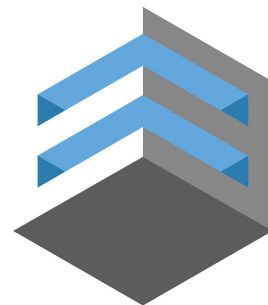


# Englist.me



## Vocabulary Builder Reference from...

*Graham Baird: How do crystals work? | TED Talk*

[https://www.ted.com/talks/graham\\_baird\\_how\\_do\\_crystals\\_work](https://www.ted.com/talks/graham_baird_how_do_crystals_work)

### All Words

#### IMPORTANT

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## Session 1: Word List

### beneath

*adv.* in or to a lower place than someone or something

*synonym*: down, under, low

(1) the ground **beneath** my feet, (2) **beneath** contempt

A great stretch of the lake lay **beneath** them.

### geyser

*n.* a natural hot spring that periodically ejects a column of boiling water and steam into the air; a device that produces a similar effect for decorative or practical purposes

*synonym*: hot spring, fumarole

(1) erupting **geyser**, (2) Yellowstone **geyser**

The **geyser's** hot water generates electricity for nearby towns and cities.

### caldera

*n.* a large, basin-shaped volcanic crater typically formed by a massive eruption or the collapse of a volcanic cone, often filled with water to form a lake or isolated ecosystem

*synonym*: volcanic crater, magma chamber

(1) freshwater **caldera**, (2) volcanic **caldera**

The Yellowstone **caldera** is one of the world's largest volcanic craters.

## magma

*n.* molten rock that is located beneath the earth's surface and can solidify to form igneous rock

*synonym* : molten rock, lava, igneous rock

(1) volcanic **magma**, (2) **magma** flow

**Magma** chambers are large underground reservoirs where molten rock is stored before an eruption.

## chamber

*n.* a large room used for a formal, public, or particular purpose; one of the parts of a parliament

*synonym* : association, cabin, legislature

(1) a gas **chamber**, (2) the lower **chamber**

The surgeon made an incision in the **chambers** of the patient's heart.

## spot

*n.* a particular location or place; a small round or roundish area, differing in color or feels from the surface around it

*synonym* : dot, mark, place

(1) beauty **spot**, (2) a **spot** on his honor

This remote **spot** is rarely visited.

## mantle

*n.* a layer of rock between the surface and the core of a planet or moon; a loose sleeveless cloak or shawl; the responsibilities of an important position or job that passes from one person to another

*synonym* : crust, cloak, cover

(1) **mantle** of power, (2) **mantle** of the presidency

The **mantle** layer on Mars is much thinner than on Earth.

## crystal

*n.* a solid material with many even sides that is formed naturally when the substance becomes solid and has a highly regular atomic structure; clear and colorless glass made of almost pure silica

*synonym* : quartz

(1) liquid **crystal**, (2) **crystal** analyses

A vast **crystal** chandelier glittered brightly above us.

## igneous

*adj.* related to or produced by the process of solidification from a molten state, particularly about rocks or minerals formed by volcanic activity or by cooling and solidification deep within the Earth's crust

*synonym* : volcanic, magmatic, pyroclastic

(1) **igneous** mineralogy, (2) **igneous** formation

The solidification of molten magma forms **igneous** rocks.

## groundwater

*n.* water that is present beneath the surface of the ground, especially in soil or in pores and crevices in rock

*synonym* : aquifer, well water, underground water

(1) **groundwater** supply, (2) contaminated **groundwater**

The town's main source of water is natural **groundwater**.

## ion

*n.* an atom or molecule that has a positive or negative electrical charge caused by its losing or gained one or more electrons

(1) **ion** channel, (2) rechargeable lithium- **ion** battery

The increased concentration **ion** of hydrogen ions in an aqueous solution makes it more acidic.

## precipitate

*v.* to cause something to happen suddenly or unexpectedly; to cause a solid substance to form from a dissolved liquid or gas by means of a chemical reaction or physical process

*synonym* : hasten, accelerate, expedite

(1) **precipitate** a reaction, (2) **precipitate** a global energy crisis

The sudden rainstorm will **precipitate** flooding in low-lying areas.

## mineral

*n.* a solid inorganic substance occurring in nature having a definite chemical composition

(1) vitamin and **minerals**, (2) **mineral** rights

The robust economy of the country is based on its **mineral** resources.

## quartz

*n.* a hard, mineral compound consisting of silicon dioxide, often occurring as colorless or white crystals but also found in various colors, and commonly used in jewelry and watches, as well as in the production of glass and other industrial applications

*synonym* : crystal, mineral, rock

(1) **quartz** rock, (2) rose **quartz**

The crystal pendant was made of clear **quartz**.

## 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.

## 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.

## feldspar

*n.* a group of minerals that are abundant in the Earth's crust and have a wide range of chemical compositions, often used in the manufacture of ceramics and glass

*synonym* : mineral, rock, crystal

(1) igneous **feldspar**, (2) sodium **feldspar**

The chemical composition of **feldspar** minerals varies between different geological environments.

## potassium

*n.* a chemical element with the symbol K, atomic number 19, that is essential for the functioning of living organisms

*synonym* : K, potash, potassa

(1) **potassium** rich, (2) **potassium** excretion

The patient's **potassium** levels were low, so they were

advised to eat foods high in potassium, such as bananas and sweet potatoes.

## aluminum

*n.* a chemical element with the symbol Al that visually resembles silver, used especially for making cooking equipment and aircraft parts

(1) a layer of **aluminum** foil, (2) an **aluminum** alloy

Some of the parts of this car are made of **aluminum** to reduce weight.

## galena

*n.* a mineral that is the primary source of lead, often found in metallic form and used in a variety of applications, including batteries and protective coatings

*synonym*: mineral, lead ore, sulfide

(1) **galena** crystal, (2) **galena** ore

The **galena** mineral is often used for lead extraction in mining.

## 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.

## cascade

*n.* a small waterfall or series of small waterfalls; a succession of stages or operations or processes or units

*synonym*: waterfall, watercourse, step

(1) **cascade** connection, (2) transistor **cascade**

The **cascade** of waterfalls in the national park was a breathtaking sight.

## pile

*n.* a collection of objects positioned one on top of another; a large sum of something, such as money

*synonym*: accumulation, heap, stack

(1) a sand **pile**, (2) the height of a **pile**

After the party, they had to clean up **piles** of dirty dishes.

## 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.

## 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.

## arrange

*v.* to plan, prepare for, and carry out something

*synonym*: set up, order, organize

(1) **arrange** the meeting, (2) the list was **arranged** alphabetically

I need to **arrange** plans with him for the celebration.

## define

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

*synonym*: characterize, depict, express

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

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

## feat

*n.* a notable or impressive achievement, especially one that requires great skill or bravery

*synonym*: achievement, accomplishment, exploit

(1) intellectual **feat**, (2) **feat** accomplishment

It is an incredible **feat** to climb Mount Everest, the highest mountain in the world.

## restricted

*adj.* limited in extent, number, scope, or action, especially by official rules, laws, etc.

*synonym* : limited, determinate, fixed

(1) **restricted** area, (2) lactose **restricted** diet

The country has designated our products as **restricted** import goods.

## sand

*n.* finely granulated particles of rock or mineral material typically found along beaches, deserts, or riverbeds; used in construction, landscaping, and other applications requiring drainage or abrasive action

*synonym* : grit, dust, powder

(1) **sand** dunes, (2) **sand** castle

The **sand** on the beach was warm and golden.

## ceramics

*n.* objects made from materials such as clay that are hardened by heat, often to create functional or decorative items

*synonym* : ceramicware, pottery, earthenware

(1) **ceramics** industry, (2) **ceramics** class

She makes beautiful **ceramics** in her studio and sells them at local markets.

