# **Englist.me**

## Vocabulary Builder Reference from...

Lei Li: The incredible cancer-detecting potential of photoacoustic imaging | TED Talk https://www.ted.com/talks/lei\_li\_the\_incredible\_cance r\_detecting\_potential\_of\_photoacoustic\_imaging



## **All Words**

#### **IMPORTANT**

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## **Session 1: Word List**

#### breast

 n. either of the two round soft parts of a woman's chest which secrete milk after childbirth

synonym: bosom, chest, bust

(1) breast cancer, (2) the mountain's breast

He grilled the **breast** meat of a chicken.

#### cant

 n. statements, especially about moral, religious, or political nature that are not sincerely believed by the person making them

synonym: buzzword, jargon, pious platitude

(1) take at his cant, (2) advertising cant

He took her **cant** to heart and made the wrong decision.

## develop

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

synonym: evolve, progress, advance

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

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

#### invasive

adj. spreading very quickly, and often aggressively, and difficult to stop

synonym: aggressive, rampant, spreading

(1) invasive breast cancer, (2) invasive species

The **invasive** disease can spread quickly and potentially cause a global pandemic.

#### 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**.

#### suffer

v. to experience pain, distress, or hardship; to undergo or endure something painful or unpleasant

synonym: endure, undergo, tolerate

(1) suffer a setback, (2) suffer bad grades

The older man **suffers** from arthritis and finds it difficult to move around.

#### treatment

n. the way in which someone deals with or behaves towards someone or something; medical care provided to a patient for an injury or illness.

synonym: remedy, antidote, medicine

(1) first-aid **treatment**, (2) **treatment** by diet

The primary purpose of the **treatment** is pain relief.

#### detect

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

synonym: catch, observe, notice

(1) **detect** a bad event, (2) **detect** smuggling across borders The security camera has **detected** four intruders.

## mammography

 the process of using X-rays to examine the breast for the early detection of breast cancer

synonym: breast imaging, mammogram, breast X-ray

(1) diagnostic mammography, (2) digital mammography

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Women should get regular **mammography** screenings as a preventative measure for breast cancer.

## diagnose

v. to determine or distinguish the nature of a problem or an illness through a careful analysis

synonym: identify, analyze, interpret

(1) diagnose the problem, (2) diagnose with CT scans This device is used to diagnose brain cancer and other tumors.

#### detection

 the act of discovering or identifying the presence of something

synonym: discovery, identification, recognition

(1) **detection** by the security software, (2) importance of early **detection** 

This smartphone has a collision **detection** function.

#### introduction

n. a preliminary explanation or remarks given before the start of a text, performance, or event; the act of bringing something new into existence or introducing something to a wider audience or new market

synonym: initiation, preamble, prologue

(1) **introduction** education, (2) self- **introduction**The **introduction** to the new class was informative and engaging.

## photoacoustic

- adj. of or relating to a process that involves the generation of sound waves through the absorption of light energy, particularly in specific medical or scientific imaging techniques
- (1) **photoacoustic** microscopy, (2) **photoacoustic** tomography

The new **photoacoustic** device can detect tumors that may have been missed in traditional imaging methods.

#### accurate

adj. correct and exact in all details

synonym: exact, precise, proper

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

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

#### affordable

adj. not expensive and able to paysynonym: cheap, reasonable, inexpensive

(1) **affordable** housing, (2) **affordable** solution

The automaker has been providing **affordable** car financing options since last year.

#### ultrasound

- n. higher frequency sound than humans can hear
- (1) **ultrasound** meter, (2) **ultrasound** scan
  An **ultrasound** scan showed that the baby was a girl.

scan

 to examine something hastily, with the eyes or with a machine, to get information

synonym: look over, scrutinize, browse

(1) **scan** the face of the man, (2) **scan** a document into PDF She stood on the podium and **scanned** an audience.

## painless

adj. causing little or no physical discomfort; not causing pain or discomfort

synonym: pain-free, effortless, easy

(1) **painless** childbirth, (2) **painless** procedure

Thanks to the new dental anesthesia technique, filling is now **painless**.

#### immediate

adj. happening or done without delay or occurring shortly after something else

*synonym*: prompt, quick, instantaneous

(1) take **immediate** effect, (2) the **immediate** past Both forts were subject to **immediate** attacks.

#### broad

adj. very wide; general

synonym: wide, expansive, comprehensive

(1) attract broad attention, (2) a broad mind

He accumulated wealth across a **broad** spectrum of assets.

#### 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.

#### device

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

synonym: gadget, instrument, tool

- (1) electronic device, (2) tracking device
- I always carry a backup **device** in case my phone runs out of battery.

#### monitor

v. to observe, check, and track the progress or quality of something over a period of time

synonym: proctor, check, observe

(1) **monitor** an exam, (2) **monitor** the data carefully They used a special receiver to **monitor** police radio channels.

#### circulate

v. to move continuously or freely around a place or closed system

synonym: flow, disperse, rotate

(1) **circulate** a rumor, (2) **circulate** an agenda before the meeting

The fan **circulates** the air in the room quickly.

#### tumor

 a mass of diseased tissue that forms when cells in the body divide and grow in an uncontrolled way

synonym: neoplasm, mass, lump

(1) tumor growth, (2) tumor at remote sites

The patient was diagnosed with a **tumor** in her lung.

