted.

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.

astronomy

n. the scientific study of objects and matter outside the Earth's atmosphere, especially the positions, motions, and evolution of celestial bodies

synonym : astrophysics, stargazing, cosmology

(1) **astronomy** science, (2) a branch of **astronomy**

He had a deep passion for extragalactic **astronomy** and spent hours observing the night sky.

hydrogen

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

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

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

helium

n. a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table

synonym : He, light gas, noble gas

(1) **helium** atom, (2) **helium** gas

The **helium-filled** balloons floated into the sky.

bang

v. to hit or cause to hit something in a way that makes a loud noise

synonym : crash, hit, smash

(1) **bang** his fist on a desk, (2) **bang** a phone down

My father tried to **bang** mathematics into my head since childhood.

origin

n. the first existence or beginning of something

synonym : root, source, ancestor

(1) **origin** of information, (2) racial **origin**

There are various hypotheses concerning the **origin** of life.

oxygen

n. the chemical element with the symbol O that is present in air and water and is necessary for people, animals, and plants to live

(1) the hydrogen binds the **oxygen**, (2) lack of **oxygen**

The passenger grabbed for the **oxygen** mask.

silicon

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

(1) **silicon** wafer, (2) crystalline **silicon**

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

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**.

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.

reaction

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

synonym: response, reply, answer

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

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

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.

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.

explode

v. to burst or break open violently and noisily; to cause something to burst or break open

synonym : detonate, blast, rupture

(1) **explode** in anger, (2) **explode** in popularity

The old building **exploded** in a fiery inferno.

enrich

v. to make better or improve in quality by adding something else

synonym : enhance, improve, augment

(1) **enrich** a gas with a balloon, (2) **enrich** public services

Reading not only increases knowledge but also **enriches** life.

universe

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

synonym : cosmos, macrocosm

(1) theory of the **universe**, (2) expansion of the **universe**

The **universe** is about 13.8 billion years old.

stellar

adj. excellent; relating to or resembling a star, especially in quality or attractiveness

synonym : starry, celestial, astral

(1) **stellar** performance, (2) a **stellar** system

She received a **stellar** review from her boss, which boosted her confidence.

durable

adj. capable of lasting and being used for a long time without being damaged or destroyed

synonym : enduring, stable, long-lasting

(1) **durable** peace, (2) **durable** materials

Our company's products are made of highly **durable** materials.

manufacture

v. to make goods in large numbers, usually in a factory using machines

synonym: create, fabricate, assemble

(1) **manufacture** an enzyme, (2) **manufacture** a product

The majority of synthetic vitamins are **manufactured** from oil.

interior

n. the inside or inner part of something; the space within the walls of a building

synonym: inner, inside, internal

(1) **interior** decoration, (2) plenty of **interior** space

The painter focused on the moody **interiors** of abandoned buildings in his work.

certify

v. to formally state, especially in writing, that something is true

synonym: accredit, approve, authorize

(1) **certify** product quality, (2) **certify** the authenticity of the painting

As a witness, I can **certify** his innocence.

mortician

n. an individual who prepares dead bodies for burial or cremation; a funeral director

synonym: undertaker, funeral director, embalmer

(1) **mortician** services, (2) professional **mortician**

The funeral home's **mortician** facilitated all the necessary arrangements for the memorial service.

supernova

n. a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant

synonym: explosion, detonation, blast

(1) extragalactic **supernova**, (2) **supernova** remnant

The **supernova** explosion created a bright new star in the night sky.

explosion

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

synonym: burst, eruption, outbreak

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

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

consist

v. to be composed or made up of

synonym: lie in, comprise, exist

(1) **consist** mainly of cells, (2) **consist** only in knowing facts

This examination **consists** of five problems to solve.

carbon

n. a chemical element that can be found in pure form as diamond or graphite, and it is also an essential part of coal and oil and is found in all plants and animals

(1) **carbon** dioxide, (2) **carbon** emission

Trees absorb **carbon** dioxide and give off oxygen.

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.

tale

n. a story made up in someone's imagination, especially one full of action and adventure

synonym: canard, fiction, fable

(1) a fairy **tale**, (2) **tale** of horror

Ghosts in folk **tales** are almost always malicious.

vast

adj. enormous in size, number, amount, or quantity

synonym: expansive, extended, boundless

(1) **vast** majority, (2) **vast** desert

A **vast** audience viewed the broadcast.

demise

n. death or the end of something

synonym: death, passing, end

(1) **demise** of bureaucracy, (2) meet their **demise**

The sudden **demise** of the king was a shock to everyone and threw the kingdom into chaos.

massive

adj. enormous amount; very heavy and solid

synonym: enormous, giant, immense

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

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

brilliant

adj. extremely clever, skilled, or impressive

synonym: luminous, intelligent, clever

(1) **brilliant** idea, (2) **brilliant** performance

The more **brilliant** you are, the more people around you look at you with envy and jealousy.

galaxy

n. an independent group of stars, interstellar gas, dark matter, etc., in the universe, bound together by gravity

synonym: star cluster, nebula, star system

(1) elliptic **galaxy**, (2) a **galaxy** of famous actors

The Milky Way **galaxy** has numerous water-bearing planets.

remarkable

adj. worthy of attention because unusual or special

synonym: outstanding, exceptional, extraordinary

(1) **remarkable** achievement, (2) the **remarkable** breadth of knowledge

The election was a **remarkable** success for the Whigs.

spectacular

adj. striking or impressive to look at or in performance or achievement

synonym: breathtaking, impressive, grand

(1) **spectacular** view, (2) achieve **spectacular** growth

The **spectacular** fireworks display was the highlight of the festival.

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.

lifeblood

n. a vital or essential element or substance that is necessary for survival or success

synonym: essence, vitality, sustenance

(1) the **lifeblood** of every organization, (2) the **lifeblood** of the economy

The company's reputation is its **lifeblood**.

smashing

adj. very successful or impressive; causing something to be broken or destroyed

synonym: great, wonderful, breaking

(1) a **smashing** blow, (2) give **smashing** results

The band's new album was a **smashing** success, reaching the top of the charts.

dense

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

synonym: heavy, thick, idiotic

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

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

relative

adj. considered and evaluated through comparison with something else

synonym: comparative, proximate, congeneric

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

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

mass

n. a large amount of a substance with no definite shape or form; a large number of people or things grouped or crowded together

synonym: abundance, crowd, mob

(1) a **mass** of molten rock, (2) critical **mass**

The **mass** of people who do not own property is politically impotent.

exhausted

adj. extremely tired

synonym: drowsy, depleted, fatigued

(1) the **exhausted** food sources, (2) **exhausted** parents

The **exhausted** runner fell to the ground and gasped.

core

n. the most essential or fundamental part of something

synonym: center, basis, heart

(1) the **core** of an apple, (2) **core** business activity

These gas nebulas are merely newborn galactic **cores**.

collapse

v. to fall down or give way suddenly, often after breaking apart

synonym: tumble, spill, bankruptcy

(1) the stock market **collapsed**, (2) ready to **collapse**

The roof finally **collapsed** after three days and three nights of heavy snowfall.

temperature

n. the degree of hotness or coldness of a thing or place

synonym: climate, warmth, degree

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

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

neon

n. a chemical element of atomic number 10 that is a gas with no smell or color, does not react with other chemicals, and shines with a bright light when electricity is passed through it

synonym: fluorescent, glowing, illuminated

(1) luminous **neon** tube, (2) **neon** lights

The nightlife district was lit up with colorful **neon** signs and bright lights.

sulfur

n. (also sulphur) a chemical element with the symbol S and atomic number 16, found in many minerals and sulfur compounds, often used in the production of fertilizers, rubber, paper, and other industrial applications

(1) **sulfur** dioxide, (2) **sulfur** mine

The **sulfur** emissions from the nearby factory caused the rotten egg smell.

bound

v. to move forward by leaps and bounds; to form the boundary of something

synonym: jump, bounce, leap

(1) **bounded** with delight, (2) **bound** up a staircase

Canada **bounds** on the United States.

nucleus

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

synonym: core, heart, middle

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

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

extract

n. a short passage taken from a book, piece of music, etc.; a substance obtained from something through a specific process; (verb) to obtain from something or to remove something by effort or force

synonym: excerpt, quote, distillation

(1) a brief **extract** from the book, (2) botanical **extract**

Anesthetize the gum before **extracting** the teeth.

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

incredibly

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

synonym: enormously, exceptionally, extraordinarily

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

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

gravity

n. the force that attracts a body towards the center of the earth or towards any other physical body having mass; a manner that is solemn

synonym: heaviness, attraction, weight

(1) the attraction of **gravity**, (2) preserve my **gravity**

The astronaut felt weightless in space due to the absence of **gravity**.

density

n. the quality of compactness of a substance

synonym: tightness, viscosity

(1) population **density**, (2) higher pixel **density**

Do you know the **density** of the population in Hong Kong?

cube

n. a three-dimensional shape with six square faces that are all equal in size; (of mathematics) the result of multiplying the number by itself three times

synonym: block, square, cell

(1) **cube** root, (2) ice **cube**

I cut the cheese into small **cubes** for the salad.

extreme

adj. very great in amount or degree

synonym: farthestmost, outermost, fierce

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

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

resist

v. to refuse to accept something and attempt to prevent it from happening

synonym: fight, defy, revolt

(1) **resist** temptation, (2) **resist** being kissed

I chose to **resist** cancer by trying every possible treatment.

infall

n. a natural reservoir or spring of fresh water, often located underground and used as a source of clean drinking water; (of cosmology) the process by which matter, such as galaxies, stars, gas, dust, or dark matter, is gravitationally attracted and falls into a larger gravitational structure, such as a galaxy cluster or a black hole

(1) **infall** velocity, (2) **infall** of a waterfall

The **infall** of matter into the black hole creates an incredibly dense region known as the event horizon.

bounce

v. to cause to move up or away after hitting a surface; to spring back

synonym: bound, leap, spring

(1) **bounce** across the floor, (2) **bounce** back from failure

They will **bounce** between various emotional states.

dramatic

adj. very sudden, very excellent, or full of action and excitement

synonym: striking, theatrical, breathtaking

(1) make **dramatic** changes, (2) a **dramatic** rescue at sea

The statement had a **dramatic** impact on house prices.

fraction

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

synonym: piece, part, fragment

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

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

eject

v. to force someone to put out or leave a particular place or position

synonym: discharge, expel, emit

(1) **eject** a player from a game, (2) **eject** huge amounts of pollutant

Our immune system can **eject** disease germs from the body.

perspective

n. a confident attitude toward something; a particular style of thinking about something

synonym: viewpoint, standpoint, outlook

(1) a **perspective** view, (2) the **perspective** of the battle
His father's death changed his whole **perspective** on life.

recreate

v. to make something that existed previously happen or appear to exist again

synonym: renovate, vivify, revive

(1) **recreate** a single country, (2) **recreate** the feeling of the 1920s

She **recreated** the atmosphere of the pre-war age with her stage setting.

laboratory

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

synonym: lab, workshop, testing room

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

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

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.

sophisticated

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

synonym : refined, cultured, worldly

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

Marketing strategies are growing more **sophisticated**.