## liquid

*n.* a substance, such as water or oil that flows freely and is neither a solid nor a gas

*synonym* : fluid

(1) colorless **liquid**, (2) hazardous **liquid**

The sponge takes up the **liquid** well.

## crystalline

*adj.* resembling crystal in clarity, transparency, or brilliance; having a highly ordered and symmetrical molecular structure

*synonym* : crystallized, clear, transparent

(1) **crystalline** structure, (2) **crystalline** water

The geologist found a beautiful specimen of a **crystalline** mineral.

## structure

*n.* the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts  
*synonym*: construction, architecture, establishment  
(1) the **structure** of a machine, (2) **structure** and function of the brain  
The organizational **structure** of start-ups is often flat and straightforward.

## atomic

*adj.* of or relating to atom (= the smallest component of an element)  
*synonym*: tiny, microscopic, nuclear  
(1) **atomic** nucleus, (2) **atomic** bomb  
Carbon has an **atomic** mass of 12.

## arrangement

*n.* a plan or preparation for the future event; the action or process of placing things in a particular order  
*synonym*: placement, configuration, account  
(1) **arrangement** of the furniture, (2) **arrangement** committee  
As a first **arrangement**, we agreed to meet the following Friday.

## cubic

*adj.* having the shape of a cube or being of three dimensions; measured in units that are the third power of a linear unit  
*synonym*: three-dimensional, boxlike, cubical  
(1) **cubic** meter, (2) **cubic** structure  
The package was a **cubic** shape, which made it easier to stack on the shelf.

## tetragonal

*adj.* of or relating to a crystal system characterized by three axes, two of which are of equal length and perpendicular to a third, longer axis  
*synonym*: rectangular, quadrate  
(1) **tetragonal** structure, (2) **tetragonal** prism  
The **tetragonal** symmetry of the molecule plays an important



role in its chemical properties

### orthorhombic

*adj.* describing a crystal system in which the three axes have different lengths and intersect at right angles

(1) **orthorhombic** crystal, (2) **orthorhombic** structure

The mineral has an **orthorhombic** lattice structure with a unit cell that can be described mathematically.

### monoclinic

*adj.* describing a crystal system in which two of the three axes intersect at oblique angles, and the third is perpendicular to them

(1) **monoclinic** system, (2) **monoclinic** mineral

The **monoclinic** shape of the molecule accounts for its unique physical properties.

### triclinic

*adj.* describing a crystal system in which all three axes intersect at oblique angles

(1) **triclinic** symmetry, (2) **triclinic** lattice

The mineral's optical properties are characteristic of the **triclinic** crystal system.

### hexagon

*n.* a six-sided polygon with six angles and six sides of equal length

*synonym* : hexahedron, six-sided figure, six-gon

(1) **hexagon** head bolt, (2) **hexagon** pattern

The honeycomb structure of a beehive is made up of **hexagons**.

### appropriate

*adj.* suitable or proper in the circumstances; fitting

*synonym* : fitting, suitable, proper

(1) **appropriate** behavior, (2) an **appropriate** time

It would be **appropriate** to dress nicely for the wedding.

### geometric

*adj.* relating to or having the characteristics of geometry (= the shape, properties, and relations of points, lines, surfaces, solids)

*synonym* : mathematical, symmetrical, regular

(1) a **geometric** proof, (2) **geometric** pattern  
The **geometric** shapes and patterns in the artwork are visually stunning.

## compose

*v.* to write music, poetry, or formal writing; to constitute or make up a whole, or a specified part of it  
*synonym*: compile, constitute, build

(1) **compose** an essay, (2) **compose** my thoughts  
The structure is **composed** of three main components.

## 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**.

## dimension

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

*synonym*: extent, measurement, size

(1) new **dimension**, (2) the crosswise **dimension**  
Overall **dimensions** are approximately 400x200mm.

## grid

*n.* a pattern of regularly spaced horizontal and vertical lines; a system of high tension cables by which electrical power is distributed throughout a region

*synonym*: gridiron, battery grid, power system

(1) a **grid** design, (2) a wire **grid**  
**Grid** pattern roads often appear in urban areas.

## degree

*n.* a unit of measurement for angles, temperature, or level of proficiency or achievement; a rank or level of academic or professional attainment

*synonym*: level, qualification, diploma

(1) bachelor's **degree**, (2) **degree** centigrade  
She received her **degree** in psychology from the university.

**neat**

*adj.* clean or tidy, with everything in its place

*synonym* : tidy, uncluttered, refined

(1) a **neat** piece of work, (2) **neat** idea

She has **neat** habits.

**locate**

*v.* to specify or determine the exact position of someone or something

*synonym* : discover, find, place

(1) **locate** a missing pet, (2) **locate** a tumor

The robot can accurately **locate** construction material.

**attract**

*v.* to draw or entice someone or something towards them through the qualities they have, especially positive ones

*synonym* : lure, entice, draw in

(1) **attract** attention, (2) **attract** customers

The government is eager to **attract** international investment.

**bond**

*n.* a close emotional connection between two or more people; a certificate of debt that a government or corporation issues to raise money

*synonym* : bind, adhesion, attachment

(1) **bond** as a family, (2) global **bond** market

They had formed a friendship **bond**.

**eventually**

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

*synonym* : finally, someday, ultimately

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

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

**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.

## interlocking

*adj.* fitting or locking together in a way that makes a continuous and secure whole

*synonym* : connected, linked, joined

(1) **interlocking** braid, (2) **interlocking** mechanism

The **interlocking** puzzle pieces were difficult to separate.

## pyramid

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

*synonym* : monument, edifice, tomb

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

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

## column

*n.* one of the vertical blocks that split content on a page or screen from top to bottom; an upright pillar that often supports an arch, entablature, or other structure or stands alone as a monument

*synonym* : line, pillar, cue

(1) the spinal **column**, (2) a **column** of water

The newspaper devoted several **columns** to the affair.

## tip

*n.* the top or extreme point of something slender or tapering, usually a mountain or hill; a piece of advice about something practical; a small amount of money given for services

*synonym* : edge, advice, gratuity

(1) the **tip** of a paintbrush, (2) give the waiter a **tip** .

I will introduce some **tips** on learning English in this class.

## environment

*n.* the natural world such as air, water, and land in which humans, animals, and plants live

*synonym* : atmosphere, surroundings, climate

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

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

## diamond

*n.* a precious stone made from pure carbon, typically transparent and colorless but possibly tinted in various colors; a shape or arrangement resembling the geometric form of a diamond

*synonym* : gemstone, jewel, precious stone

(1) **diamond** ring, (2) **diamond** necklace

The engagement ring was adorned with a large, sparkling **diamond**.

## octahedron

*n.* a geometrical solid or three-dimensional shape with eight equally sized and shaped sides, each forming an equilateral triangle

*synonym* : eight-sided figure, polyhedron

(1) **octahedron** crystal, (2) interconnected **octahedrons**

The building's design featured an **octahedron-shaped** atrium.

## 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.

## 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.

## observe

*v.* to watch or notice something carefully, often to gather information or insights; to take note of something or someone; to celebrate or commemorate a special event or occasion

*synonym* : watch, monitor, scrutinize

(1) **observe** a tradition, (2) **observe** wildlife

It is important to **observe** safety procedures in the workplace to prevent accidents.