#### conversion

*n*. the act or process of changing something from one thing to another; the state of being changed

synonym: transformation, change, metamorphosis

(1) **conversion** rate, (2) **conversion** therapy

The developer's **conversion** of the old factory into a modern loft apartment complex was a major success.

#### gentle

adj. having or showing a kindly or tender nature; soft and mild

synonym: mild, delicate, soft

- (1) in a **gentle** voice, (2) **gentle** downward slope Her **gentle** manner relaxed everyone there.
- n. a device that emits powerful and narrow light that can be used as a tool to cut metal through a process of optical amplification

synonym: beam, bar, ray

(1) laser printer, (2) pulse laser

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

#### pulse

n. the regular heartbeat as it sends blood around the body, especially when it is felt at the wrist or side of the neck; a solid regular vibration of sound, electric current, light, or other waves

synonym: beat, vibration, throb

(1) a weak pulse, (2) pulse waves

The cardiac monitor displays the intensity of your **pulse**.

#### tissue

 an ensemble of similar cells of the animal or plant that together carry out a specific function

*synonym*: structure, texture, anatomy

(1) a facial tissue, (2) loss of muscle tissue

The researcher separated the nervous **tissue** for microscopic examinations.

laser

#### absorb

- v. to take in a fluid or other substance gradually synonym: consume, soak, ingest
- (1) absorb energy, (2) absorb a shock

The sponge **absorbs** water well.

#### temperature

- n. the degree of hotness or coldness of a thing or placesynonym: climate, warmth, degree
- (1) extreme **temperatures**, (2) the atmospheric **temperature**

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

#### fraction

 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.

#### volume

 the amount of space occupied by an object or substance; the magnitude of sound

synonym: capacity, amount, intensity

(1) volume of work, (2) high volume

This container has a **volume** of 10 cubic meters.

## expansion

*n.* the process of becoming larger or more extensive, or the result of this process

*synonym*: growth, enlargement, development

(1) industrial **expansion**, (2) **expansion** project

The company is undergoing an **expansion**, opening new locations in several states.

#### generate

 to produce or create something; to make offspring by reproduction

synonym: create, yield, produce

(1) generate more electricity, (2) generate \$100 a month

The economic stimulation program would **generate** a lot of new jobs.

#### acoustic

adj. relating to sound or the sense of hearing synonym: aural, hearing, acoustical

(1) **acoustic** properties of a hall, (2) **acoustic** guitar The ground acts as an **acoustic** barrier against outside sounds.

#### sensor

 a device that receives a signal or stimulus such as heat, pressure, light, motion, etc. and responds to it in a specific manner

*synonym*: detector

(1) motion **sensor** lighting, (2) an image **sensor**This automatic door could no longer be opened due to a **sensor** failure.

#### process

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

synonym: procedure, method, system

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

#### resolve

- v. to find a suitable answer to the problems or difficulty synonym: decide, determine, fix
- (1) **resolve** a dispute, (2) **resolve** the computer error This company **resolves** its battery problem completely.

## 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.

#### surpass

- v. to be or do better than someone or something; to excel or go beyond the limits or standards of something
   synonym: excel, outdo, outperform
- (1) **surpass** imagination, (2) **surpass** \$20 billion in sales The athlete's record-breaking performance **surpassed** all expectations.

#### tradition

 a belief, custom, or way of doing something that has been passed down from generation to generation within a group or society

synonym: custom, practice, ritual

(1) a **tradition** of a culture, (2) against **tradition**It is a **tradition** in many families to have a big Thanksgiving dinner with all their relatives.

## industrial

adj. of or relating to or resulting from industry synonym: manufacturing, mechanical

(1) beginning of the **industrial** revolution, (2) **industrial** alcohol

**Industrial** design has become more focused on human nature aspect than ever before.

#### optics

- n. the academic study of vision and light
- (1) optics technology, (2) fiber optics

Einstein's new **optics** theory transformed traditional scientific notions about light.

## grandparent

- n. a parent of one's father or mother
- (1) great- **grandparent**, (2) person of **grandparent** age She was close to her paternal **grandparents** and often spent summers with them.

#### stroke

 a medical condition in which poor blood flow to the brain causes cell death; the act of swinging or striking at a ball with a club, racket, etc.

*synonym*: blow

(1) suffer **stroke**, (2) a **stroke** of the putter

This year's extreme heat has resulted in many heat **stroke** 

cases.

things sent to help countries in need, notably food or money; support

synonym: helper, resource, assistance

- (1) financial **aid**, (2) country-by-country **aid** programs Pakistan's aid budget was still being reviewed.
- a disorder or illness that affects the body or mind, often characterized by specific symptoms or abnormal functioning of organs or systems

synonym: illness, ailment, affliction

(1) disease prevention, (2) disease control

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

- to make up someone's mind about something; to come to a conclusion or judgment after considering options synonym: choose, determine, settle
- (1) **decide** a question, (2) **decide** on a course of action She couldn't **decide** whether to order the pizza or the pasta for dinner.
- to commit or dedicate oneself or one's time, effort, or energy to a particular task or purpose

synonym: commit, dedicate, apply

- (1) **devote** all of my energies, (2) **devote** my own life He **devoted** himself to studying the history of ancient civilizations.
- adj. relating to the application of the natural sciences, especially biology, and physiology, to clinical medicine

aid

disease

decide

devote

biomedical

#### and healthcare

synonym: medical, clinical, health-related

(1) **biomedical** assay, (2) cutting-edge **biomedical Biomedical** engineering focuses on developing new medical technologies and innovations to improve patient health outcomes.