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.

complexity

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

synonym : intricacy, sophistication, elaboration

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

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

phenomenon

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

synonym : marvel, wonder, splendor

(1) natural **phenomenon**, (2) historical **phenomenon**

A rainbow is a natural **phenomenon**.

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.

implosion

n. a sudden and extreme collapse or inward bursting, particularly of a structure or system; a rapid or explosive reduction in size, quantity, or value

synonym : collapse, breakdown, disintegration

(1) underground **implosion**, (2) social **implosion**

The company's financial **implosion** was caused by poor management.

reverse

v. to change something's direction, order, position, decision, etc., to the opposite one; (adjective) directed or moving toward the rear

synonym : overturn, shift, switch

(1) **reverse** the trend, (2) **reverse** the order

The restaurant **reversed** a ban on smoking.

debate

n. a formal discussion or argument of opposing viewpoints, often to persuade others to adopt a specific position; a public discussion, often on an issue of current interest, in which participants offer opinions and differing perspectives

synonym : argument, discussion, dispute

(1) **debate** topic, (2) **debate** competition

The **debate** over climate change continues to be a hot topic in politics.

neutrino

n. a very small and electrically neutral particle with a very small mass that rarely reacts with other matter

(1) **neutrino** capture, (2) sterile **neutrinos**

This laboratory has a pool consisting of thousands of **neutrino** detectors.

elusive

adj. difficult to find, define, achieve, or remember

synonym : mysterious, ambiguous, inapproachable

(1) an **elusive** criminal, (2) track down an **elusive** fact

The physicist who found the **elusive** particle won the Nobel Prize.

particle

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

synonym : atom, grain, bit

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

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

crucial

adj. extremely vital or necessary

synonym : essential, pivotal, vital

(1) **crucial** information, (2) a **crucial** issue for women

The revitalization of technology companies is **crucial** to the country's growth.

transfer

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

synonym : move, relocate, shift

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

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

thermal

adj. relating to heat or temperature; designed for or capable of producing or maintaining heat

synonym : heat-related, warm, hot

(1) **thermal** insulation, (2) **thermal** energy

The **thermal** imaging camera was used to detect heat signatures in the dark.

radiation

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

synonym : dissemination, emission, irradiation

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

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

pump

v. to cause water, air, gas, etc. to move from one place to another by using mechanical equipment; to get or supply something such as money, information, etc. in significant quantities

synonym : drain, inject, send

(1) **pump** a secret out of success, (2) **pump** blood throughout the body

He was alert and could not **pump** any critical information out of him.

possibility

n. a chance that something may happen or be true
synonym: chance, prospect, likelihood

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

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

shock

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

synonym: amazement, surprise, stunner

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

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

radiate

v. to spread out or emit something, such as light or heat, in all directions

synonym: give off, scatter, beam

(1) **radiate** an aura, (2) **radiate** in all directions

Roads **radiate** from the famous building in the center of the city.

lifetime

n. the duration of someone's life or something's existence;
synonym: lifespan, duration

(1) **lifetime** benefits, (2) **lifetime** ban from the sport

She had lived through two world wars in her **lifetime**.

beacon

n. a light or other visible object serving as a signal, guide, or warning

synonym: lighthouse, guidepost, marker

(1) an aerial **beacon**, (2) **beacon** of hope

The lighthouse served as a **beacon** to guide ships safely into port.

indicate

v. to show, point out, or make known something, often through a sign or a symbol; to suggest or imply something without stating it directly

synonym: hint, suggest, show

(1) **indicate** a preference, (2) **indicate** an error

The data **indicates** that the company's profits have steadily increased over the past quarter.

estimate

v. to guess or calculate the cost, size, value, etc. of something

synonym: calculate, gauge, evaluate

(1) **estimate** a fair value, (2) **estimate** this chicken to weigh three pounds

We **estimated** the season's total trade deficit at \$50 billion.

imply

v. to indicate the truth or existence of something without referring to it

synonym: hint, indicate, denote

(1) **imply** a strong correlation, (2) **imply** the presence of alien

The salespeople speak in technical terms to **imply** that they are more knowledgeable than the customer.

astronomer

n. a physicist who studies astronomy

synonym: stargazer, cosmologist, astrophysicist

(1) amateur **astronomer**, (2) solar **astronomer**

This question has fascinated solar **astronomers** for decades.

vary

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

synonym: alter, contrast, differ

(1) **vary** according to the age, (2) **vary** directly with the price

Maximum heart rates **vary** a lot for each individual.

telescope

n. a device like a tube in shape containing lenses used to magnify and observe distant objects

(1) a binocular **telescope**, (2) look through a **telescope**

This facility has the largest astronomical **telescope** in the country.

invention

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

synonym : creation, design, innovation

(1) the **invention** of new techniques, (2) common **invention**

Necessity is the mother of **invention**.

crab

n. a sea creature with two large claws and a flattened back (e.g., blue crab or king crab); a sour or grumpy person who is prone to complaining or criticizing

synonym : crustacean, shellfish, crusty

(1) **crab** cakes, (2) **crab** legs

I ordered a plate of fresh **crab** at the seafood restaurant.

nebula

n. a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source

synonym : cloud, mist, stardust

(1) a spiral **nebula**, (2) emission **nebula**

The galactic **nebula** was a beautiful sight through the telescope, with its vibrant colors and swirling clouds.

native

adj. connecting with or describing someone's birth country or place of birth, or someone born in a specific country or place

synonym : endemic, domestic, aboriginal

(1) **native** to Africa, (2) **native** language

The vegetation here is almost wholly **native**.

light-year

n. a unit of distance used in astronomy to represent the distance that light travels in a year, which is equal to about 9.46 trillion kilometers or 5.88 trillion miles

(1) **light-year** distance, (2) billions of **light-years**

Proxima Centauri is the closest star to Earth, located about 4.24 **light-years** away.

visible

adj. capable of being seen; or open to easy view

synonym : clear, observable, seeable

(1) **visible** stars, (2) **visible** by X-ray

My home is easily **visible** from the shore.

filament

n. a thin wire or thread, especially one used to produce light in an electric bulb

synonym: fiber, thread, filament

(1) **filament** lamp, (2) carbon **filament**

The **filament** in the light bulb burned out, and now it's not working.

blast

n. explosion, or a strong current of air, usually caused by an explosion; a sudden, thunderous noise

synonym: blow, burst, explosion

(1) a **blast** of wind, (2) an icy **blast**

The **blast** shattered the laboratory equipment.

essential

adj. indispensable; fundamental

synonym: critical, crucial, basic

(1) **essential** amino acid, (2) **essential** commodities of life

Trial and error is an **essential** part of education.

assemble

v. to collect in one place as a single group

synonym: gather, congregate, collect

(1) **assemble** your colleagues, (2) **assemble** a jigsaw puzzle

The president began to **assemble** an army.

span

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

synonym: interval, period, length

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

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

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.

tattered

adj. worn, torn, or ragged in appearance or condition, usually as a result of long use or hard wear; frayed or falling apart

synonym: ripped, shabby, worn-out

(1) **tattered** clothes, (2) **tattered** umbrella

The **tattered** book was falling apart at the seams from being read too many times.

primarily

adv. mainly

synonym: largely, mainly, mostly

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

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

synthesize

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

synonym: incorporate, amalgamate

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

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

remnant

n. a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something

synonym: remainder, leftover, residue

(1) **remnant** of the past, (2) **remnants** of fabric

The only **remnant** left of the ancient civilization was the crumbling ruins of their temples.

firm

adj. resolute or unwavering in decision-making or action; strong or secure in structure, make, or composition; reliable, trustworthy, or dependable; (noun) a business or company

synonym: stable, secure, steadfast

(1) **firm** grip, (2) accounting **firm**

The **firm** deadline for submitting the project is tomorrow, so we need to work efficiently to finish on time.

conclude

v. to come to an end or close; to reach a judgment or opinion by reasoning

synonym: complete, finish, decide

(1) **conclude** a meeting, (2) **conclude** that he is healthy

We **concluded** a cease-fire.

residence

n. the fact or condition of living in a particular place; a home

synonym: dwelling, home, abode

(1) permanent **residence**, (2) the main **residence**

The **residence** of the ambassador was located in the heart of the city.

experiment

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

synonym: experimentation, investigation

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

His **experiments** showed highly positive results.

unsettle

v. to make somebody feel anxious or upset, especially because of an unstable or problematic situation

synonym: aggravate, annoy, disturb

(1) **unsettle** the nervous system, (2) **unsettle** his conviction

This nationwide strike may **unsettle** the country's economy.

planet

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

synonym: earth, world, globe

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

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

rebirth

n. the process of being reborn or starting anew, especially after a period of decline or stagnation

synonym: renewal, rejuvenation, resurrection

(1) undergo a **rebirth**, (2) **rebirth** of democracy

The phoenix is a symbol of **rebirth**, rising from the ashes to be reborn anew.