## 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**.

## 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.

## 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.

## germanium

*n.* a chemical element with the symbol Ge and atomic number 32, which is a hard and grayish-white metalloid used in a variety of electronic applications, alloys, and as a semiconductor in transistors and other devices

*synonym* : Ge

(1) **germanium** crystal, (2) **germanium** diode

**Germanium-based** solar cells are highly efficient and often used in space technology.

## magnesium

*n.* a silvery-white metal with the symbol Mg and atomic number 12, which is the eighth-most abundant element in the Earth's crust and is used in the production of various alloys, as well as in biomedical research and as an important nutrient for plants and animals

*synonym* : Mg

(1) **magnesium** oxide, (2) **magnesium** alloy

Taking **magnesium** supplements can help alleviate muscle soreness after working out.

## influence

*n.* the ability to affect someone's or something's character, growth, or behavior, or the effect itself

*synonym* : power, leverage, effect

(1) **influence** a child's future, (2) **influence** the daily life

The former emperor had a particular **influence** even after he abdicated.

## naturally

*adv.* as might be expected; by natural manners

*synonym* : by nature, inherently, intrinsically

(1) **naturally** arising, (2) **naturally** regenerated forest

He was **naturally** gifted.

## jewelry

*n.* decorative ornaments made of precious metals, gemstones, or other materials, worn as personal adornment, which can include items such as necklaces, bracelets, rings, earrings, and brooches

*synonym* : accessories, ornaments, adornments

(1) **jewelry** designer, (2) precious **jewelry**

I received a beautiful piece of **jewelry** from my partner for our anniversary.

## showcase

*n.* a display or exhibition of something, typically as a way of promoting it

*synonym* : exhibit, display, presentation

(1) museum **showcase**, (2) **showcase** of innovation

The museum's new exhibition is a **showcase** of contemporary art.

## sparkle

*v.* to emit or reflect bright flashes of light, especially with animation and joy

*synonym* : shine, glimmer, twinkle

(1) **sparkle** like a gem, (2) **sparkle** from receiving light

The diamond **sparkled** in the sunlight.

## clarity

*n.* the quality of being coherent and understandable; the quality of transparency or purity

*synonym* : clearness, translucence, brightness

(1) lack of **clarity**, (2) sake of **clarity**

The publisher will proofread most of this manuscript for **clarity**.

## **melt**

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

*synonym*: disintegrate, soften, disappear

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

Her resistance **melted** under his persuasion.

## **random**

*adj.* made, done, or happening without method, conscious decision, or any regular pattern

*synonym*: incidental, arbitrary, unanticipated

(1) a **random** choice, (2) bombs fell at **random**

To find drunk drivers, police conduct **random** tests.

## **quarter**

*n.* one of four equal parts; a fourth part or portion

*synonym*: fourth, one-fourth

(1) a **quarter** mile, (2) end of the first **quarter**

The unemployment rate in the first **quarter** was 2.3 percentage points higher than in the previous.

## **granite**

*n.* a tough, durable, and coarse-grained igneous rock often used in construction for buildings, monuments, and sculptures

*synonym*: stone, rock, boulder

(1) black **granite**, (2) solid **granite**

The countertop was polished **granite**, giving it a sleek and modern look.

## **recognizable**

*adj.* easy to become aware of or identify

*synonym*: noticeable, perceptible, definite

(1) to a **recognizable** degree, (2) **recognizable** landmark

His car was easily **recognizable** in the parking lot.



## solid

*adj.* hard or firm; characterized by good substantial quality  
*synonym* : stable, reliable, hard

(1) **solid** ally, (2) **solid** employment measures

The **solid-state** of water is called ice.

## crystallize

*v.* to form crystals from a liquid or solution; to become clear or definite in form or structure; to solidify

*synonym* : solidify, freeze, shape up

(1) **crystallize** a concept, (2) **crystallize** into reality

As the sugar water cools, it will slowly **crystallize** into rock candy.

## turquoise

*n.* a greenish-blue mineral that is a hydrated copper and aluminum phosphate and is valued as a gemstone, often used in jewelry and decorative objects

*synonym* : gemstone, aqua, blue-green stone

(1) **turquoise** dress, (2) **turquoise** jewelry

The **turquoise** waters of the Caribbean were a breathtaking sight.

## discernible

*adj.* able to be perceived or recognized; clear or distinguishable

*synonym* : apparent, noticeable, distinguishable

(1) **discernible** pattern, (2) lack of **discernible** progress

There was a **discernible** change in the atmosphere when the boss walked into the room.

## adequate

*adj.* enough, acceptable, satisfactory for a particular purpose or need

*synonym* : enough, acceptable, able

(1) **adequate** parking facilities, (2) provide **adequate** funding

This argument is still not **adequate**.

## emotional

*adj.* relating to people's feelings

*synonym* : affecting, impactful, impressive

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

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

## **medicinal**

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

*synonym*: curative, therapeutic, healing

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

The **medicinal** properties of this herb have been known to help with various ailments.

## Session 2: Spelling

1. global b\_\_d market  
*n.* a close emotional connection between two or more people; a certificate of debt that a government or corporation issues to raise money
2. at\_\_\_c nucleus  
*adj.* of or relating to atom (= the smallest component of an element)
3. series of exp\_\_\_\_\_nts  
*n.* the scientific test conducted to observe what happens and gain new knowledge
4. the crosswise di\_\_\_\_\_on  
*n.* a measurable extent of a particular kind, such as width, height, or length
5. be\_\_\_\_\_h contempt  
*adv.* in or to a lower place than someone or something
6. ort\_\_\_\_\_bic structure  
*adj.* describing a crystal system in which the three axes have different lengths and intersect at right angles
7. sp\_\_\_\_\_e like a gem  
*v.* to emit or reflect bright flashes of light, especially with animation and joy
8. res\_\_\_\_\_ed area  
*adj.* limited in extent, number, scope, or action, especially by official rules, laws, etc.
9. rechargeable lithium-i\_n battery  
*n.* an atom or molecule that has a positive or negative electrical charge caused by its losing or gained one or more electrons
10. volcanic ca\_\_\_\_\_a  
*n.* a large, basin-shaped volcanic crater typically formed by a massive eruption or the collapse of a volcanic cone, often filled with water to form a lake or isolated ecosystem

ANSWERS: 1. bond, 2. atomic, 3. experiment, 4. dimension, 5. beneath, 6. orthorhombic, 7. sparkle, 8. restricted, 9. ion, 10. caldera

11. volcanic ma\_\_a *n.* molten rock that is located beneath the earth's surface and can solidify to form igneous rock
12. su\_\_\_r dioxide *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
13. ge\_\_\_\_\_um diode *n.* a chemical element with the symbol Ge and atomic number 32, which is a hard and grayish-white metalloid used in a variety of electronic applications, alloys, and as a semiconductor in transistors and other devices
14. int\_\_\_\_\_ing mechanism *adj.* fitting or locking together in a way that makes a continuous and secure whole
15. me\_\_\_\_\_al chemistry *adj.* of or relating to the treatment or cure of disease
16. eve\_\_\_\_\_ly succeed *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
17. liquid cr\_\_\_\_\_l *n.* a solid material with many even sides that is formed naturally when the substance becomes solid and has a highly regular atomic structure; clear and colorless glass made of almost pure silica
18. an app\_\_\_\_\_te time *adj.* suitable or proper in the circumstances; fitting
19. co\_\_\_\_\_e an essay *v.* to write music, poetry, or formal writing; to constitute or make up a whole, or a specified part of it

ANSWERS: 11. magma, 12. sulfur, 13. germanium, 14. interlocking, 15. medicinal, 16. eventually, 17. crystal, 18. appropriate, 19. compose