## optical

adj. of or relating to or light or the ability to see; (noun) the science of light and vision, and to instruments and techniques used in the study and application of light

synonym: visual, ocular

(1) new **optical** glasses, (2) **optical** fiber

The **optical** illusion made it appear like the building was floating in midair.

## generation

- n. all the people born and living at about the same time, regarded collectively; the production of heat or electricitysynonym: cohort, age group, era
- (1) **generation** gap, (2) the **generation** of electricity

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

#### medical

adj. relating to the treatment of illness or injuries; relating to the practice of medicine

synonym: health, disease, treatment

(1) a **medical** opinion, (2) temporary **medical** treatment The **medical** team worked quickly to save the patient's life.

brain

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

synonym: intellect, mind, encephalon

basic brain function, (2) permanent brain damage
 rays revealed a small tumor in his brain.

## **function**

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

synonym: purpose, mapping, job

(1) function properly, (2) immune function

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

## navigate

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

synonym: guide, helm, voyage

- (1) **navigate** the Pacific, (2) **navigate** through a document Our knowledge helps **navigate** our clients successfully.
- n. extremely small in scale or scope; one millionth
- micro bubble, (2) micro force sensor
   This approach employs both micro and macro analysis methods.

## delivery

micro

n. the act of taking or sending something to a destination;the bringing of a baby during childbirth

synonym: sending, transporting, bringing

(1) an easy **delivery**, (2) special **delivery** 

The **delivery** truck arrived with the packages.

#### virtually

adv. almost completely

synonym: almost, basically, nearly

(1) **virtually** all countries, (2) **virtually** identical **Virtually** all the parties signed the contract.

slice

 a flat, often thin, piece of bread, meat, cheese, etc., that has been cut from a larger piece; a wound made by cutting

synonym: piece, portion, slit

(1) a **slice** of the company's revenue, (2) **slice** a tomato thin

The children complained because one **slice** of cake was slightly larger than the other.

## carpaccio

- a dish consisting of thinly sliced raw meat or fish usually served as an appetizer with a dressing or sauce
- (1) beef **carpaccio**, (2) mushroom **carpaccio**The restaurant is known for its delicious **carpaccio** dish made with raw beef.

liver

- a large organ in the body, involved in many metabolic processes, such as detoxification of the organism, and the synthesis of proteins
- (1) **liver** disease, (2) fatty **liver**

The patient will undergo **liver** transplant surgery tomorrow.

vessel

- n. a ship or large boatsynonym: boat, ship, craft
- (1) blood **vessels**, (2) naval **vessels**

The **vessel** arrived in port the following day.

## exposure

 the state of being in a particular situation or place where there is no protection from or guarantee to something harmful; the disclosure of something secret

synonym: vulnerability, disclosure, uncovering

(1) a southern **exposure**, (2) the **exposure** of a fraud The long **exposure** to the air tarnished the antique tableware.

#### microsecond

- n. one millionth (= 0.000,001) of a second
- (1) at a **microsecond** rate, (2) 10 millimeters per **microsecond**

This process all happens within a microsecond.

blur

 a faint or indistinct image or sound; something that is not clear or distinct; (verb) to become unclear; to lose clear vision

synonym: smudge, smear, fuzz

(1) blur image, (2) motion blur

The camera's focus was off, and the image was a **blur** of colors and shapes.

#### movement

 a group of people working together to achieve a shared goal, especially a political, social, or artistic one; the process of moving or being moved, physically or figuratively

synonym: motion, progression, action

(1) a circular **movement**, (2) **movement** of troops

The **movement** of the dancers on stage was graceful and elegant.

## normally

adv. usually; under normal conditionssynonym: commonly, generally, naturally

(1) complete normally, (2) not normally drink muchI don't normally take a vacation in the middle of summer.

#### frame

- n. a strong border or structure of the wood, metal, etc. that surrounds something such as a picture, door, or window synonym: body, skeleton, scaffolding
- (1) a picture **frame**, (2) the **frame** of the policy The detective looked for fingerprints on the window **frame**.

#### internal

adj. of or relating to the inside of somethingsynonym: interior, inner, domestic

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

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

#### structure

 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.

## differentiate

v. to recognize or establish as being distinct; to distinguish between things that are compared; to calculate a derivative

*synonym*: discern, distinguish, separate

(1) **differentiate** between fact and fiction, (2) **differentiate** a function

The teacher asked the students to **differentiate** between the two similar species of birds.

#### norm

- *n.* something that is regarded as usual, typical, or standard *synonym*: criterion, mean, standard
- (1) norm of action, (2) cultural norm

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

## inject

to put a liquid such as a drug or other substance into a person's or an animal's body using a needle and syringe (= small tube)

synonym: shoot, infiltrate, insinuate

(1) **inject** under the skin, (2) **inject** a personal opinion into a debate

Let's try to **inject** a bit of enthusiasm into your performance.

## contrast

- v. to put in opposition to show or emphasize differences synonym: differ, vary, counterpoint
- (1) **contrast** with a decade ago, (2) **contrast** two things It's intriguing to compare and **contrast** the two authors.