recycle

v. to sort and collect things to process them and produce valuable materials that can be used again

synonym: reclaim, reuse, reprocess

(1) **recycle** the cardboard boxes, (2) **recycle** milk packaging into new paper

We largely **recycle** the circuit board of cell phones because they contain a lot of valuable metals.

chemistry

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

(1) professor of **chemistry**, (2) the **chemistry** of soil

He is familiar with **chemistry** and biology.

intimate

adj. having a very close friendship, personal

synonym: close, tight, friendly

(1) my **intimate** affairs, (2) **intimate** relationship

He has an **intimate** knowledge of American history.

evolve

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

synonym: develop, mature, grow

(1) **evolve**, (2) **evolve** over the past decade

Eyeless fish **evolved** in dark caves.

inhale

v. to breathe in air or a different substance, such as smoke

synonym: breathe in, take in, draw in

(1) **inhale** the smoke, (2) **inhale** the aroma

He **inhaled** deeply, trying to calm down.

splash

v. to cause liquid to scatter in irregular drops, especially with force

synonym: scatter, dash, gurgle

(1) **splash** water, (2) **splash** everywhere

The mountain was **splashed** with snow.

reside

v. to live in a particular place, typically for a prolonged period of time

synonym: live, dwell, inhabit

(1) **reside** on the skin, (2) **reside** permanently

They **reside** in a beautiful old house in the countryside.

participate

v. to take part in something

synonym: take part, partake, enter

(1) **participate** fully in conversation, (2) **participate** in the program

The majority of students actively **participated** in the college's intramural sports program.

exchange

v. to give something and receive something else in return, often with the implication that the items being traded are of equal or comparable value; (noun) the act of giving or taking something in return for something else; a place or system where goods or services can be bought, sold, or traded

synonym: trade, swap, interchange

(1) **exchange** rate, (2) **exchange** a few friendly words

My sister and I frequently **exchange** books, as we love reading.

belong

v. to be the property of someone or something; to be a member or part of a group; to be in the proper or appropriate place

synonym: fit, be appropriate, be suitable

(1) **belong** to different species, (2) **belong** to a group

All the books in this section **belong** to the library's rare collection and must be handled carefully.

sally

n. a sudden, impulsive outing or excursion; a witty or clever remark

synonym: sortie, charge, wisecrack

(1) **sally** of wit, (2) **sally** port

The protesters made a sudden **sally** into the town square, surprising everyone.

lung

n. either of the two organs in the chest that people and some animals use for breathing

(1) **lung** capacity, (2) do **lung** transplantation

He has terminal **lung** cancer.

myth

n. an ancient story or set of stories accepted as history, especially explaining the worldview of a people

synonym: fable, legend, lore

(1) the **myth** of an old religion, (2) perpetuate a **myth**

With the financial bubble bursting, the **myth** of economic growth in investment banking collapsed.

essence

n. the basic or most important part or quality of something that makes it what it is

synonym: core, nature, disposition

(1) vanilla **essence**, (2) universal **essence**

University teaches the art of understanding the **essence** of the matter.

heaven

n. (of various religious and mythological traditions) a place or state of existence considered to be the abode of the divine, the afterlife, or a higher realm of being; a state of great happiness, contentment, or beauty

synonym: paradise, nirvana, utopia

(1) ascend to **heaven**, (2) **heaven** on earth

He felt like **heaven** when he tasted the delicious chocolate cake.

fragment

n. a small piece or part broken off or detached

synonym: piece, shard, segment

(1) **fragment** of a text, (2) a broken **fragment**

The archaeologist carefully pieced together the tiny **fragments** of pottery found at the dig site.

incomplete

adj. not having all the necessary or appropriate parts; not yet finished

synonym: undone, unfinished, insufficient

(1) **incomplete** information, (2) customer with **incomplete** credit histories

The researcher criticized the study due to **incomplete** data.

incredible

adj. unbelievable; enormous

synonym: unbelievable, fantastical, inconceivable

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

Her response revealed **incredible** idiocy.

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.

scatter

v. to cause to separate and go in different directions

synonym: disperse, spread, bestrew

(1) **scatter** seeds, (2) **scatter** around the internet

The hunter's approach **scattered** the geese.

individual

n. a single person or thing, as distinct from a group

synonym: person, being, self

(1) a private **individual**, (2) **individual** freedom

As an **individual**, he had the right to make his own decisions and live his life as he saw fit.

quest

n. a long or challenging search for something

synonym: exploration, inquisition, pursuit

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

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

treasure

n. a valuable or desirable possession; something that is cherished or held dear; a collection of valuable objects or money that is hidden or protected

synonym: hoard, fortune, gem

(1) **treasure** hunt, (2) **treasure** island

The pirates searched for buried **treasure** in the dunes.

confine

v. to restrict the movement of someone or something

synonym: restrict, limit, contain

(1) **confine** themselves solely, (2) **confine** the scope of use

The animal was **confined** in a small cage.

embark

v. to go on board a ship or plane; to set out on an enterprise or subject of study; to start something

synonym: enter, undertake, commence

(1) **embark** on a trip, (2) **embark** on a foolish adventure

We **embarked** on a new project.

epic

n. a long and eventful or heroic history, story, poem, or film; (adjective) very imposing or impressive

synonym: legendary, mythical, classical

(1) heroic **epic**, (2) **epic** battle

The military **epic** between the two armies was one for the history books.

odyssey

n. a long wandering and eventful journey; a Greek epic poem attributed to Homer, describing the journey of Odysseus after the fall of Troy

(1) go on a serious **odyssey**, (2) cross-country **odyssey**

He continued the extraordinary **odyssey** with his brother.

mere

adj. used to emphasize how insignificant or minor someone or something is

synonym: bare, minor, sheer

(1) **mere** acquaintance, (2) **mere** incident

He lost the election by **mere** votes.

witness

n. a person who sees something happen, especially a crime or an accident

synonym: onlooker, attestant, bystander

(1) **witness** of the car accident, (2) a material **witness**

The manufacturing industry is **witnessing** fierce competition.

Session 2: Spelling

1. underground im_____on
n. a sudden and extreme collapse or inward bursting, particularly of a structure or system; a rapid or explosive reduction in size, quantity, or value
2. fi_____nt lamp
n. a thin wire or thread, especially one used to produce light in an electric bulb
3. ast_____ics research
n. the branch of physics concerned with the study of the properties and behavior of celestial objects and the physical processes that govern the behavior and evolution of the universe
4. em___k on a trip
v. to go on board a ship or plane; to set out on an enterprise or subject of study; to start something
5. a bl__t of wind
n. explosion, or a strong current of air, usually caused by an explosion; a sudden, thunderous noise
6. a fr_____onal share of the vote
n. a small part or item forming a piece of a whole; the quotient of two rational numbers
7. re_____h of democracy
n. the process of being reborn or starting anew, especially after a period of decline or stagnation
8. ice c__e
n. a three-dimensional shape with six square faces that are all equal in size; (of mathematics) the result of multiplying the number by itself three times

ANSWERS: 1. implosion, 2. filament, 3. astrophysics, 4. embark, 5. blast, 6. fraction, 7. rebirth, 8. cube

9. the main re_____ce *n.* the fact or condition of living in a particular place; a home
10. co_____t mainly of cells *v.* to be composed or made up of
11. sop_____ted look *adj.* having a great deal of worldly experience and knowledge of people's behavior, culture, and fashion
12. bo__d up a staircase *v.* to move forward by leaps and bounds; to form the boundary of something
13. im__y a strong correlation *v.* to indicate the truth or existence of something without referring to it
14. sh__k-resistant *n.* a strong feeling or physical reaction to a sudden and unexpected event or experience, especially something unpleasant
15. ev___e *v.* to develop gradually, or to cause the development of something or someone gradually
16. a m__s of molten rock *n.* a large amount of a substance with no definite shape or form; a large number of people or things grouped or crowded together
17. population de_____y *n.* the quality of compactness of a substance
18. re_____ve factors *adj.* considered and evaluated through comparison with something else
19. he___n on earth *n.* (of various religious and mythological traditions) a place or state of existence considered to be the abode of the divine, the afterlife, or a higher realm of being; a state of great happiness, contentment, or beauty

ANSWERS: 9. residence, 10. consist, 11. sophisticated, 12. bound, 13. imply, 14. shock, 15. evolve, 16. mass, 17. density, 18. relative, 19. heaven

20. higher pixel de_____y *n.* the quality of compactness of a substance
21. im__y the presence of alien *v.* to indicate the truth or existence of something without referring to it
22. the nu_____s of a team *n.* the central and most important part of something; (biology) a part of the cell containing DNA and RNA and responsible for growth and reproduction; (physics) the very dense central region of an atom
23. a private ind_____al *n.* a single person or thing, as distinct from a group
24. na___e language *adj.* connecting with or describing someone's birth country or place of birth, or someone born in a specific country or place
25. neutral hydrogen a__ms *n.* the smallest unit of ordinary matter that forms a chemical element, composed of a nucleus and one or more electrons bound to the nucleus
26. anthropology lab_____ry *n.* a workplace for doing scientific research or teaching science; a lab
27. c__b cakes *n.* a sea creature with two large claws and a flattened back (e.g., blue crab or king crab); a sour or grumpy person who is prone to complaining or criticizing
28. re___t being kissed *v.* to refuse to accept something and attempt to prevent it from happening
29. a material wi_____s *n.* a person who sees something happen, especially a crime or an accident

ANSWERS: 20. density, 21. imply, 22. nucleus, 23. individual, 24. native, 25. atom, 26. laboratory, 27. crab, 28. resist, 29. witness