20. sh\_\_\_\_\_se of innovation *n.* a display or exhibition of something, typically as a way of promoting it
21. po\_\_\_\_\_um rich *n.* a chemical element with the symbol K, atomic number 19, that is essential for the functioning of living organisms
22. ig\_\_\_\_\_s formation *adj.* related to or produced by the process of solidification from a molten state, particularly about rocks or minerals formed by volcanic activity or by cooling and solidification deep within the Earth's crust
23. lab\_\_\_\_\_ry accident *n.* a workplace for doing scientific research or teaching science; a lab
24. arr\_\_\_\_\_nt committee *n.* a plan or preparation for the future event; the action or process of placing things in a particular order
25. oct\_\_\_\_\_on crystal *n.* a geometrical solid or three-dimensional shape with eight equally sized and shaped sides, each forming an equilateral triangle
26. app\_\_\_\_\_te behavior *adj.* suitable or proper in the circumstances; fitting
27. in\_\_\_\_\_ce a child's future *n.* the ability to affect someone's or something's character, growth, or behavior, or the effect itself
28. a gas ch\_\_\_\_\_r *n.* a large room used for a formal, public, or particular purpose; one of the parts of a parliament
29. na\_\_\_\_\_ly regenerated forest *adv.* as might be expected; by natural manners

ANSWERS: 20. showcase, 21. potassium, 22. igneous, 23. laboratory, 24. arrangement, 25. octahedron, 26. appropriate, 27. influence, 28. chamber, 29. naturally

30. a ge\_\_\_\_\_ic proof *adj.* relating to or having the characteristics of geometry (= the shape, properties, and relations of points, lines, surfaces, solids)
31. in\_\_\_\_\_ce the daily life *n.* the ability to affect someone's or something's character, growth, or behavior, or the effect itself
32. tu\_\_\_\_\_se jewelry *n.* a greenish-blue mineral that is a hydrated copper and aluminum phosphate and is valued as a gemstone, often used in jewelry and decorative objects
33. at\_\_\_\_\_t attention *v.* to draw or entice someone or something towards them through the qualities they have, especially positive ones
34. at\_\_\_\_c bomb *adj.* of or relating to atom (= the smallest component of an element)
35. sake of cl\_\_\_\_\_y *n.* the quality of being coherent and understandable; the quality of transparency or purity
36. ob\_\_\_\_\_e wildlife *v.* to watch or notice something carefully, often to gather information or insights; to take note of something or someone; to celebrate or commemorate a special event or occasion
37. chaotic env\_\_\_\_\_nt *n.* the natural world such as air, water, and land in which humans, animals, and plants live
38. provide ad\_\_\_\_\_te funding *adj.* enough, acceptable, satisfactory for a particular purpose or need

ANSWERS: 30. geometric, 31. influence, 32. turquoise, 33. attract, 34. atomic, 35. clarity, 36. observe, 37. environment, 38. adequate

39. rec\_\_\_\_\_ble landmark *adj.* easy to become aware of or identify
40. lack of dis\_\_\_\_\_le progress *adj.* able to be perceived or recognized; clear or distinguishable
41. the height of a p\_\_e *n.* a collection of objects positioned one on top of another; a large sum of something, such as money
42. erupting ge\_\_\_r *n.* a natural hot spring that periodically ejects a column of boiling water and steam into the air; a device that produces a similar effect for decorative or practical purposes
43. lack of cl\_\_\_\_\_y *n.* the quality of being coherent and understandable; the quality of transparency or purity
44. ar\_\_\_\_\_e the meeting *v.* to plan, prepare for, and carry out something
45. the st\_\_\_\_\_re of a machine *n.* the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts
46. black gr\_\_\_\_\_e *n.* a tough, durable, and coarse-grained igneous rock often used in construction for buildings, monuments, and sculptures
47. dis\_\_\_\_\_le pattern *adj.* able to be perceived or recognized; clear or distinguishable
48. di\_\_\_\_\_d necklace *n.* a precious stone made from pure carbon, typically transparent and colorless but possibly tinted in various colors; a shape or arrangement resembling the geometric form of a diamond

ANSWERS: 39. recognizable, 40. discernible, 41. pile, 42. geyser, 43. clarity, 44. arrange, 45. structure, 46. granite, 47. discernible, 48. diamond

49. the t\_p of a paintbrush *n.* the top or extreme point of something slender or tapering, usually a mountain or hill; a piece of advice about something practical; a small amount of money given for services
50. tet\_\_\_\_\_al prism *adj.* of or relating to a crystal system characterized by three axes, two of which are of equal length and perpendicular to a third, longer axis
51. traditional me\_\_\_\_\_al *adj.* of or relating to the treatment or cure of disease
52. arr\_\_\_\_\_nt of the furniture *n.* a plan or preparation for the future event; the action or process of placing things in a particular order
53. Yellowstone ge\_\_\_\_r *n.* a natural hot spring that periodically ejects a column of boiling water and steam into the air; a device that produces a similar effect for decorative or practical purposes
54. an al\_\_\_\_\_um alloy *n.* a chemical element with the symbol Al that visually resembles silver, used especially for making cooking equipment and aircraft parts
55. tr\_\_e a telephone call *v.* to find or discover someone or something that was lost
56. env\_\_\_\_\_nt affairs *n.* the natural world such as air, water, and land in which humans, animals, and plants live
57. cry\_\_\_\_\_ze into reality *v.* to form crystals from a liquid or solution; to become clear or definite in form or structure; to solidify

ANSWERS: 49. tip, 50. tetragonal, 51. medicinal, 52. arrangement, 53. geyser, 54. aluminum, 55. trace, 56. environment, 57. crystallize



58. 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
59. a ch\_\_\_\_al compound *adj.* relating to or connected with chemistry;
60. cry\_\_\_\_ne water *adj.* resembling crystal in clarity, transparency, or brilliance; having a highly ordered and symmetrical molecular structure
61. bombs fell at ra\_\_\_m *adj.* made, done, or happening without method, conscious decision, or any regular pattern
62. ma\_\_\_e of the presidency *n.* a layer of rock between the surface and the core of a planet or moon; a loose sleeveless cloak or shawl; the responsibilities of an important position or job that passes from one person to another
63. de\_\_\_e a word *v.* to state or explain precisely the nature, scope, or meaning of something
64. cr\_\_\_\_l analyses *n.* a solid material with many even sides that is formed naturally when the substance becomes solid and has a highly regular atomic structure; clear and colorless glass made of almost pure silica
65. contaminated gro\_\_\_\_er *n.* water that is present beneath the surface of the ground, especially in soil or in pores and crevices in rock

ANSWERS: 58. sulfur, 59. chemical, 60. crystalline, 61. random, 62. mantle, 63. define, 64. crystal, 65. groundwater

66. ob\_\_\_\_e a tradition      *v.* to watch or notice something carefully, often to gather information or insights; to take note of something or someone; to celebrate or commemorate a special event or occasion
67. toxic ch\_\_\_\_als      *adj.* relating to or connected with chemistry;
68. precious je\_\_\_\_y      *n.* decorative ornaments made of precious metals, gemstones, or other materials, worn as personal adornment, which can include items such as necklaces, bracelets, rings, earrings, and brooches
69. the spinal co\_\_\_\_n      *n.* one of the vertical blocks that split content on a page or screen from top to bottom; an upright pillar that often supports an arch, entablature, or other structure or stands alone as a monument
70. f\_\_t accomplishment      *n.* a notable or impressive achievement, especially one that requires great skill or bravery
71. int\_\_\_\_ing braid      *adj.* fitting or locking together in a way that makes a continuous and secure whole
72. sp\_\_\_\_e from receiving light      *v.* to emit or reflect bright flashes of light, especially with animation and joy
73. pre\_\_\_\_te a reaction      *v.* to cause something to happen suddenly or unexpectedly; to cause a solid substance to form from a dissolved liquid or gas by means of a chemical reaction or physical process