## comparison

 the consideration or examination of the similarities between two or more people or things

synonym: equivalence, analogy, contrast

(1) ease of **comparison**, (2) **comparison** of foods on a caloric basis

I've included the two designs for a **comparison**.

rev

n. a measure of the rate at which an engine or motor rotates, often expressed in revolutions per minute (RPM); (verb) to increase the number of rotations per minute

*synonym*: revolution, RPM, speed

(1) low- rev engine, (2) rev up the crowd

He stepped on the gas pedal, and the engine released a loud **rev**.

vascular

adj. of or relating to blood vessels, especially the veins and arteries that carry blood throughout the body

synonym: circulatory, cardiovascular, arterial

(1) vascular disease, (2) vascular surgery

The doctor detected a blockage in the patient's **vascular** system.

magnetic

adj. having the properties of attracting or repelling certain materials containing iron or steel

synonym: attractive, drawing, hypnotic

(1) magnetic field, (2) a magnetic tape

The magnetic force of the earth keeps our planet spinning.

tap

v. to hit someone or something quickly, gently, and often repeatedly; to use existing resources, such as energy, knowledge, etc.

synonym: knock, exploit, use

- (1) **tap** a new market, (2) **tap** keyboard with an index finger To expand the company, we must **tap** new human resources.
- v. to form small wrinkles or folds in a surface, typically on the skin; to draw together or contract into folds or wrinkles, especially forcibly; (noun) a fold, crease, or gathering of fabric or skin, usually caused by drawing

synonym: wrinkle, crease, ruffle

(1) pucker my mouth, (2) pucker mark

The sour lemon made me **pucker** my lips.

together or tightening of the material

pucker

#### tongue

*n.* a moveable mass of muscle tissue covered with mucous membrane that is in the mouth; a language

synonym: lingo, language, vocabulary

(1) native **tongue**, (2) **tongue** cancer

The **tongue** is boneless, but it is as strong as bones.

#### visual

adj. relating to seeing or sight

synonym: optical, graphical, visible

(1) visual navigation, (2) field of visual arts

The building makes a remarkable visual impact.

#### fiction

 the type of book or story, especially novels, that describes imaginary events and people; anything made up or imagined that is not true

synonym: fantasy, fable, invention

(1) stuff of science **fiction**, (2) non- **fiction** bestseller Truth is stranger than **fiction**.

#### 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.

#### satellite

n. an electronic device that is sent up into space and moves around the Earth or another planet, used for gathering information or communicating by radio, television, etc.

synonym: orbiter, asteroid, moon

(1) a GPS **satellite**, (2) a meteorological **satellite** Launching an artificial **satellite** contributed to the technological development of our country.

#### destination

n. the place to which someone or something is going or being sent; the ultimate purpose or goal of a journey or action

synonym: location, endpoint, target

(1) travel destination, (2) romantic destinationsI am excited to reach my destination and explore the new city finally.

## similarly

adv. in almost the same way synonym: also, likewise, ditto

(1) **similarly** situated, (2) have **similarly** great abilities We argue that wages for temporary workers should **similarly** rise.

## microscope

- n. an instrument used to see objects or substances that are too small to be seen with the naked eyesynonym: lens, magnifier, eyepiece
- microscope slide, (2) electron microscope
   used an optical microscope to observe the small organisms in the water sample.

#### 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.

#### 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**.

#### revolution

a large-scale attempt to overthrow the government of a country, often using violence or war;

synonym: coup, innovation, rebellion

(1) beginning of the industrial **revolution**, (2) a political **revolution** 

The **revolution** by the citizen resulted in a redistribution of wealth.

#### 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.

#### coherence

- n. the quality of being logical and consistentsynonym: consistency, harmony, unity
- (1) **coherence** in a speech, (2) lack **coherence**The story's **coherence** could have been better when the author included too many unrelated details.

## tomography

 a diagnostic imaging technique used to produce detailed images of structures inside the body, typically by using X-rays, CT scans, or ultrasound

*synonym*: imaging, scanning, x-ray

(1) acoustic **tomography**, (2) **tomography** image
The **tomography** scan showed a clear image of the patient's internal organs.

## penetration

- n. the act or process of penetrating or entering something, often forcefully or with difficulty; the depth or extent to which something has been entered or understood
   synonym: infiltration, entry, invasion
- (1) **penetration** testing, (2) market **penetration**The spy's mission was to gather intelligence on enemy territories through covert **penetration**.

#### clinical

- adj. of or relating to the examination and treatment of patients rather than theoretical or laboratory studiessynonym: dispassionate, analytic, scientific
- (1) **clinical** surgery, (2) participate in **clinical** trials She received special **clinical** training at the hospital.

## adopt

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

synonym: accept, assume, take on

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

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

## magnitude

- n. the extent, level, importance, or amount of somethingsynonym: size, extent, level
- (1) a star of the first **magnitude**, (2) the **magnitude** of the disaster

The **magnitude** of the earthquake was measured at 7.8 on the Richter scale.

#### centimeter

- n. a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter
- (1) **centimeter** measurement, (2) thirty **centimeters** tall The room was only one **centimeter** wider than the piano, making it a tight fit.

## organ

 a part of the body of an animal or plant that has a particular purpose and performs a specific job

synonym: function, structure

(1) **organ** bleeding, (2) damage to internal **organs**These infections have the potential to impact practically every **organ** system.

#### vivo

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

synonym: alive, living, animate

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

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

#### microwave

n. a form of electromagnetic radiation with wavelengths ranging from about one millimeter to one meter and frequencies between 300 MHz (0.3 GHz) and 300 GHz; an electric oven that cooks food by exposing it to high-frequency electromagnetic radiation, which causes the food molecules to vibrate and heat up quickly

synonym: oven, waveguide, radar range

(1) **microwave** radiation, (2) **microwave** popcorn

I heated my leftover food in the **microwave** oven, which tasted just as good as freshly cooked.