30. v__y according to the age *v.* to become different in terms of size, shape, etc.
31. in___e the smoke *v.* to breathe in air or a different substance, such as smoke
32. un_____le the nervous system *v.* to make somebody feel anxious or upset, especially because of an unstable or problematic situation
33. du_____e materials *adj.* capable of lasting and being used for a long time without being damaged or destroyed
34. the s__n of a bird's wings *n.* the entire length of something, such as time or space from beginning to end; the amount of space that something covers
35. ce_____y product quality *v.* to formally state, especially in writing, that something is true
36. m__e incident *adj.* used to emphasize how insignificant or minor someone or something is
37. be___n of hope *n.* a light or other visible object serving as a signal, guide, or warning
38. second co___c velocity *adj.* relating to the universe or cosmos; vast or limitless
39. in_____te a preference *v.* to show, point out, or make known something, often through a sign or a symbol; to suggest or imply something without stating it directly
40. as_____le a jigsaw puzzle *v.* to collect in one place as a single group
41. inc_____ly cheerful character *adv.* in a way that is very difficult to believe; exceedingly or extremely

ANSWERS: 30. vary, 31. inhale, 32. unsettle, 33. durable, 34. span, 35. certify, 36. mere, 37. beacon, 38. cosmic, 39. indicate, 40. assemble, 41. incredibly

42. fun_____al rights *adj.* forming an essential base or core from which everything else develops or is affected
43. tr_____rm an education system *v.* to change in outward structure or looks;
44. form a nu_____s *n.* the central and most important part of something; (biology) a part of the cell containing DNA and RNA and responsible for growth and reproduction; (physics) the very dense central region of an atom
45. exp_____nt design *n.* the scientific test conducted to observe what happens and gain new knowledge
46. du_____e peace *adj.* capable of lasting and being used for a long time without being damaged or destroyed
47. an aerial be____n *n.* a light or other visible object serving as a signal, guide, or warning
48. in____l of a waterfall *n.* a natural reservoir or spring of fresh water, often located underground and used as a source of clean drinking water; (of cosmology) the process by which matter, such as galaxies, stars, gas, dust, or dark matter, is gravitationally attracted and falls into a larger gravitational structure, such as a galaxy cluster or a black hole
49. pl____t like the Earth *n.* any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a star

ANSWERS: 42. fundamental, 43. transform, 44. nucleus, 45. experiment, 46. durable, 47. beacon, 48. infall, 49. planet

50. ma____e stars *adj.* enormous amount; very heavy and solid
51. 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
52. heavy hy____en *n.* the chemical element that is the lightest gas is colorless, odorless, tasteless, and combines with oxygen to form water
53. co____c background radiation *adj.* relating to the universe or cosmos; vast or limitless
54. l__g capacity *n.* either of the two organs in the chest that people and some animals use for breathing
55. the per____ve of the battle *n.* a confident attitude toward something; a particular style of thinking about something
56. permanent re____ce *n.* the fact or condition of living in a particular place; a home
57. natural phe____on *n.* something that exists and can be perceptible, especially one that is not fully understood
58. mo____an services *n.* an individual who prepares dead bodies for burial or cremation; a funeral director
59. give sm____ng results *adj.* very successful or impressive; causing something to be broken or destroyed
60. wi____s of the car accident *n.* a person who sees something happen, especially a crime or an accident

ANSWERS: 50. massive, 51. nitrogen, 52. hydrogen, 53. cosmic, 54. lung, 55. perspective, 56. residence, 57. phenomenon, 58. mortician, 59. smashing, 60. witness

61. p__p a secret out of success *v.* to cause water, air, gas, etc. to move from one place to another by using mechanical equipment; to get or supply something such as money, information, etc. in significant quantities
62. ev___e over the past decade *v.* to develop gradually, or to cause the development of something or someone gradually
63. perpetuate a m__h *n.* an ancient story or set of stories accepted as history, especially explaining the worldview of a people
64. smokeless f__l *n.* a substance that is typically burned to generate heat or energy
65. 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.
66. oxygen a__m *n.* the smallest unit of ordinary matter that forms a chemical element, composed of a nucleus and one or more electrons bound to the nucleus
67. historical phe_____on *n.* something that exists and can be perceptible, especially one that is not fully understood
68. ta_____ed umbrella *adj.* worn, torn, or ragged in appearance or condition, usually as a result of long use or hard wear; frayed or falling apart
69. fun_____al education *adj.* forming an essential base or core from which everything else develops or is affected

ANSWERS: 61. pump, 62. evolve, 63. myth, 64. fuel, 65. rely, 66. atom, 67. phenomenon, 68. tattered, 69. fundamental

70. re_____t of the past *n.* a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something
71. a brief ex_____t from the book *n.* a short passage taken from a book, piece of music, etc.; a substance obtained from something through a specific process; (verb) to obtain from something or to remove something by effort or force
72. vanilla es_____e *n.* the basic or most important part or quality of something that makes it what it is
73. man_____re a product *v.* to make goods in large numbers, usually in a factory using machines
74. un_____le his conviction *v.* to make somebody feel anxious or upset, especially because of an unstable or problematic situation
75. professional mo_____an *n.* an individual who prepares dead bodies for burial or cremation; a funeral director
76. the rem_____le breadth of knowledge *adj.* worthy of attention because unusual or special
77. on a qu__t for happiness *n.* a long or challenging search for something
78. the atmospheric tem_____re *n.* the degree of hotness or coldness of a thing or place
79. universal es_____e *n.* the basic or most important part or quality of something that makes it what it is

ANSWERS: 70. remnant, 71. extract, 72. essence, 73. manufacture, 74. unsettle, 75. mortician, 76. remarkable, 77. quest, 78. temperature, 79. essence

80. res_____le for a customer service *adj.* answerable or accountable for something within one's power, control, or management
81. the qu__t for truth *n.* a long or challenging search for something
82. extragalactic su_____va *n.* a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant
83. ex_____e in popularity *v.* to burst or break open violently and noisily; to cause something to burst or break open
84. meet their de___e *n.* death or the end of something
85. si_____te a future scenario *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
86. death from sh__k *n.* a strong feeling or physical reaction to a sudden and unexpected event or experience, especially something unpleasant
87. m__e acquaintance *adj.* used to emphasize how insignificant or minor someone or something is
88. re___t temptation *v.* to refuse to accept something and attempt to prevent it from happening
89. a per_____ve view *n.* a confident attitude toward something; a particular style of thinking about something

ANSWERS: 80. responsible, 81. quest, 82. supernova, 83. explode, 84. demise, 85. simulate, 86. shock, 87. mere, 88. resist, 89. perspective

- | | |
|--|--|
| 90. v__t majority | <i>adj.</i> enormous in size, number, amount, or quantity |
| 91. bo__ded with delight | <i>v.</i> to move forward by leaps and bounds; to form the boundary of something |
| 92. b__g a phone down | <i>v.</i> to hit or cause to hit something in a way that makes a loud noise |
| 93. biomass f__l | <i>n.</i> a substance that is typically burned to generate heat or energy |
| 94. charged pa_____le | <i>n.</i> a small piece of something; a word or piece of a term with grammatical function but little or no significance |
| 95. the li_____od of every organization | <i>n.</i> a vital or essential element or substance that is necessary for survival or success |
| 96. a lot of ex_____ons | <i>n.</i> a violent release induced by a chemical or nuclear reaction |
| 97. a broken fr_____nt | <i>n.</i> a small piece or part broken off or detached |
| 98. su___r dioxide | <i>n.</i> (also sulphur) a chemical element with the symbol S and atomic number 16, found in many minerals and sulfur compounds, often used in the production of fertilizers, rubber, paper, and other industrial applications |
| 99. tr_____er power | <i>v.</i> to move, pass, or change from one person, place, or situation to another |
| 100. ce_____y the authenticity of the painting | <i>v.</i> to formally state, especially in writing, that something is true |

ANSWERS: 90. vast, 91. bound, 92. bang, 93. fuel, 94. particle, 95. lifeblood, 96. explosion, 97. fragment, 98. sulfur, 99. transfer, 100. certify

101. ca___n dioxide *n.* a chemical element that can be found in pure form as diamond or graphite, and it is also an essential part of coal and oil and is found in all plants and animals
102. preserve my gr____y *n.* the force that attracts a body towards the center of the earth or towards any other physical body having mass; a manner that is solemn
103. a fairy t__e *n.* a story made up in someone's imagination, especially one full of action and adventure
104. en___h public services *v.* to make better or improve in quality by adding something else
105. 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
106. ex____ge a few friendly words *v.* to give something and receive something else in return, often with the implication that the items being traded are of equal or comparable value; (noun) the act of giving or taking something in return for something else; a place or system where goods or services can be bought, sold, or traded
107. re____e milk packaging into new paper *v.* to sort and collect things to process them and produce valuable materials that can be used again
108. es____al commodities of life *adj.* indispensable; fundamental

ANSWERS: 101. carbon, 102. gravity, 103. tale, 104. enrich, 105. disrupt, 106. exchange, 107. recycle, 108. essential

109. look through a te_____pe *n.* a device like a tube in shape containing lenses used to magnify and observe distant objects
110. series of exp_____nts *n.* the scientific test conducted to observe what happens and gain new knowledge
111. fr_____nt of a text *n.* a small piece or part broken off or detached
112. emission ne____a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
113. my in_____te affairs *adj.* having a very close friendship, personal
114. a ga____y of famous actors *n.* an independent group of stars, interstellar gas, dark matter, etc., in the universe, bound together by gravity
115. spe_____ar view *adj.* striking or impressive to look at or in performance or achievement
116. re_____te a single country *v.* to make something that existed previously happen or appear to exist again
117. as_____le your colleagues *v.* to collect in one place as a single group
118. re_____te the feeling of the 1920s *v.* to make something that existed previously happen or appear to exist again
119. tr__e a telephone call *v.* to find or discover someone or something that was lost
120. in_____or decoration *n.* the inside or inner part of something; the space within the walls of a building
121. heat fu____n *n.* the process of combining two or more things to form a single entity

ANSWERS: 109. telescope, 110. experiment, 111. fragment, 112. nebula, 113. intimate, 114. galaxy, 115. spectacular, 116. recreate, 117. assemble, 118. recreate, 119. trace, 120. interior, 121. fusion