ANSWERS: 66. observe, 67. chemical, 68. jewelry, 69. column, 70. feat, 71. interlocking, 72. sparkle, 73. precipitate

74. eve\_\_\_\_\_ly become obsolete *adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
75. beauty s\_\_t *n.* a particular location or place; a small round or roundish area, differing in color or feels from the surface around it
76. 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
77. ort\_\_\_\_\_bic crystal *adj.* describing a crystal system in which the three axes have different lengths and intersect at right angles
78. a sand p\_\_e *n.* a collection of objects positioned one on top of another; a large sum of something, such as money
79. a layer of al\_\_\_\_\_um foil *n.* a chemical element with the symbol Al that visually resembles silver, used especially for making cooking equipment and aircraft parts
80. gro\_\_\_\_\_er supply *n.* water that is present beneath the surface of the ground, especially in soil or in pores and crevices in rock
81. a n\_\_t piece of work *adj.* clean or tidy, with everything in its place
82. the lower ch\_\_\_\_\_r *n.* a large room used for a formal, public, or particular purpose; one of the parts of a parliament
83. re\_\_\_\_\_ve factors *adj.* considered and evaluated through comparison with something else

ANSWERS: 74. eventually, 75. spot, 76. silicon, 77. orthorhombic, 78. pile, 79. aluminum, 80. groundwater, 81. neat, 82. chamber, 83. relative

84. a qu\_\_\_\_r mile *n.* one of four equal parts; a fourth part or portion
85. igneous fe\_\_\_\_ar *n.* a group of minerals that are abundant in the Earth's crust and have a wide range of chemical compositions, often used in the manufacture of ceramics and glass
86. cry\_\_\_\_ne structure *adj.* resembling crystal in clarity, transparency, or brilliance; having a highly ordered and symmetrical molecular structure
87. he\_\_\_\_n head bolt *n.* a six-sided polygon with six angles and six sides of equal length
88. 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
89. a co\_\_\_\_n of water *n.* one of the vertical blocks that split content on a page or screen from top to bottom; an upright pillar that often supports an arch, entablature, or other structure or stands alone as a monument
90. ma\_\_a flow *n.* molten rock that is located beneath the earth's surface and can solidify to form igneous rock
91. em\_\_\_\_al health *adj.* relating to people's feelings
92. ma\_\_\_\_e of power *n.* a layer of rock between the surface and the core of a planet or moon; a loose sleeveless cloak or shawl; the responsibilities of an important position or job that passes from one person to another

ANSWERS: 84. quarter, 85. feldspar, 86. crystalline, 87. hexagon, 88. oxygen, 89. column, 90. magma, 91. emotional, 92. mantle

93. lactose res\_\_\_\_\_ed diet *adj.* limited in extent, number, scope, or action, especially by official rules, laws, etc.
94. the atmospheric tem\_\_\_\_\_re *n.* the degree of hotness or coldness of a thing or place
95. rose qu\_\_\_z *n.* a hard, mineral compound consisting of silicon dioxide, often occurring as colorless or white crystals but also found in various colors, and commonly used in jewelry and watches, as well as in the production of glass and other industrial applications
96. the ground be\_\_\_\_\_h my feet *adv.* in or to a lower place than someone or something
97. po\_\_\_\_\_um excretion *n.* a chemical element with the symbol K, atomic number 19, that is essential for the functioning of living organisms
98. 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
99. m\_\_t down gold *v.* to turn from something solid into something soft or liquid as a result of heating
100. tu\_\_\_\_\_se dress *n.* a greenish-blue mineral that is a hydrated copper and aluminum phosphate and is valued as a gemstone, often used in jewelry and decorative objects

ANSWERS: 93. restricted, 94. temperature, 95. quartz, 96. beneath, 97. potassium, 98. cube, 99. melt, 100. turquoise

101. museum sh\_\_\_\_se *n.* a display or exhibition of something, typically as a way of promoting it
102. vitamin and mi\_\_\_\_ls *n.* a solid inorganic substance occurring in nature having a definite chemical composition
103. b\_\_d as a family *n.* a close emotional connection between two or more people; a certificate of debt that a government or corporation issues to raise money
104. tr\_\_\_\_ic lattice *adj.* describing a crystal system in which all three axes intersect at oblique angles
105. co\_\_\_\_e my thoughts *v.* to write music, poetry, or formal writing; to constitute or make up a whole, or a specified part of it
106. a truncated py\_\_\_\_d *n.* a polyhedron having a polygonal base and triangular sides with a common vertex; a massive monument with a square base and four triangular sides, begun by Cheops around 2700 BC as royal tombs in ancient Egypt
107. give the waiter a t\_p. *n.* the top or extreme point of something slender or tapering, usually a mountain or hill; a piece of advice about something practical; a small amount of money given for services
108. anthropology lab\_\_\_\_ry *n.* a workplace for doing scientific research or teaching science; a lab
109. ge\_\_\_\_ic pattern *adj.* relating to or having the characteristics of geometry (= the shape, properties, and relations of points, lines, surfaces, solids)

ANSWERS: 101. showcase, 102. mineral, 103. bond, 104. triclinic, 105. compose, 106. pyramid, 107. tip, 108. laboratory, 109. geometric

110. he\_\_\_\_\_n pattern *n.* a six-sided polygon with six angles and six sides of equal length
111. the list was ar\_\_\_\_\_ed alphabetically *v.* to plan, prepare for, and carry out something
112. de\_\_\_e my position *v.* to state or explain precisely the nature, scope, or meaning of something
113. n\_\_t idea *adj.* clean or tidy, with everything in its place
114. tet\_\_\_\_\_al structure *adj.* of or relating to a crystal system characterized by three axes, two of which are of equal length and perpendicular to a third, longer axis
115. 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
116. s\_\_d dunes *n.* finely granulated particles of rock or mineral material typically found along beaches, deserts, or riverbeds; used in construction, landscaping, and other applications requiring drainage or abrasive action
117. qu\_\_\_z rock *n.* a hard, mineral compound consisting of silicon dioxide, often occurring as colorless or white crystals but also found in various colors, and commonly used in jewelry and watches, as well as in the production of glass and other industrial applications
118. ce\_\_\_\_\_cs industry *n.* objects made from materials such as clay that are hardened by heat, often to create functional or decorative items

ANSWERS: 110. hexagon, 111. arrange, 112. define, 113. neat, 114. tetragonal, 115. atom, 116. sand, 117. quartz, 118. ceramics

119. interconnected oct\_\_\_\_\_ons *n.* a geometrical solid or three-dimensional shape with eight equally sized and shaped sides, each forming an equilateral triangle
120. ma\_\_\_\_\_um alloy *n.* a silvery-white metal with the symbol Mg and atomic number 12, which is the eighth-most abundant element in the Earth's crust and is used in the production of various alloys, as well as in biomedical research and as an important nutrient for plants and animals
121. mon\_\_\_\_\_ic system *adj.* describing a crystal system in which two of the three axes intersect at oblique angles, and the third is perpendicular to them
122. i\_n channel *n.* an atom or molecule that has a positive or negative electrical charge caused by its losing or gained one or more electrons
123. 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
124. so\_\_d employment measures *adj.* hard or firm; characterized by good substantial quality
125. mon\_\_\_\_\_ic mineral *adj.* describing a crystal system in which two of the three axes intersect at oblique angles, and the third is perpendicular to them

ANSWERS: 119. octahedron, 120. magnesium, 121. monoclinic, 122. ion, 123. silicon, 124. solid, 125. monoclinic