#### advancement

n. the development, improvement, or progress of something

*synonym*: progression, breakthrough, improvement

(1) **advancement** of knowledge, (2) career **advancement** Competition between countries resulted in fast technological **advancement**.

#### ultimate

adj. furthest or highest in degree or ordersynonym: highest, maximum, foremost

(1) the **ultimate** goal in life, (2) the **ultimate** luxury Management must take **ultimate** responsibility for the accident.

#### excitement

- a feeling of great enthusiasm and eagernesssynonym: thrill, exhilaration, incitement
- (1) the **excitement** in the business world, (2) aesthetic **excitement**

The **excitement** of the upcoming concert was palpable among the crowd.

#### advance

- v. to go or move forward; to develop in a positive way synonym: progress, boost, come along
- (1) **advance** the technology, (2) **advance** a cooperative relationship

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

# **Session 2: Spelling**

1. cultural n\_\_m

2. ex\_\_\_\_on project

3. the fr\_e of the policy

financial a\_d

5. com\_\_\_\_on of foods on a caloric basis

6. a star of the first ma\_\_\_\_de

7. mi o force sensor

8. de\_\_\_p a skill

9. op I fiber

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

*n*. the process of becoming larger or more extensive, or the result of this process

 a strong border or structure of the wood, metal, etc. that surrounds something such as a picture, door, or window

*n.* things sent to help countries in need, notably food or money; support

 the consideration or examination of the similarities between two or more people or things

*n.* the extent, level, importance, or amount of something

extremely small in scale or scope; one millionth

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

adj. of or relating to or light or the ability to see; (noun) the science of light and vision, and to instruments and techniques used in the study and application of light

ANSWERS: 1. norm, 2. expansion, 3. frame, 4. aid, 5. comparison, 6. magnitude, 7. micro, 8. develop, 9. optical

ANSWERS: 10. destination, 11. circulate, 12. introduction, 13. treatment, 14. accurate, 15. diagnose, 16. modern, 17. treatment, 18. movement

- 19. basic br\_\_n function20. the ex\_\_\_re of a fraud
- 21. de\_\_t a bad event
- 22. acoustic tom hy
- 23. ab b a shock
- 24. li\_\_\_me ban from the sport
- 25. na\_\_\_\_te through a document
- 26. the ul\_\_\_\_te goal in life
- 27. v\_\_o imaging
- 28. op s technology

- n. the organ inside the head that is responsible for one's movement, thought, memory, and feeling
- n. the state of being in a particular situation or place where there is no protection from or guarantee to something harmful; the disclosure of something secret
- v. to find or recognize something, especially something difficult to see, hear, etc.
- a diagnostic imaging technique used to produce detailed images of structures inside the body, typically by using X-rays, CT scans, or ultrasound
- v. to take in a fluid or other substance gradually
- n. the duration of someone's life or something's existence;
- v. to plan and direct the way that a ship, plane, etc. will travel, often by using a map
- adj. furthest or highest in degree or order
- adj. alive or existing in a living organism or system; relating to or involving "live" organisms or systems, particularly in scientific research or experimentation
- n. the academic study of vision and light

ANSWERS: 19. brain, 20. exposure, 21. detect, 22. tomography, 23. absorb, 24. lifetime, 25. navigate, 26. ultimate, 27. vivo, 28. optics

Vocab-Builder Ref from "Lei Li: The incredible cancer-detecting potential of photoacoustic imaging | TED Talk" (109 words)

ANSWERS: 38. optical, 39. internal, 40. broad, 41. aid, 42. device, 43. optics, 44. penetration, 45. immediate, 46. sensor, 47. pulse

solid regular vibration of sound, electric

current, light, or other waves

ANSWERS: 48. similarly, 49. immediate, 50. normally, 51. clarity, 52. structure, 53. photoacoustic, 54. breast, 55. ultrasound, 56. internal, 57. absorb, 58. microsecond, 59. inject

small tube)

- 60. re\_\_\_\_e a dispute
- 61. tu\_\_r growth
- 62. ac\_\_\_ic properties of a hall
- 63. non-fi\_\_\_n bestseller
- 64. special de\_\_\_ry
- 65. su\_\_\_r a setback
- 66. a st\_\_\_e of the putter
- 67. damage to internal or\_\_ns
- 68. mo\_\_\_\_r an exam
- 69. pa\_\_\_ss childbirth

- v. to find a suitable answer to the problems or difficulty
- a mass of diseased tissue that forms when cells in the body divide and grow in an uncontrolled way
- adj. relating to sound or the sense of hearing
- n. the type of book or story, especially novels, that describes imaginary events and people; anything made up or imagined that is not true
- the act of taking or sending something to a destination; the bringing of a baby during childbirth
- v. to experience pain, distress, or hardship; to undergo or endure something painful or unpleasant
- n. a medical condition in which poor blood flow to the brain causes cell death; the act of swinging or striking at a ball with a club, racket, etc.
- a part of the body of an animal or plant that has a particular purpose and performs a specific job
- to observe, check, and track the progress or quality of something over a period of time
- adj. causing little or no physical discomfort; not causing pain or discomfort