122. v__t desert *adj.* enormous in size, number, amount, or quantity
123. do l__g transplantation *n.* either of the two organs in the chest that people and some animals use for breathing
124. ej__t a player from a game *v.* to force someone to put out or leave a particular place or position
125. par_____te in the program *v.* to take part in something
126. save the pl___t *n.* any of the nine large celestial bodies that circle in the solar system; any celestial body that revolves around a star
127. sterile ne_____nos *n.* a very small and electrically neutral particle with a very small mass that rarely reacts with other matter
128. ex_____e sports *adj.* very great in amount or degree
129. in_____te relationship *adj.* having a very close friendship, personal
130. 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
131. in_____te an error *v.* to show, point out, or make known something, often through a sign or a symbol; to suggest or imply something without stating it directly
132. accounting f__m *adj.* resolute or unwavering in decision-making or action; strong or secure in structure, make, or composition; reliable, trustworthy, or dependable; (noun) a business or company

ANSWERS: 122. vast, 123. lung, 124. eject, 125. participate, 126. planet, 127. neutrino, 128. extreme, 129. intimate, 130. simulate, 131. indicate, 132. firm

133. the ex_____ed food sources *adj.* extremely tired
134. ra_____e an aura *v.* to spread out or emit something, such as light or heat, in all directions
135. vi_____e by X-ray *adj.* capable of being seen; or open to easy view
136. li_____me ban from the sport *n.* the duration of someone's life or something's existence;
137. critical m__s *n.* a large amount of a substance with no definite shape or form; a large number of people or things grouped or crowded together
138. make dr_____ic changes *adj.* very sudden, very excellent, or full of action and excitement
139. undergo a re_____h *n.* the process of being reborn or starting anew, especially after a period of decline or stagnation
140. the ul_____te goal in life *adj.* furthest or highest in degree or order
141. be____g to different species *v.* to be the property of someone or something; to be a member or part of a group; to be in the proper or appropriate place
142. the in_____on of new techniques *n.* the creation of a new device or process resulting from study and experimentation; the act of inventing
143. na____e to Africa *adj.* connecting with or describing someone's birth country or place of birth, or someone born in a specific country or place

ANSWERS: 133. exhausted, 134. radiate, 135. visible, 136. lifetime, 137. mass, 138. dramatic, 139. rebirth, 140. ultimate, 141. belong, 142. invention, 143. native

144. 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
145. cr____l information *adj.* extremely vital or necessary
146. ex____e weather events *adj.* very great in amount or degree
147. solar ast____er *n.* a physicist who studies astronomy
148. f__m grip *adj.* resolute or unwavering in decision-making or action; strong or secure in structure, make, or composition; reliable, trustworthy, or dependable; (noun) a business or company
149. sc____r seeds *v.* to cause to separate and go in different directions
150. re___e on the skin *v.* to live in a particular place, typically for a prolonged period of time
151. pr____ly affect adults *adv.* mainly
152. a st____r system *adj.* excellent; relating to or resembling a star, especially in quality or attractiveness
153. re___e permanently *v.* to live in a particular place, typically for a prolonged period of time
154. a spiral ne___a *n.* a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source
155. es____te this chicken to weigh three pounds *v.* to guess or calculate the cost, size, value, etc. of something

ANSWERS: 144. nuclear, 145. crucial, 146. extreme, 147. astronomer, 148. firm, 149. scatter, 150. reside, 151. primarily, 152. stellar, 153. reside, 154. nebula, 155. estimate

156. electromagnetic ra_____on *n.* the energy that comes from a nuclear reaction in the form of rays, waves, or particles and that can be hazardous to health
157. st_____r performance *adj.* excellent; relating to or resembling a star, especially in quality or attractiveness
158. th_____l insulation *adj.* relating to heat or temperature; designed for or capable of producing or maintaining heat
159. botanical ex_____t *n.* a short passage taken from a book, piece of music, etc.; a substance obtained from something through a specific process; (verb) to obtain from something or to remove something by effort or force
160. ta_____ed clothes *adj.* worn, torn, or ragged in appearance or condition, usually as a result of long use or hard wear; frayed or falling apart
161. re_____e the cardboard boxes *v.* to sort and collect things to process them and produce valuable materials that can be used again
162. the hydrogen binds the ox____n *n.* the chemical element with the symbol O that is present in air and water and is necessary for people, animals, and plants to live
163. billions of lig_____ars *n.* a unit of distance used in astronomy to represent the distance that light travels in a year, which is equal to about 9.46 trillion kilometers or 5.88 trillion miles

ANSWERS: 156. radiation, 157. stellar, 158. thermal, 159. extract, 160. tattered, 161. recycle, 162. oxygen, 163. light-year

164. pos_____ty for growth *n.* a chance that something may happen or be true
165. social im_____on *n.* a sudden and extreme collapse or inward bursting, particularly of a structure or system; a rapid or explosive reduction in size, quantity, or value
166. br_____nt idea *adj.* extremely clever, skilled, or impressive
167. toxic ch_____als *adj.* relating to or connected with chemistry;
168. be____g to a group *v.* to be the property of someone or something; to be a member or part of a group; to be in the proper or appropriate place
169. pa_____le energy *n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
170. de____e of bureaucracy *n.* death or the end of something
171. ex_____ed parents *adj.* extremely tired
172. an el_____e criminal *adj.* difficult to find, define, achieve, or remember
173. rem_____le achievement *adj.* worthy of attention because unusual or special
174. li_____me benefits *n.* the duration of someone's life or something's existence;
175. re_____e the trend *v.* to change something's direction, order, position, decision, etc., to the opposite one; (adjective) directed or moving toward the rear

ANSWERS: 164. possibility, 165. implosion, 166. brilliant, 167. chemical, 168. belong, 169. particle, 170. demise, 171. exhausted, 172. elusive, 173. remarkable, 174. lifetime, 175. reverse

176. c__b legs *n.* a sea creature with two large claws and a flattened back (e.g., blue crab or king crab); a sour or grumpy person who is prone to complaining or criticizing
177. tr__e back to medieval times *v.* to find or discover someone or something that was lost
178. lig_____ar distance *n.* a unit of distance used in astronomy to represent the distance that light travels in a year, which is equal to about 9.46 trillion kilometers or 5.88 trillion miles
179. e__c battle *n.* a long and eventful or heroic history, story, poem, or film; (adjective) very imposing or impressive
180. hy_____en gas *n.* the chemical element that is the lightest gas is colorless, odorless, tasteless, and combines with oxygen to form water
181. he___m atom *n.* a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table
182. syn_____ze molecules *v.* to combine a substance to make a more complex product or compound
183. re_____ts of fabric *n.* a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something
184. nu_____r fusion *adj.* of or relating to or constituting the nucleus of an atom; deriving destructive energy from the release of atomic energy

ANSWERS: 176. crab, 177. trace, 178. light-year, 179. epic, 180. hydrogen, 181. helium, 182. synthesize, 183. remnant, 184. nuclear

185. track down an el_____e fact *adj.* difficult to find, define, achieve, or remember
186. co_____de a meeting *v.* to come to an end or close; to reach a judgment or opinion by reasoning
187. em____k on a foolish adventure *v.* to go on board a ship or plane; to set out on an enterprise or subject of study; to start something
188. customer with inc_____te credit histories *adj.* not having all the necessary or appropriate parts; not yet finished
189. a branch of as_____my *n.* the scientific study of objects and matter outside the Earth's atmosphere, especially the positions, motions, and evolution of celestial bodies
190. si_____n wafer *n.* a chemical element with the symbol Si that is a hard, brittle crystalline solid with a blue-grey metallic luster and used for the transistors and integrated circuit chips in computers
191. go to the workplace by cy__e *n.* an interval during which a recurring sequence of events occurs; a bicycle or motorcycle
192. a sm_____ng blow *adj.* very successful or impressive; causing something to be broken or destroyed
193. ra_____e in all directions *v.* to spread out or emit something, such as light or heat, in all directions
194. heroic e__c *n.* a long and eventful or heroic history, story, poem, or film; (adjective) very imposing or impressive
195. cognitive com_____ty *n.* the state or quality of being complicated or intricate and difficult to understand

ANSWERS: 185. elusive, 186. conclude, 187. embark, 188. incomplete, 189. astronomy, 190. silicon, 191. cycle, 192. smashing, 193. radiate, 194. epic, 195. complexity

207. elliptic ga___y *n.* an independent group of stars, interstellar gas, dark matter, etc., in the universe, bound together by gravity
208. amateur ast_____er *n.* a physicist who studies astronomy
209. racial or___n *n.* the first existence or beginning of something
210. the cy__e of the seasons *n.* an interval during which a recurring sequence of events occurs; a bicycle or motorcycle
211. extreme tem_____res *n.* the degree of hotness or coldness of a thing or place
212. a cr____l issue for women *adj.* extremely vital or necessary
213. inc_____le amount *adj.* unbelievable; enormous
214. ex_____e in anger *v.* to burst or break open violently and noisily; to cause something to burst or break open
215. expansion of the un_____se *n.* everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy
216. at inc_____le speed *adj.* unbelievable; enormous
217. theory of the un_____se *n.* everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy
218. nutrient-de__e foods *adj.* containing a large number of people or something with little space between them

ANSWERS: 207. galaxy, 208. astronomer, 209. origin, 210. cycle, 211. temperature, 212. crucial, 213. incredible, 214. explode, 215. universe, 216. incredible, 217. universe, 218. dense

219. tr_____er a file *v.* to move, pass, or change from one person, place, or situation to another
220. un_____al life *adj.* existing or affecting everywhere or everyone
221. plenty of in_____or space *n.* the inside or inner part of something; the space within the walls of a building
222. site of the ex_____on *n.* a violent release induced by a chemical or nuclear reaction
223. su____r mine *n.* (also sulphur) a chemical element with the symbol S and atomic number 16, found in many minerals and sulfur compounds, often used in the production of fertilizers, rubber, paper, and other industrial applications
224. go on a serious od_____y *n.* a long wandering and eventful journey; a Greek epic poem attributed to Homer, describing the journey of Odysseus after the fall of Troy
225. exposure to ra_____on *n.* the energy that comes from a nuclear reaction in the form of rays, waves, or particles and that can be hazardous to health
226. co_____de that he is healthy *v.* to come to an end or close; to reach a judgment or opinion by reasoning
227. th_____l energy *adj.* relating to heat or temperature; designed for or capable of producing or maintaining heat
228. a numerator in a fr_____on *n.* a small part or item forming a piece of a whole; the quotient of two rational numbers