126. a remote re\_\_\_\_ve *adj.* considered and evaluated through comparison with something else
127. a s\_\_t on his honor *n.* a particular location or place; a small round or roundish area, differing in color or feels from the surface around it
128. intellectual f\_\_t *n.* a notable or impressive achievement, especially one that requires great skill or bravery
129. ga\_\_\_\_a ore *n.* a mineral that is the primary source of lead, often found in metallic form and used in a variety of applications, including batteries and protective coatings
130. lo\_\_\_\_e a tumor *v.* to specify or determine the exact position of someone or something
131. 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
132. de\_\_\_\_e centigrade *n.* a unit of measurement for angles, temperature, or level of proficiency or achievement; a rank or level of academic or professional attainment
133. colorless li\_\_\_\_d *n.* a substance, such as water or oil that flows freely and is neither a solid nor a gas
134. di\_\_\_\_d ring *n.* a precious stone made from pure carbon, typically transparent and colorless but possibly tinted in various colors; a shape or arrangement resembling the geometric form of a diamond

ANSWERS: 126. relative, 127. spot, 128. feat, 129. galena, 130. locate, 131. oxygen, 132. degree, 133. liquid, 134. diamond

135. lo\_\_\_e a missing pet *v.* to specify or determine the exact position of someone or something
136. mi\_\_\_\_\_l rights *n.* a solid inorganic substance occurring in nature having a definite chemical composition
137. em\_\_\_\_\_al distress *adj.* relating to people's feelings
138. to a rec\_\_\_\_\_ble degree *adj.* easy to become aware of or identify
139. tr\_\_e back to medieval times *v.* to find or discover someone or something that was lost
140. transistor ca\_\_\_\_\_e *n.* a small waterfall or series of small waterfalls; a succession of stages or operations or processes or units
141. cu\_\_c structure *adj.* having the shape of a cube or being of three dimensions; measured in units that are the third power of a linear unit
142. cry\_\_\_\_\_ze a concept *v.* to form crystals from a liquid or solution; to become clear or definite in form or structure; to solidify
143. 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
144. extreme tem\_\_\_\_\_res *n.* the degree of hotness or coldness of a thing or place
145. cu\_\_c meter *adj.* having the shape of a cube or being of three dimensions; measured in units that are the third power of a linear unit

ANSWERS: 135. locate, 136. mineral, 137. emotional, 138. recognizable, 139. trace, 140. cascade, 141. cubic, 142. crystallize, 143. cube, 144. temperature, 145. cubic

146. ga\_\_\_a crystal *n.* a mineral that is the primary source of lead, often found in metallic form and used in a variety of applications, including batteries and protective coatings
147. ca\_\_\_\_\_e connection *n.* a small waterfall or series of small waterfalls; a succession of stages or operations or processes or units
148. freshwater ca\_\_\_\_\_a *n.* a large, basin-shaped volcanic crater typically formed by a massive eruption or the collapse of a volcanic cone, often filled with water to form a lake or isolated ecosystem
149. je\_\_\_\_\_y designer *n.* decorative ornaments made of precious metals, gemstones, or other materials, worn as personal adornment, which can include items such as necklaces, bracelets, rings, earrings, and brooches
150. ge\_\_\_\_\_um crystal *n.* a chemical element with the symbol Ge and atomic number 32, which is a hard and grayish-white metalloid used in a variety of electronic applications, alloys, and as a semiconductor in transistors and other devices
151. bachelor's de\_\_\_e *n.* a unit of measurement for angles, temperature, or level of proficiency or achievement; a rank or level of academic or professional attainment
152. vi\_\_\_\_\_e by X-ray *adj.* capable of being seen; or open to easy view

ANSWERS: 146. galena, 147. cascade, 148. caldera, 149. jewelry, 150. germanium, 151. degree, 152. visible

153. py\_\_\_\_d architecture *n.* a polyhedron having a polygonal base and triangular sides with a common vertex; a massive monument with a square base and four triangular sides, begun by Cheops around 2700 BC as royal tombs in ancient Egypt
154. ad\_\_\_\_te parking facilities *adj.* enough, acceptable, satisfactory for a particular purpose or need
155. pre\_\_\_\_te a global energy crisis *v.* to cause something to happen suddenly or unexpectedly; to cause a solid substance to form from a dissolved liquid or gas by means of a chemical reaction or physical process
156. 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
157. new di\_\_\_\_on *n.* a measurable extent of a particular kind, such as width, height, or length
158. m\_\_t the ice *v.* to turn from something solid into something soft or liquid as a result of heating
159. ig\_\_\_\_s mineralogy *adj.* related to or produced by the process of solidification from a molten state, particularly about rocks or minerals formed by volcanic activity or by cooling and solidification deep within the Earth's crust
160. hazardous li\_\_\_\_d *n.* a substance, such as water or oil that flows freely and is neither a solid nor a gas

ANSWERS: 153. pyramid, 154. adequate, 155. precipitate, 156. atom, 157. dimension, 158. melt, 159. igneous, 160. liquid

161. na\_\_\_\_\_ly arising *adv.* as might be expected; by natural manners
162. st\_\_\_\_\_re and function of the brain *n.* the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts
163. tr\_\_\_\_\_ic symmetry *adj.* describing a crystal system in which all three axes intersect at oblique angles
164. s\_\_d castle *n.* finely granulated particles of rock or mineral material typically found along beaches, deserts, or riverbeds; used in construction, landscaping, and other applications requiring drainage or abrasive action
165. solid gr\_\_\_\_\_e *n.* a tough, durable, and coarse-grained igneous rock often used in construction for buildings, monuments, and sculptures
166. vi\_\_\_\_\_e stars *adj.* capable of being seen; or open to easy view
167. a ra\_\_\_\_m choice *adj.* made, done, or happening without method, conscious decision, or any regular pattern
168. end of the first qu\_\_\_\_\_r *n.* one of four equal parts; a fourth part or portion
169. a g\_\_d design *n.* a pattern of regularly spaced horizontal and vertical lines; a system of high tension cables by which electrical power is distributed throughout a region

ANSWERS: 161. naturally, 162. structure, 163. triclinic, 164. sand, 165. granite, 166. visible, 167. random, 168. quarter, 169. grid

170. exp\_\_\_\_\_nt design *n.* the scientific test conducted to observe what happens and gain new knowledge
171. so\_\_d ally *adj.* hard or firm; characterized by good substantial quality
172. ce\_\_\_\_\_cs class *n.* objects made from materials such as clay that are hardened by heat, often to create functional or decorative items
173. a wire g\_\_d *n.* a pattern of regularly spaced horizontal and vertical lines; a system of high tension cables by which electrical power is distributed throughout a region
174. ma\_\_\_\_\_um oxide *n.* a silvery-white metal with the symbol Mg and atomic number 12, which is the eighth-most abundant element in the Earth's crust and is used in the production of various alloys, as well as in biomedical research and as an important nutrient for plants and animals
175. sodium fe\_\_\_\_\_ar *n.* a group of minerals that are abundant in the Earth's crust and have a wide range of chemical compositions, often used in the manufacture of ceramics and glass
176. at\_\_\_\_\_t customers *v.* to draw or entice someone or something towards them through the qualities they have, especially positive ones

ANSWERS: 170. experiment, 171. solid, 172. ceramics, 173. grid, 174. magnesium, 175. feldspar, 176. attract