ANSWERS: 60. resolve, 61. tumor, 62. acoustic, 63. fiction, 64. delivery, 65. suffer, 66. stroke, 67. organ, 68. monitor, 69. painless

ANSWERS: 70. temperature, 71. invasive, 72. tissue, 73. surpass, 74. centimeter, 75. pucker, 76. slice, 77. navigate, 78. comparison

or things

similarities between two or more people

79.	dise the problem	v.	to determine or distinguish the nature of a problem or an illness through a careful analysis
80.	n_m of action	n.	something that is regarded as usual, typical, or standard
81.	importance of early deon	n.	the act of discovering or identifying the presence of something
82.	lar printer	n.	a device that emits powerful and narrow light that can be used as a tool to cut metal through a process of optical amplification
83.	meal chemistry	adj.	of or relating to the treatment or cure of disease
84.	permanent brn damage	n.	the organ inside the head that is responsible for one's movement, thought, memory, and feeling
85.	loe a missing pet	<i>v</i> .	to specify or determine the exact position of someone or something
86.	conon rate	n.	the act or process of changing something from one thing to another; the state of being changed
87.	trrm an education system	<i>v</i> .	to change in outward structure or looks;
88.	bioal assay	adj.	relating to the application of the natural sciences, especially biology, and physiology, to clinical medicine and healthcare
89.	participate in clal trials	adj.	of or relating to the examination and treatment of patients rather than theoretical or laboratory studies

ANSWERS: 79. diagnose, 80. norm, 81. detection, 82. laser, 83. medicinal, 84. brain, 85. locate, 86. conversion, 87. transform, 88. biomedical, 89. clinical

Vocab-Builder Ref from "Lei Li: The incredible cancer-detect	ing po	tential of photoacoustic imaging   TED Talk" (109 words			
90. b_r image	n.	a faint or indistinct image or sound; something that is not clear or distinct; (verb) to become unclear; to lose clear vision			
91. fuon properly	n.	the purpose or use of an object, system or process; a particular activity or operation that is designed to serve a specific purpose; a mathematical concept that describes a relationship between two sets of values, called the input and output sets; (verb) to operate or work in a specific way, or to perform a particular task or purpose			
92. toe cancer	n.	a moveable mass of muscle tissue covered with mucous membrane that is in the mouth; a language			
93. affle solution	adj.	not expensive and able to pay			
94. a picture fre	n.	a strong border or structure of the wood, metal, etc. that surrounds something such as a picture, door, or window			
95. a numerator in a fron	n.	a small part or item forming a piece of a whole; the quotient of two rational numbers			
96. the ulte luxury	adj.	furthest or highest in degree or order			
97. penon testing	n.	the act or process of penetrating or entering something, often forcefully or with difficulty; the depth or extent to which something has been entered or understood			
ANSWERS: 90. blur, 91. function, 92. tongue, 93. affordable, 94. frame, 95. fraction,					

96. ultimate, 97. penetration

ANSWERS: 98. conversion, 99. differentiate, 100. transform, 101. vascular, 102. blur, 103. generation, 104. adopt, 105. breast, 106. clinical, 107. painless

Vocab-Builder Ref from "Lei Li: The incredible cancer-detecting potential of photoacoustic imaging   TED Talk" (109 words)					
108. a meI opinion	adj.	relating to the treatment of illness or injuries; relating to the practice of medicine			
109. career advnt	n.	the development, improvement, or progress of something			
110. beginning of the industrial revon	n.	a large-scale attempt to overthrow the government of a country, often using violence or war;			
111. acte measurements	adj.	correct and exact in all details			
112. lir disease	n.	a large organ in the body, involved in many metabolic processes, such as detoxification of the organism, and the synthesis of proteins			
113. ade a cooperative relationship	v.	to go or move forward; to develop in a positive way			
114. cite an agenda before the meeting	v.	to move continuously or freely around a place or closed system			
115. advertising ct	n.	statements, especially about moral, religious, or political nature that are not sincerely believed by the person making them			
116. digital mamhy	n.	the process of using X-rays to examine the breast for the early detection of breast cancer			
117. cener measurement	n.	a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter			

ANSWERS: 108. medical, 109. advancement, 110. revolution, 111. accurate, 112. liver, 113. advance, 114. circulate, 115. cant, 116. mammography, 117. centimeter, 118. affordable

adj. not expensive and able to pay

118. aff\_\_\_\_le housing

119. lime benefits	n.	the duration of someone's life or something's existence;
120. difate a function	ν.	to recognize or establish as being distinct; to distinguish between things that are compared; to calculate a derivative
121. great-grant	n.	a parent of one's father or mother
122. voe of work	n.	the amount of space occupied by an object or substance; the magnitude of sound
123. viI navigation	adj.	relating to seeing or sight
124. in a gee voice	adj.	having or showing a kindly or tender nature; soft and mild
125. fatty lir	n.	a large organ in the body, involved in many metabolic processes, such as detoxification of the organism, and the synthesis of proteins
126. the atmospheric temre	n.	the degree of hotness or coldness of a thing or place
127. at a micnd rate	n.	one millionth (= 0.000,001) of a second
128. det smuggling across borders	<i>v</i> .	to find or recognize something, especially something difficult to see, hear, etc.
129. person of grant age	n.	a parent of one's father or mother
130. in vo research	adj.	alive or existing in a living organism or system; relating to or involving "live" organisms or systems, particularly in scientific research or experimentation