ANSWERS: 219. transfer, 220. universal, 221. interior, 222. explosion, 223. sulfur, 224. odyssey, 225. radiation, 226. conclude, 227. thermal, 228. fraction

229. ej__t huge amounts of pollutant *v.* to force someone to put out or leave a particular place or position
230. tr____re hunt *n.* a valuable or desirable possession; something that is cherished or held dear; a collection of valuable objects or money that is hidden or protected
231. the m__h of an old religion *n.* an ancient story or set of stories accepted as history, especially explaining the worldview of a people
232. op_____ne occasion *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose
233. luminous n__n tube *n.* a chemical element of atomic number 10 that is a gas with no smell or color, does not react with other chemicals, and shines with a bright light when electricity is passed through it
234. n__n lights *n.* a chemical element of atomic number 10 that is a gas with no smell or color, does not react with other chemicals, and shines with a bright light when electricity is passed through it
235. es_____al amino acid *adj.* indispensable; fundamental
236. co_____e themselves solely *v.* to restrict the movement of someone or something
237. sa__y port *n.* a sudden, impulsive outing or excursion; a witty or clever remark
238. pos_____ty of a major earthquake *n.* a chance that something may happen or be true

ANSWERS: 229. eject, 230. treasure, 231. myth, 232. opportune, 233. neon, 234. neon, 235. essential, 236. confine, 237. sally, 238. possibility

239. res_____le action *adj.* answerable or accountable for something within one's power, control, or management
240. intended pr_____ly for young people *adv.* mainly
241. an icy bl__t *n.* explosion, or a strong current of air, usually caused by an explosion; a sudden, thunderous noise
242. the ch_____ry of soil *n.* the branch of the natural sciences dealing with the composition of substances and their properties and reactions
243. sp___h everywhere *v.* to cause liquid to scatter in irregular drops, especially with force
244. achieve spe_____ar growth *adj.* striking or impressive to look at or in performance or achievement
245. bo___e back from failure *v.* to cause to move up or away after hitting a surface; to spring back
246. ind_____al freedom *n.* a single person or thing, as distinct from a group
247. get inc_____ly insecure *adv.* in a way that is very difficult to believe; exceedingly or extremely
248. neutrino ast_____ics *n.* the branch of physics concerned with the study of the properties and behavior of celestial objects and the physical processes that govern the behavior and evolution of the universe
249. or___n of information *n.* the first existence or beginning of something

ANSWERS: 239. responsible, 240. primarily, 241. blast, 242. chemistry, 243. splash, 244. spectacular, 245. bounce, 246. individual, 247. incredibly, 248. astrophysics, 249. origin

250. ma_____e amounts *adj.* enormous amount; very heavy and solid
251. man_____re an enzyme *v.* to make goods in large numbers, usually in a factory using machines
252. par_____te fully in conversation *v.* to take part in something
253. a dr_____ic rescue at sea *adj.* very sudden, very excellent, or full of action and excitement
254. a sop_____ted lifestyle *adj.* having a great deal of worldly experience and knowledge of people's behavior, culture, and fashion
255. lab_____ry accident *n.* a workplace for doing scientific research or teaching science; a lab
256. the attraction of gr_____y *n.* the force that attracts a body towards the center of the earth or towards any other physical body having mass; a manner that is solemn
257. tr_____re island *n.* a valuable or desirable possession; something that is cherished or held dear; a collection of valuable objects or money that is hidden or protected
258. de___e topic *n.* a formal discussion or argument of opposing viewpoints, often to persuade others to adopt a specific position; a public discussion, often on an issue of current interest, in which participants offer opinions and differing perspectives
259. the average life s__n *n.* the entire length of something, such as time or space from beginning to end; the amount of space that something covers

ANSWERS: 250. massive, 251. manufacture, 252. participate, 253. dramatic, 254. sophisticated, 255. laboratory, 256. gravity, 257. treasure, 258. debate, 259. span

260. he___m gas *n.* a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table
261. ca___n emission *n.* a chemical element that can be found in pure form as diamond or graphite, and it is also an essential part of coal and oil and is found in all plants and animals
262. fu___n cuisine *n.* the process of combining two or more things to form a single entity
263. p__p blood throughout the body *v.* to cause water, air, gas, etc. to move from one place to another by using mechanical equipment; to get or supply something such as money, information, etc. in significant quantities
264. the ul____te luxury *adj.* furthest or highest in degree or order
265. a binocular te_____pe *n.* a device like a tube in shape containing lenses used to magnify and observe distant objects
266. tr_____rm heat into power *v.* to change in outward structure or looks;
267. c__e root *n.* a three-dimensional shape with six square faces that are all equal in size; (of mathematics) the result of multiplying the number by itself three times
268. vi_____e stars *adj.* capable of being seen; or open to easy view
269. principles of un_____al design *adj.* existing or affecting everywhere or everyone

ANSWERS: 260. helium, 261. carbon, 262. fusion, 263. pump, 264. ultimate, 265. telescope, 266. transform, 267. cube, 268. visible, 269. universal

270. common in_____on *n.* the creation of a new device or process resulting from study and experimentation; the act of inventing
271. lack of ox___n *n.* the chemical element with the symbol O that is present in air and water and is necessary for people, animals, and plants to live
272. ascend to he___n *n.* (of various religious and mythological traditions) a place or state of existence considered to be the abode of the divine, the afterlife, or a higher realm of being; a state of great happiness, contentment, or beauty
273. b__g his fist on a desk *v.* to hit or cause to hit something in a way that makes a loud noise
274. chemical re_____on *n.* a response that reveals a person's feelings or attitude; (in chemistry) a process in which one or more substances are changed into others
275. com_____ty theory *n.* the state or quality of being complicated or intricate and difficult to understand
276. carbon fi_____nt *n.* a thin wire or thread, especially one used to produce light in an electric bulb
277. co_____e the scope of use *v.* to restrict the movement of someone or something
278. en___h a gas with a balloon *v.* to make better or improve in quality by adding something else
279. a remote re_____ve *adj.* considered and evaluated through comparison with something else

ANSWERS: 270. invention, 271. oxygen, 272. heaven, 273. bang, 274. reaction, 275. complexity, 276. filament, 277. confine, 278. enrich, 279. relative

280. ni____en absorption *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
281. the stock market co____sed *v.* to fall down or give way suddenly, often after breaking apart
282. t__e of horror *n.* a story made up in someone's imagination, especially one full of action and adventure
283. de__e forests *adj.* containing a large number of people or something with little space between them
284. v__y directly with the price *v.* to become different in terms of size, shape, etc.
285. 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
286. es____te a fair value *v.* to guess or calculate the cost, size, value, etc. of something
287. syn____ze information *v.* to combine a substance to make a more complex product or compound
288. a remarkable ach____nt *n.* a thing that someone has accomplished, primarily through their effort and ability
289. sp____h water *v.* to cause liquid to scatter in irregular drops, especially with force
290. an op____ne remark *adj.* suitable or happening at a time that is suitable or convenient for a particular purpose

ANSWERS: 280. nitrogen, 281. collapse, 282. tale, 283. dense, 284. vary, 285. disrupt, 286. estimate, 287. synthesize, 288. achievement, 289. splash, 290. opportune

291. in___l velocity *n.* a natural reservoir or spring of fresh water, often located underground and used as a source of clean drinking water; (of cosmology) the process by which matter, such as galaxies, stars, gas, dust, or dark matter, is gravitationally attracted and falls into a larger gravitational structure, such as a galaxy cluster or a black hole
292. as_____my science *n.* the scientific study of objects and matter outside the Earth's atmosphere, especially the positions, motions, and evolution of celestial bodies
293. cross-country od_____y *n.* a long wandering and eventful journey; a Greek epic poem attributed to Homer, describing the journey of Odysseus after the fall of Troy
294. a ch_____al compound *adj.* relating to or connected with chemistry;
295. professor of ch_____ry *n.* the branch of the natural sciences dealing with the composition of substances and their properties and reactions
296. the li_____od of the economy *n.* a vital or essential element or substance that is necessary for survival or success
297. sc_____r around the internet *v.* to cause to separate and go in different directions
298. br_____nt performance *adj.* extremely clever, skilled, or impressive
299. c__e business activity *n.* the most essential or fundamental part of something

ANSWERS: 291. infall, 292. astronomy, 293. odyssey, 294. chemical, 295. chemistry, 296. lifeblood, 297. scatter, 298. brilliant, 299. core

300. re____e the order *v.* to change something's direction, order, position, decision, etc., to the opposite one; (adjective) directed or moving toward the rear
301. ex____ge rate *v.* to give something and receive something else in return, often with the implication that the items being traded are of equal or comparable value; (noun) the act of giving or taking something in return for something else; a place or system where goods or services can be bought, sold, or traded
302. ne____no capture *n.* a very small and electrically neutral particle with a very small mass that rarely reacts with other matter
303. crystalline si____n *n.* a chemical element with the symbol Si that is a hard, brittle crystalline solid with a blue-grey metallic luster and used for the transistors and integrated circuit chips in computers
304. sa__y of wit *n.* a sudden, impulsive outing or excursion; a witty or clever remark
305. inc____te information *adj.* not having all the necessary or appropriate parts; not yet finished
306. ready to co____se *v.* to fall down or give way suddenly, often after breaking apart

ANSWERS: 300. reverse, 301. exchange, 302. neutrino, 303. silicon, 304. sally, 305. incomplete, 306. collapse