## Session 3: Fill in the Blanks

1. The Yellowstone \_\_\_\_\_ is one of the world's largest volcanic craters.  
*n.* a large, basin-shaped volcanic crater typically formed by a massive eruption or the collapse of a volcanic cone, often filled with water to form a lake or isolated ecosystem
2. 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
3. It is an incredible \_\_\_\_\_ to climb Mount Everest, the highest mountain in the world.  
*n.* a notable or impressive achievement, especially one that requires great skill or bravery
4. The \_\_\_\_\_ shapes and patterns in the artwork are visually stunning.  
*adj.* relating to or having the characteristics of geometry (= the shape, properties, and relations of points, lines, surfaces, solids)
5. The package was a \_\_\_\_\_ shape, which made it easier to stack on the shelf.  
*adj.* having the shape of a cube or being of three dimensions; measured in units that are the third power of a linear unit
6. \_\_\_\_\_ pattern roads often appear in urban areas.  
*n.* a pattern of regularly spaced horizontal and vertical lines; a system of high tension cables by which electrical power is distributed throughout a region
7. She makes beautiful \_\_\_\_\_ in her studio and sells them at local markets.  
*n.* objects made from materials such as clay that are hardened by heat, often to create functional or decorative items

ANSWERS: 1. caldera, 2. oxygen, 3. feat, 4. geometric, 5. cubic, 6. Grid, 7. ceramics

8. He was \_\_\_\_\_ gifted.

*adv.* as might be expected; by natural manners

9. As the sugar water cools, it will slowly \_\_\_\_\_ into rock candy.

*v.* to form crystals from a liquid or solution; to become clear or definite in form or structure; to solidify

10. There was a \_\_\_\_\_ change in the atmosphere when the boss walked into the room.

*adj.* able to be perceived or recognized; clear or distinguishable

11. The Egyptian \_\_\_\_\_ consist of a vast number of blocks.

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

12. The publisher will proofread most of this manuscript for \_\_\_\_\_.

*n.* the quality of being coherent and understandable; the quality of transparency or purity

13. The museum's new exhibition is a \_\_\_\_\_ of contemporary art.

*n.* a display or exhibition of something, typically as a way of promoting it

14. The surgeon made an incision in the \_\_\_\_\_ of the patient's heart.

*n.* a large room used for a formal, public, or particular purpose; one of the parts of a parliament

15. The building's design featured an \_\_\_\_\_ atrium.

*n.* a geometrical solid or three-dimensional shape with eight equally sized and shaped sides, each forming an equilateral triangle

ANSWERS: 8. naturally, 9. crystallize, 10. discernible, 11. pyramids, 12. clarity, 13. showcase, 14. chambers, 15. octahedron-shaped



16. The \_\_\_\_\_ of waterfalls in the national park was a breathtaking sight.  
*n.* a small waterfall or series of small waterfalls; a succession of stages or operations or processes or units
17. A vast \_\_\_\_\_ chandelier glittered brightly above us.  
*n.* a solid material with many even sides that is formed naturally when the substance becomes solid and has a highly regular atomic structure; clear and colorless glass made of almost pure silica
18. Most countries prohibit sexual activity between certain close \_\_\_\_\_.  
*adj.* considered and evaluated through comparison with something else
19. This argument is still not \_\_\_\_\_.  
*adj.* enough, acceptable, satisfactory for a particular purpose or need
20. The government is eager to \_\_\_\_\_ international investment.  
*v.* to draw or entice someone or something towards them through the qualities they have, especially positive ones
21. The robust economy of the country is based on its \_\_\_\_\_ resources.  
*n.* a solid inorganic substance occurring in nature having a definite chemical composition
22. \_\_\_\_\_ 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
23. His car was easily \_\_\_\_\_ in the parking lot.  
*adj.* easy to become aware of or identify

ANSWERS: 16. cascade, 17. crystal, 18. relatives, 19. adequate, 20. attract, 21. mineral, 22. Silicon, 23. recognizable

24. Cities around the world set records for highest \_\_\_\_\_ this summer.  
*n.* the degree of hotness or coldness of a thing or place
25. Every human is responsible for taking care of the Earth's \_\_\_\_\_.  
*n.* the natural world such as air, water, and land in which humans, animals, and plants live
26. This remote \_\_\_\_\_ is rarely visited.  
*n.* a particular location or place; a small round or roundish area, differing in color or feels from the surface around it
27. The crystal pendant was made of clear \_\_\_\_\_.  
*n.* a hard, mineral compound consisting of silicon dioxide, often occurring as colorless or white crystals but also found in various colors, and commonly used in jewelry and watches, as well as in the production of glass and other industrial applications
28. The solidification of molten magma forms \_\_\_\_\_ rocks.  
*adj.* related to or produced by the process of solidification from a molten state, particularly about rocks or minerals formed by volcanic activity or by cooling and solidification deep within the Earth's crust
29. \_\_\_\_\_ solar cells are highly efficient and often used in space technology.  
*n.* a chemical element with the symbol Ge and atomic number 32, which is a hard and grayish-white metalloid used in a variety of electronic applications, alloys, and as a semiconductor in transistors and other devices
30. The structure is \_\_\_\_\_ of three main components.  
*v.* to write music, poetry, or formal writing; to constitute or make up a whole, or a specified part of it

ANSWERS: 24. temperatures, 25. environment, 26. spot, 27. quartz, 28. igneous, 29. Germanium-based, 30. composed

31. I need to \_\_\_\_\_ plans with him for the celebration.

*v.* to plan, prepare for, and carry out something

32. The geologist found a beautiful specimen of a \_\_\_\_\_ mineral.

*adj.* resembling crystal in clarity, transparency, or brilliance; having a highly ordered and symmetrical molecular structure

33. The sudden rainstorm will \_\_\_\_\_ flooding in low-lying areas.

*v.* to cause something to happen suddenly or unexpectedly; to cause a solid substance to form from a dissolved liquid or gas by means of a chemical reaction or physical process

34. It is important to \_\_\_\_\_ safety procedures in the workplace to prevent accidents.

*v.* to watch or notice something carefully, often to gather information or insights; to take note of something or someone; to celebrate or commemorate a special event or occasion

35. The chemical composition of \_\_\_\_\_ minerals varies between different geological environments.

*n.* a group of minerals that are abundant in the Earth's crust and have a wide range of chemical compositions, often used in the manufacture of ceramics and glass

36. The increased concentrat\_\_\_\_ of hydrogen ions in an aqueous solution makes it more acidic.

*n.* an atom or molecule that has a positive or negative electrical charge caused by its losing or gained one or more electrons

37. The mineral has an \_\_\_\_\_ lattice structure with a unit cell that can be described mathematically.

*adj.* describing a crystal system in which the three axes have different lengths and intersect at right angles

ANSWERS: 31. arrange, 32. crystalline, 33. precipitate, 34. observe, 35. feldspar, 36. ion, 37. orthorhombic

38. My home is easily \_\_\_\_\_ from the shore.

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

39. The \_\_\_\_\_ symmetry of the molecule plays an important role in its chemical properties

*adj.* of or relating to a crystal system characterized by three axes, two of which are of equal length and perpendicular to a third, longer axis

40. 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

41. 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

42. The firm has grown into a large \_\_\_\_\_ manufacturing.

*adj.* relating to or connected with chemistry;

43. To find drunk drivers, police conduct \_\_\_\_\_ tests.

*adj.* made, done, or happening without method, conscious decision, or any regular pattern

44. Her resistance \_\_\_\_\_ under his persuasion.

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

45. The \_\_\_\_\_ waters of the Caribbean were a breathtaking sight.

*n.* a greenish-blue mineral that is a hydrated copper and aluminum phosphate and is valued as a gemstone, often used in jewelry and decorative objects

ANSWERS: 38. visible, 39. tetragonal, 40. atom, 41. sulfur, 42. chemical, 43. random, 44. melted, 45. turquoise