ANSWERS: 119. lifetime, 120. differentiate, 121. grandparent, 122. volume, 123. visual, 124. gentle, 125. liver, 126. temperature, 127. microsecond, 128. detect, 129. grandparent, 130. vivo

131. diagnostic mamhy	n.	the process of using X-rays to examine the breast for the early detection of breast cancer
132. a facial tie	n.	an ensemble of similar cells of the animal or plant that together carry out a specific function
133. vaar disease	adj.	of or relating to blood vessels, especially the veins and arteries that carry blood throughout the body
134. traditional meal	adj.	of or relating to the treatment or cure of disease
135. int under the skin	ν.	to put a liquid such as a drug or other substance into a person's or an animal's body using a needle and syringe (= small tube)
136. field of viI arts	adj.	relating to seeing or sight
137. lack coce	n.	the quality of being logical and consistent
138. aesthetic excnt	n.	a feeling of great enthusiasm and eagerness
139. deon by the security software	n.	the act of discovering or identifying the presence of something
140. acic guitar	adj.	relating to sound or the sense of hearing
141. mor the data carefully	<i>v</i> .	to observe, check, and track the progress or quality of something over a period of time
142. against tron	n.	a belief, custom, or way of doing something that has been passed down from generation to generation within a group or society

ANSWERS: 131. mammography, 132. tissue, 133. vascular, 134. medicinal, 135. inject, 136. visual, 137. coherence, 138. excitement, 139. detection, 140. acoustic, 141. monitor, 142. tradition

Vocab-Builder Ref from "Lei Li: The incredible cancer-detecting potential of photoacoustic imaging | TED Talk" (109 words)

ANSWERS: 151. ultrasound, 152. devote, 153. magnitude, 154. photoacoustic, 155. rev, 156. delivery, 157. industrial, 158. tomography, 159. process

dairy products

160. tur at remote sites	n.	a mass of diseased tissue that forms when cells in the body divide and grow in an uncontrolled way
161. dep a strategy	ν.	to grow or expand; to improve or refine through a process of progress and refinement, often to achieve greater sophistication or complexity; to elaborate or add detail to something that is in the process of being created
162. t_p a new market	v.	to hit someone or something quickly, gently, and often repeatedly; to use existing resources, such as energy, knowledge, etc.
163. industrial exon	n.	the process of becoming larger or more extensive, or the result of this process
164. blood vels	n.	a ship or large boat
165. high voe	n.	the amount of space occupied by an object or substance; the magnitude of sound
166. dee on a course of action	v.	to make up someone's mind about something; to come to a conclusion or judgment after considering options
167. cutting-edge bioal	adj.	relating to the application of the natural sciences, especially biology, and physiology, to clinical medicine and healthcare
168. sur bad grades	v.	to experience pain, distress, or hardship; to undergo or endure something painful or unpleasant

ANSWERS: 160. tumor, 161. develop, 162. tap, 163. expansion, 164. vessel, 165. volume, 166. decide, 167. biomedical, 168. suffer

ANSWERS: 169. scan, 170. clarity, 171. invention, 172. destination, 173. invention, 174. generate, 175. function, 176. magnetic

177. pulse lar	n.	a device that emits powerful and narrow light that can be used as a tool to cut metal through a process of optical amplification
178. inve species	adj.	spreading very quickly, and often aggressively, and difficult to stop
179. ade the technology	<i>v</i> .	to go or move forward; to develop in a positive way
180. a fronal share of the vote	n.	a small part or item forming a piece of a whole; the quotient of two rational numbers
181. ree the computer error	<i>v</i> .	to find a suitable answer to the problems or difficulty
182. cost two things	<i>v</i> .	to put in opposition to show or emphasize differences
183. dee a question	<i>v</i> .	to make up someone's mind about something; to come to a conclusion or judgment after considering options
184. micpe slide	n.	an instrument used to see objects or substances that are too small to be seen with the naked eye
185. maic field	adj.	having the properties of attracting or repelling certain materials containing iron or steel
186. have sily great abilities	adv.	in almost the same way
187. gete more electricity	<i>v</i> .	to produce or create something; to make offspring by reproduction
188. mushroom caio	n.	a dish consisting of thinly sliced raw meat or fish usually served as an appetizer with a dressing or sauce

ANSWERS: 177. laser, 178. invasive, 179. advance, 180. fraction, 181. resolve, 182. contrast, 183. decide, 184. microscope, 185. magnetic, 186. similarly, 187. generate, 188. carpaccio

189. t_p keyboard with an index finger	v.	to hit someone or something quickly, gently, and often repeatedly; to use existing resources, such as energy, knowledge, etc.
190. electron micpe	n.	an instrument used to see objects or substances that are too small to be seen with the naked eye
191. the stre of a machine	n.	the way of construction of something and the arrangement of its parts, or a complex thing constructed of many parts
192. temporary meI treatment	adj.	relating to the treatment of illness or injuries; relating to the practice of medicine
193. a political revon	n.	a large-scale attempt to overthrow the government of a country, often using violence or war;
194. indal alcohol	adj.	of or relating to or resulting from industry
195. coce in a speech	n.	the quality of being logical and consistent
196. adt a child	v.	to choose to follow something; to legally take a child from another family and care for them as if they were one's own
197. dee my own life	v.	to commit or dedicate oneself or one's time, effort, or energy to a particular task or purpose
198. loe a tumor	<i>v</i> .	to specify or determine the exact position of someone or something