Session 3: Fill in the Blanks

1. My home is easily _____ from the shore.
adj. capable of being seen; or open to easy view
2. He has an _____ knowledge of American history.
adj. having a very close friendship, personal
3. The entire mountain is covered in _____ rainforest.
adj. containing a large number of people or something with little space between them
4. She received a _____ review from her boss, which boosted her confidence.
adj. excellent; relating to or resembling a star, especially in quality or attractiveness
5. Most countries prohibit sexual activity between certain close _____.
adj. considered and evaluated through comparison with something else
6. The _____ is about 13.8 billion years old.
n. everything that exists, especially all physical matter, including planets, stars, galaxies, and all other forms of matter and energy
7. My father's death _____ my life completely.
v. to change in outward structure or looks;
8. Reading not only increases knowledge but also _____ life.
v. to make better or improve in quality by adding something else
9. The galactic _____ was a beautiful sight through the telescope, with its vibrant colors and swirling clouds.
n. a cloud of gas and dust in space, visible in the night sky, typically as a diffuse light source

ANSWERS: 1. visible, 2. intimate, 3. dense, 4. stellar, 5. relatives, 6. universe, 7. transformed, 8. enriches, 9. nebula

10. The majority of students actively _____ in the college's intramural sports program.

v. to take part in something

11. The band's new album was a _____ success, reaching the top of the charts.

adj. very successful or impressive; causing something to be broken or destroyed

12. 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

13. The astronaut felt weightless in space due to the absence of _____.

n. the force that attracts a body towards the center of the earth or towards any other physical body having mass; a manner that is solemn

14. 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

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

adj. relating to or connected with chemistry;

16. That adventurer traveled in _____ of buried treasure.

n. a long or challenging search for something

17. The outermost electron shell of an _____ determines its chemical characteristics.

n. the smallest unit of ordinary matter that forms a chemical element, composed of a nucleus and one or more electrons bound to the nucleus

ANSWERS: 10. participated, 11. smashing, 12. fusion, 13. gravity, 14. disrupt, 15. chemical, 16. quest, 17. atom

18. Canada _____ on the United States.

v. to move forward by leaps and bounds; to form the boundary of something

19. The _____ explosion created a bright new star in the night sky.

n. a powerful and luminous explosion that occurs in some stars, resulting in an extremely bright, short-lived object that later fades into a supernova remnant

20. He got an electric _____ at work.

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

21. These gas nebulas are merely newborn galactic _____.

n. the most essential or fundamental part of something

22. I chose to _____ cancer by trying every possible treatment.

v. to refuse to accept something and attempt to prevent it from happening

23. Do you know the _____ of the population in Hong Kong?

n. the quality of compactness of a substance

24. Let's _____ the origins of some familiar foreign words.

v. to find or discover someone or something that was lost

25. They _____ in a beautiful old house in the countryside.

v. to live in a particular place, typically for a prolonged period of time

26. Cities around the world set records for highest _____ this summer.

n. the degree of hotness or coldness of a thing or place

ANSWERS: 18. bounds, 19. supernova, 20. shock, 21. cores, 22. resist, 23. density, 24. trace, 25. reside, 26. temperatures

27. My sister and I frequently _____ books, as we love reading.
- v.* to give something and receive something else in return, often with the implication that the items being traded are of equal or comparable value; (noun) the act of giving or taking something in return for something else; a place or system where goods or services can be bought, sold, or traded
28. The Milky Way _____ has numerous water-bearing planets.
- n.* an independent group of stars, interstellar gas, dark matter, etc., in the universe, bound together by gravity
29. The lighthouse served as a _____ to guide ships safely into port.
- n.* a light or other visible object serving as a signal, guide, or warning
30. We _____ the season's total trade deficit at \$50 billion.
- v.* to guess or calculate the cost, size, value, etc. of something
31. He slightly modified the _____ of training because it was just before a match.
- n.* the entire length of something, such as time or space from beginning to end; the amount of space that something covers
32. The old building _____ in a fiery inferno.
- v.* to burst or break open violently and noisily; to cause something to burst or break open
33. She had lived through two world wars in her _____.
- n.* the duration of someone's life or something's existence;
34. All the books in this section _____ to the library's rare collection and must be handled carefully.
- v.* to be the property of someone or something; to be a member or part of a group; to be in the proper or appropriate place

ANSWERS: 27. exchange, 28. galaxy, 29. beacon, 30. estimated, 31. span, 32. exploded, 33. lifetime, 34. belong

35. Human behavior has _____ characteristics.

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

36. She's a _____ pet owner who ensures her dog gets enough exercise and a healthy diet.

adj. answerable or accountable for something within one's power, control, or management

37. He _____ deeply, trying to calm down.

v. to breathe in air or a different substance, such as smoke

38. We _____ on a new project.

v. to go on board a ship or plane; to set out on an enterprise or subject of study; to start something

39. The president began to _____ an army.

v. to collect in one place as a single group

40. The restaurant _____ a ban on smoking.

v. to change something's direction, order, position, decision, etc., to the opposite one; (adjective) directed or moving toward the rear

41. The _____ runner fell to the ground and gasped.

adj. extremely tired

42. The spider can _____ multiple different silk proteins.

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

ANSWERS: 35. fundamental, 36. responsible, 37. inhaled, 38. embarked, 39. assemble, 40. reversed, 41. exhausted, 42. synthesize

43. _____ is the second most abundant element on earth after oxygen.
- n.* a chemical element with the symbol Si that is a hard, brittle crystalline solid with a blue-grey metallic luster and used for the transistors and integrated circuit chips in computers
44. There are various hypotheses concerning the _____ of life.
- n.* the first existence or beginning of something
45. This examination _____ of five problems to solve.
- v.* to be composed or made up of
46. We can calculate the position of the _____ statistically.
- n.* a small piece of something; a word or piece of a term with grammatical function but little or no significance
47. The hunter's approach _____ the geese.
- v.* to cause to separate and go in different directions
48. He had a deep passion for extragalactic _____ and spent hours observing the night sky.
- n.* the scientific study of objects and matter outside the Earth's atmosphere, especially the positions, motions, and evolution of celestial bodies
49. The _____ over climate change continues to be a hot topic in politics.
- n.* a formal discussion or argument of opposing viewpoints, often to persuade others to adopt a specific position; a public discussion, often on an issue of current interest, in which participants offer opinions and differing perspectives
50. The salespeople speak in technical terms to _____ that they are more knowledgeable than the customer.
- v.* to indicate the truth or existence of something without referring to it

ANSWERS: 43. Silicon, 44. origin, 45. consists, 46. particles, 47. scattered, 48. astronomy, 49. debate, 50. imply

51. Eyeless fish _____ in dark caves.

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

52. Management must take _____ responsibility for the accident.

- adj.* furthest or highest in degree or order

53. 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

54. The company's financial _____ was caused by poor management.

- n.* a sudden and extreme collapse or inward bursting, particularly of a structure or system; a rapid or explosive reduction in size, quantity, or value

55. A broken gas pipe triggered the _____.

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

56. The phoenix is a symbol of _____ rising from the ashes to be reborn anew.

- n.* the process of being reborn or starting anew, especially after a period of decline or stagnation

57. 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

58. The _____ of getting the disease will drastically increase.

- n.* a chance that something may happen or be true

ANSWERS: 51. evolved, 52. ultimate, 53. nuclear, 54. implosion, 55. explosion, 56. rebirth, 57. simulate, 58. possibility

59. As an _____ he had the right to make his own decisions and live his life as he saw fit.
n. a single person or thing, as distinct from a group
60. As a witness, I can _____ his innocence.
v. to formally state, especially in writing, that something is true
61. He continued the extraordinary _____ with his brother.
n. a long wandering and eventful journey; a Greek epic poem attributed to Homer, describing the journey of Odysseus after the fall of Troy
62. The phone rang at the most _____ time.
adj. suitable or happening at a time that is suitable or convenient for a particular purpose
63. The funeral home's _____ facilitated all the necessary arrangements for the memorial service.
n. an individual who prepares dead bodies for burial or cremation; a funeral director
64. The more _____ you are, the more people around you look at you with envy and jealousy.
adj. extremely clever, skilled, or impressive
65. Necessity is the mother of _____.
n. the creation of a new device or process resulting from study and experimentation; the act of inventing
66. The recent economic downturn has resulted in _____ layoffs.
adj. enormous amount; very heavy and solid

ANSWERS: 59. individual, 60. certify, 61. odyssey, 62. opportune, 63. mortician, 64. brilliant, 65. invention, 66. massive

67. She _____ the money from her savings account to her checking account.

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

68. The company's reputation is its _____.

n. a vital or essential element or substance that is necessary for survival or success

69. The nightlife district was lit up with colorful _____ signs and bright lights.

n. a chemical element of atomic number 10 that is a gas with no smell or color, does not react with other chemicals, and shines with a bright light when electricity is passed through it

70. Ghosts in folk _____ are almost always malicious.

n. a story made up in someone's imagination, especially one full of action and adventure

71. His father's death changed his whole _____ on life.

n. a confident attitude toward something; a particular style of thinking about something

72. The _____ shattered the laboratory equipment.

n. explosion, or a strong current of air, usually caused by an explosion; a sudden, thunderous noise

73. With the financial bubble bursting, the _____ of economic growth in investment banking collapsed.

n. an ancient story or set of stories accepted as history, especially explaining the worldview of a people

74. The _____ balloons floated into the sky.

n. a colorless, odorless, tasteless, non-toxic, inert, monatomic gas, the first in the noble gas series in the periodic table

ANSWERS: 67. transferred, 68. lifeblood, 69. neon, 70. tales, 71. perspective, 72. blast, 73. myth, 74. helium-filled

75. The roof finally _____ after three days and three nights of heavy snowfall.
v. to fall down or give way suddenly, often after breaking apart
76. _____ rays are high-energy particles that originate from outside the solar system.
adj. relating to the universe or cosmos; vast or limitless
77. Her response revealed _____ idiocy.
adj. unbelievable; enormous
78. The manufacturing industry is _____ fierce competition.
n. a person who sees something happen, especially a crime or an accident
79. Their headquarters are in a _____ skyscraper.
adj. of or belonging to the present time or recent times
80. There was a chemical _____ of the lime with the groundwater.
n. a response that reveals a person's feelings or attitude; (in chemistry) a process in which one or more substances are changed into others
81. The food chain causes a material _____.
n. an interval during which a recurring sequence of events occurs; a bicycle or motorcycle
82. University teaches the art of understanding the _____ of the matter.
n. the basic or most important part or quality of something that makes it what it is
83. Anesthetize the gum before _____ the teeth.
n. a short passage taken from a book, piece of music, etc.; a substance obtained from something through a specific process; (verb) to obtain from something or to remove something by effort or force