46. Human \_\_\_\_\_ responses vary widely depending on the society to which they belong.  
*adj.* relating to people's feelings
47. The engagement ring was adorned with a large, sparkling \_\_\_\_\_.  
*n.* a precious stone made from pure carbon, typically transparent and colorless but possibly tinted in various colors; a shape or arrangement resembling the geometric form of a diamond
48. Overall \_\_\_\_\_ are approximately 400x200mm.  
*n.* a measurable extent of a particular kind, such as width, height, or length
49. The town's main source of water is natural \_\_\_\_\_.  
*n.* water that is present beneath the surface of the ground, especially in soil or in pores and crevices in rock
50. The patient's \_\_\_\_\_ levels were low, so they were advised to eat foods high in potassium, such as bananas and sweet potatoes.  
*n.* a chemical element with the symbol K, atomic number 19, that is essential for the functioning of living organisms
51. The newspaper devoted several \_\_\_\_\_ to the affair.  
*n.* one of the vertical blocks that split content on a page or screen from top to bottom; an upright pillar that often supports an arch, entablature, or other structure or stands alone as a monument
52. Animal protection groups call for an end to animal testing in a \_\_\_\_\_.  
*n.* a workplace for doing scientific research or teaching science; a lab
53. The \_\_\_\_\_ hot water generates electricity for nearby towns and cities.  
*n.* a natural hot spring that periodically ejects a column of boiling water and steam into the air; a device that produces a similar effect for decorative or practical purposes

ANSWERS: 46. emotional, 47. diamond, 48. dimensions, 49. groundwater, 50. potassium, 51. columns, 52. laboratory, 53. geyser's

54. The corporation \_\_\_\_\_ dominated the entire tobacco business.  
*adv.* finally, particularly after a long time or a lot of struggle, complications, and so on
55. His \_\_\_\_\_ showed highly positive results.  
*n.* the scientific test conducted to observe what happens and gain new knowledge
56. Taking \_\_\_\_\_ supplements can help alleviate muscle soreness after working out.  
*n.* a silvery-white metal with the symbol Mg and atomic number 12, which is the eighth-most abundant element in the Earth's crust and is used in the production of various alloys, as well as in biomedical research and as an important nutrient for plants and animals
57. As a first \_\_\_\_\_ we agreed to meet the following Friday.  
*n.* a plan or preparation for the future event; the action or process of placing things in a particular order
58. I will introduce some \_\_\_\_\_ on learning English in this class.  
*n.* the top or extreme point of something slender or tapering, usually a mountain or hill; a piece of advice about something practical; a small amount of money given for services
59. The diamond \_\_\_\_\_ in the sunlight.  
*v.* to emit or reflect bright flashes of light, especially with animation and joy
60. The \_\_\_\_\_ mineral is often used for lead extraction in mining.  
*n.* a mineral that is the primary source of lead, often found in metallic form and used in a variety of applications, including batteries and protective coatings

ANSWERS: 54. eventually, 55. experiments, 56. magnesium, 57. arrangement, 58. tips, 59. sparkled, 60. galena

61. The robot can accurately \_\_\_\_\_ construction material.  
*v.* to specify or determine the exact position of someone or something
62. They had formed a friendship \_\_\_\_\_.  
*n.* a close emotional connection between two or more people; a certificate of debt that a government or corporation issues to raise money
63. To advance this discussion, we must \_\_\_\_\_ "success" rigorously.  
*v.* to state or explain precisely the nature, scope, or meaning of something
64. 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
65. Some of the parts of this car are made of \_\_\_\_\_ to reduce weight.  
*n.* a chemical element with the symbol Al that visually resembles silver, used especially for making cooking equipment and aircraft parts
66. She has \_\_\_\_\_ habits.  
*adj.* clean or tidy, with everything in its place
67. The organizational \_\_\_\_\_ of start-ups is often flat and straightforward.  
*n.* the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts
68. The \_\_\_\_\_ layer on Mars is much thinner than on Earth.  
*n.* a layer of rock between the surface and the core of a planet or moon; a loose sleeveless cloak or shawl; the responsibilities of an important position or job that passes from one person to another

ANSWERS: 61. locate, 62. bond, 63. define, 64. cubes, 65. aluminum, 66. neat, 67. structure, 68. mantle

69. Carbon has an \_\_\_\_\_ mass of 12.

*adj.* of or relating to atom (= the smallest component of an element)

70. The unemployment rate in the first \_\_\_\_\_ was 2.3 percentage points higher than in the previous.

*n.* one of four equal parts; a fourth part or portion

71. The \_\_\_\_\_ on the beach was warm and golden.

*n.* finely granulated particles of rock or mineral material typically found along beaches, deserts, or riverbeds; used in construction, landscaping, and other applications requiring drainage or abrasive action

72. The \_\_\_\_\_ shape of the molecule accounts for its unique physical properties.

*adj.* describing a crystal system in which two of the three axes intersect at oblique angles, and the third is perpendicular to them

73. The mineral's optical properties are characteristic of the \_\_\_\_\_ crystal system.

*adj.* describing a crystal system in which all three axes intersect at oblique angles

74. The sponge takes up the \_\_\_\_\_ well.

*n.* a substance, such as water or oil that flows freely and is neither a solid nor a gas

75. The country has designated our products as \_\_\_\_\_ import goods.

*adj.* limited in extent, number, scope, or action, especially by official rules, laws, etc.

76. The former emperor had a particular \_\_\_\_\_ even after he abdicated.

*n.* the ability to affect someone's or something's character, growth, or behavior, or the effect itself

ANSWERS: 69. atomic, 70. quarter, 71. sand, 72. monoclinic, 73. triclinic, 74. liquid, 75. restricted, 76. influence



77. I received a beautiful piece of \_\_\_\_\_ from my partner for our anniversary.  
*n.* decorative ornaments made of precious metals, gemstones, or other materials, worn as personal adornment, which can include items such as necklaces, bracelets, rings, earrings, and brooches
78. The \_\_\_\_\_ properties of this herb have been known to help with various ailments.  
*adj.* of or relating to the treatment or cure of disease
79. After the party, they had to clean up \_\_\_\_\_ of dirty dishes.  
*n.* a collection of objects positioned one on top of another; a large sum of something, such as money
80. The \_\_\_\_\_ puzzle pieces were difficult to separate.  
*adj.* fitting or locking together in a way that makes a continuous and secure whole
81. It would be \_\_\_\_\_ to dress nicely for the wedding.  
*adj.* suitable or proper in the circumstances; fitting
82. The honeycomb structure of a beehive is made up of \_\_\_\_\_.  
*n.* a six-sided polygon with six angles and six sides of equal length
83. The countertop was polished \_\_\_\_\_ giving it a sleek and modern look.  
*n.* a tough, durable, and coarse-grained igneous rock often used in construction for buildings, monuments, and sculptures
84. Let's \_\_\_\_\_ the origins of some familiar foreign words.  
*v.* to find or discover someone or something that was lost

ANSWERS: 77. jewelry, 78. medicinal, 79. piles, 80. interlocking, 81. appropriate, 82. hexagons, 83. granite, 84. trace

85. \_\_\_\_\_ chambers are large underground reservoirs where molten rock is stored before an eruption.
- n.* molten rock that is located beneath the earth's surface and can solidify to form igneous rock
86. The \_\_\_\_\_ of water is called ice.
- adj.* hard or firm; characterized by good substantial quality
87. She received her \_\_\_\_\_ in psychology from the university.
- n.* a unit of measurement for angles, temperature, or level of proficiency or achievement; a rank or level of academic or professional attainment
88. A great stretch of the lake lay \_\_\_\_\_ them.
- adv.* in or to a lower place than someone or something

ANSWERS: 85. Magma, 86. solid-state, 87. degree, 88. beneath