ANSWERS: 189. tap, 190. microscope, 191. structure, 192. medical, 193. revolution, 194. industrial, 195. coherence, 196. adopt, 197. devote, 198. locate

199. vily identical	adv.	almost completely
200. naval vels	n.	a ship or large boat
201. a circular mont	n.	a group of people working together to achieve a shared goal, especially a political, social, or artistic one; the process of moving or being moved, physically or figuratively
202. low-r_v engine	n.	a measure of the rate at which an engine or motor rotates, often expressed in revolutions per minute (RPM); (verb) to increase the number of rotations per minute
203. mive radiation	n.	a form of electromagnetic radiation with wavelengths ranging from about one millimeter to one meter and frequencies between 300 MHz (0.3 GHz) and 300 GHz; an electric oven that cooks food by exposing it to high-frequency electromagnetic radiation, which causes the food molecules to vibrate and heat up quickly
204. advnt of knowledge	n.	the development, improvement, or progress of something
205. suffer ste	n.	a medical condition in which poor blood flow to the brain causes cell death; the act of swinging or striking at a ball with a club, racket, etc.
206. orn bleeding	n.	a part of the body of an animal or plant that has a particular purpose and performs a specific job

ANSWERS: 199. virtually, 200. vessel, 201. movement, 202. rev, 203. microwave, 204. advancement, 205. stroke, 206. organ

207. vily all countries	adv.	almost completely
208. beef caio	n.	a dish consisting of thinly sliced raw meat or fish usually served as an appetizer with a dressing or sauce
209. decision-making prs	n.	a series of actions or operations performed to achieve a particular outcome or goal; a systematic procedure or approach used to accomplish a specific task or objective; a method of treating milk to make it suitable for consumption or use in other dairy products
210. die control	n.	a disorder or illness that affects the body or mind, often characterized by specific symptoms or abnormal functioning of organs or systems
211. a tron of a culture	n.	a belief, custom, or way of doing something that has been passed down from generation to generation within a group or society
212. native toe	n.	a moveable mass of muscle tissue covered with mucous membrane that is in the mouth; a language
213. a meteorological sate	n.	an electronic device that is sent up into space and moves around the Earth or another planet, used for gathering information or communicating by radio, television, etc.
214. a GPS sate	n.	an electronic device that is sent up into space and moves around the Earth or another planet, used for gathering information or communicating by radio, television, etc.

ANSWERS: 207. virtually, 208. carpaccio, 209. process, 210. disease, 211. tradition, 212. tongue, 213. satellite, 214. satellite

- 215. pre-mo\_\_\_n agricultural society
- 216. mi\_\_o bubble
- 217. attract br\_\_d attention
- 218. mi\_\_\_\_ve popcorn

- adj. of or belonging to the present time or recent times
- extremely small in scale or scope; one millionth
- adj. very wide; general
- n. a form of electromagnetic radiation with wavelengths ranging from about one millimeter to one meter and frequencies between 300 MHz (0.3 GHz) and 300 GHz; an electric oven that cooks food by exposing it to high-frequency electromagnetic radiation, which causes the food molecules to vibrate and heat up quickly

ANSWERS: 215. modern, 216. micro, 217. broad, 218. microwave

## **Session 3: Fill in the Blanks**

1.	These infections have the potential to impact practically every system.
n.	a part of the body of an animal or plant that has a particular purpose and performs a specific job
2.	The to the new class was informative and engaging.
n.	a preliminary explanation or remarks given before the start of a text, performance, or event; the act of bringing something new into existence or introducing something to a wider audience or new market
3.	The team worked quickly to save the patient's life.
adj	relating to the treatment of illness or injuries; relating to the practice of medicine
4.	The athlete's record-breaking performance all expectations.
v.	to be or do better than someone or something; to excel or go beyond the limits or standards of something
5.	The security camera has four intruders.
ν.	to find or recognize something, especially something difficult to see, hear, etc.
6.	She stood on the podium and an audience.
<i>v</i> .	to examine something hastily, with the eyes or with a machine, to get information
7.	The prime minister canceled visits to other countries to resolve disputes.
adj	of or relating to the inside of something
	SWERS: 1. organ, 2. introduction, 3. medical, 4. surpassed, 5. detected, 6. nned, 7. internal

8.	The brain is an incredibly complex organ that controls the body's
n.	the purpose or use of an object, system, or process; a particular activity or operation that is designed to serve a specific purpose; a mathematical concept that describes a relationship between two sets of values, called the input and output sets; (verb) to operate or work in a specific way, or to perform a particular task or purpose
9.	Truth is stranger than
n.	the type of book or story, especially novels, that describes imaginary events and people; anything made up or imagined that is not true
10.	The sponge water well.
ν.	to take in a fluid or other substance gradually
11.	This automatic door could no longer be opened due to a failure.
n.	a device that receives a signal or stimulus such as heat, pressure, light, motion etc. and responds to it in a specific manner
12.	The for applying for a visa can be lengthy and complicated.
n.	a series of actions or operations performed to achieve a particular outcome or goal; a systematic procedure or approach used to accomplish a specific task or objective; a method of treating milk to make it suitable for consumption or use in other dairy products
13.	The developer's of the old factory into a modern loft apartment complex was a major success.
n.	the act or process of changing something from one thing to another; the state of being changed
14.	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
	SWERS: 8. function, 9. fiction, 10. absorbs, 11. sensor, 12. process, 13. oversion, 14. fraction