ANSWERS: 75. collapsed, 76. Cosmic, 77. incredible, 78. witnessing, 79. modern, 80. reaction, 81. cycle, 82. essence, 83. extracting

84. _____ 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
85. The _____ of matter into the black hole creates an incredibly dense region known as the event horizon.
- n.* a natural reservoir or spring of fresh water, often located underground and used as a source of clean drinking water; (of cosmology) the process by which matter, such as galaxies, stars, gas, dust, or dark matter, is gravitationally attracted and falls into a larger gravitational structure, such as a galaxy cluster or a black hole
86. The protesters made a sudden _____ into the town square, surprising everyone.
- n.* a sudden, impulsive outing or excursion; a witty or clever remark
87. The passenger grabbed for the _____ mask.
- n.* the chemical element with the symbol O that is present in air and water and is necessary for people, animals, and plants to live
88. Proxima Centauri is the closest star to Earth, located about 4.24 _____ away.
- n.* a unit of distance used in astronomy to represent the distance that light travels in a year, which is equal to about 9.46 trillion kilometers or 5.88 trillion miles
89. The sudden _____ of the king was a shock to everyone and threw the kingdom into chaos.
- n.* death or the end of something
90. The majority of synthetic vitamins are _____ from oil.
- v.* to make goods in large numbers, usually in a factory using machines

ANSWERS: 84. Nitrogen, 85. infall, 86. sally, 87. oxygen, 88. light-years, 89. demise, 90. manufactured

91. The _____ imaging camera was used to detect heat signatures in the dark.
adj. relating to heat or temperature; designed for or capable of producing or maintaining heat
92. His _____ showed highly positive results.
n. the scientific test conducted to observe what happens and gain new knowledge
93. We largely _____ the circuit board of cell phones because they contain a lot of valuable metals.
v. to sort and collect things to process them and produce valuable materials that can be used again
94. The _____ of people who do not own property is politically impotent.
n. a large amount of a substance with no definite shape or form; a large number of people or things grouped or crowded together
95. He lost the election by _____ votes.
adj. used to emphasize how insignificant or minor someone or something is
96. She _____ the atmosphere of the pre-war age with her stage setting.
v. to make something that existed previously happen or appear to exist again
97. Several cities are experiencing _____ high unemployment rates.
adv. in a way that is very difficult to believe; exceedingly or extremely
98. Roads _____ from the famous building in the center of the city.
v. to spread out or emit something, such as light or heat, in all directions
99. He was studying _____ in an attempt to understand the origins of the universe.
n. the branch of physics concerned with the study of the properties and behavior of celestial objects and the physical processes that govern the behavior and evolution of the universe

ANSWERS: 91. thermal, 92. experiments, 93. recycle, 94. mass, 95. mere, 96. recreated, 97. incredibly, 98. radiate, 99. astrophysics

100. The physicist who found the _____ particle won the Nobel Prize.
adj. difficult to find, define, achieve, or remember
101. Trial and error is an _____ part of education.
adj. indispensable; fundamental
102. 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.
103. This laboratory has a pool consisting of thousands of _____ detectors.
n. a very small and electrically neutral particle with a very small mass that rarely reacts with other matter
104. The _____ book was falling apart at the seams from being read too many times.
adj. worn, torn, or ragged in appearance or condition, usually as a result of long use or hard wear; frayed or falling apart
105. The statement had a _____ impact on house prices.
adj. very sudden, very excellent, or full of action and excitement
106. I cut the cheese into small _____ for the salad.
n. a three-dimensional shape with six square faces that are all equal in size; (of mathematics) the result of multiplying the number by itself three times
107. The _____ in the light bulb burned out, and now it's not working.
n. a thin wire or thread, especially one used to produce light in an electric bulb

ANSWERS: 100. elusive, 101. essential, 102. rely, 103. neutrino, 104. tattered, 105. dramatic, 106. cubes, 107. filament

108. He spent only a _____ of his earnings.

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

109. He tried every possible treatment, including chemotherapy and _____ therapy.

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

110. The archaeologist carefully pieced together the tiny _____ of pottery found at the dig site.

n. a small piece or part broken off or detached

111. Solar gravity creates _____ pressures and temperatures.

adj. very great in amount or degree

112. The mountain was _____ with snow.

v. to cause liquid to scatter in irregular drops, especially with force

113. The _____ of the ambassador was located in the heart of the city.

n. the fact or condition of living in a particular place; a home

114. The _____ emissions from the nearby factory caused the rotten egg smell.

n. (also sulphur) a chemical element with the symbol S and atomic number 16, found in many minerals and sulfur compounds, often used in the production of fertilizers, rubber, paper, and other industrial applications

115. We _____ a cease-fire.

v. to come to an end or close; to reach a judgment or opinion by reasoning

ANSWERS: 108. fraction, 109. radiation, 110. fragments, 111. extreme, 112. splashed, 113. residence, 114. sulfur, 115. concluded

116. My father tried to _____ mathematics into my head since childhood.
v. to hit or cause to hit something in a way that makes a loud noise
117. The researcher criticized the study due to _____ data.
adj. not having all the necessary or appropriate parts; not yet finished
118. The _____ scarcity most severely impacted the manufacturing sector
n. a substance that is typically burned to generate heat or energy
119. The vegetation here is almost wholly _____.
adj. connecting with or describing someone's birth country or place of birth, or someone born in a specific country or place
120. The _____ fireworks display was the highlight of the festival.
adj. striking or impressive to look at or in performance or achievement
121. The election was a _____ success for the Whigs.
adj. worthy of attention because unusual or special
122. He was alert and could not _____ any critical information out of him.
v. to cause water, air, gas, etc. to move from one place to another by using mechanical equipment; to get or supply something such as money, information, etc. in significant quantities
123. They will _____ between various emotional states.
v. to cause to move up or away after hitting a surface; to spring back
124. The data _____ that the company's profits have steadily increased over the past quarter.
v. to show, point out, or make known something, often through a sign or a symbol; to suggest or imply something without stating it directly

ANSWERS: 116. bang, 117. incomplete, 118. fuel, 119. native, 120. spectacular, 121. remarkable, 122. pump, 123. bounce, 124. indicates

125. A _____ audience viewed the broadcast.

adj. enormous in size, number, amount, or quantity

126. Marketing strategies are growing more _____.

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

127. This question has fascinated solar _____ for decades.

n. a physicist who studies astronomy

128. This nationwide strike may _____ the country's economy.

v. to make somebody feel anxious or upset, especially because of an unstable or problematic situation

129. Our company's products are made of highly _____ materials.

adj. capable of lasting and being used for a long time without being damaged or destroyed

130. The animal was _____ in a small cage.

v. to restrict the movement of someone or something

131. A rainbow is a natural _____.

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

132. The project's _____ made it difficult for the team to complete it on time.

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

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

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

ANSWERS: 125. vast, 126. sophisticated, 127. astronomers, 128. unsettle, 129. durable, 130. confined, 131. phenomenon, 132. complexity, 133. laboratory

134. He has terminal _____ cancer.

n. either of the two organs in the chest that people and some animals use for breathing

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

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

136. Trees absorb _____ dioxide and give off oxygen.

n. a chemical element that can be found in pure form as diamond or graphite, and it is also an essential part of coal and oil and is found in all plants and animals

137. All peaceful cooperation is based _____ on mutual trust.

adv. mainly

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

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

139. The military _____ between the two armies was one for the history books.

n. a long and eventful or heroic history, story, poem, or film; (adjective) very imposing or impressive

140. The picture earned near-_____ acclaim from critics.

adj. existing or affecting everywhere or everyone

141. The revitalization of technology companies is _____ to the country's growth.

adj. extremely vital or necessary

ANSWERS: 134. lung, 135. vary, 136. carbon, 137. primarily, 138. nucleus, 139. epic, 140. universal, 141. crucial

142. Mercury is the closest _____ to the sun.

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

143. He felt like _____ when he tasted the delicious chocolate cake.

- n.* (of various religious and mythological traditions) a place or state of existence considered to be the abode of the divine, the afterlife, or a higher realm of being; a state of great happiness, contentment, or beauty

144. The _____ and the oxygen react and then form water.

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

145. The pirates searched for buried _____ in the dunes.

- n.* a valuable or desirable possession; something that is cherished or held dear; a collection of valuable objects or money that is hidden or protected

146. He is familiar with _____ and biology.

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

147. The only _____ left of the ancient civilization was the crumbling ruins of their temples.

- n.* a small remaining quantity of something, considered separately from what has been lost or destroyed; a surviving piece or fragment of something

148. Our immune system can _____ disease germs from the body.

- v.* to force someone to put out or leave a particular place or position

149. The _____ deadline for submitting the project is tomorrow, so we need to work efficiently to finish on time.

- adj.* resolute or unwavering in decision-making or action; strong or secure in structure, make, or composition; reliable, trustworthy, or dependable; (noun) a business or company

ANSWERS: 142. planet, 143. heaven, 144. hydrogen, 145. treasure, 146. chemistry,

147. remnant, 148. eject, 149. firm

150. This facility has the largest astronomical _____ in the country.
- n.* a device like a tube in shape containing lenses used to magnify and observe distant objects
151. The painter focused on the moody _____ of abandoned buildings in his work.
- n.* the inside or inner part of something; the space within the walls of a building
152. This _____ has never been formally accepted.
- n.* a thing that someone has accomplished, primarily through their effort and ability
153. I ordered a plate of fresh _____ at the seafood restaurant.
- n.* a sea creature with two large claws and a flattened back (e.g., blue crab or king crab); a sour or grumpy person who is prone to complaining or criticizing

ANSWERS: 150. telescope, 151. interiors, 152. achievement, 153. crab