

# Glossary

- add** [V-T-U10] To **add** a quantity to another quantity is to increase it by that amount. **dodawać (liczby)**
- amount** [N-COUNT-U9] An **amount** is a physical quantity of a substance. **ilość**
- analytical balance** [N-COUNT-U4] An **analytical balance** is an enclosed device that is used to find very precise measurements of mass. **waga analityczna**
- arm** [N-COUNT-U5] The **arm** of a microscope is the part that extends from the base to the head. **statyw (mikroskopu)**
- bachelor's degree** [N-COUNT-U15] A **bachelor's degree** is a certificate indicating that someone has completed an educational degree program, usually after four years of study. **stopień/tytuł licencjata, licencjat (stopień)**
- balance** [N-COUNT-U4] A **balance** is a device that determines the mass of something. **waga**
- bar graph** [N-COUNT-U13] A **bar graph** is a graph that displays data in a series of sections, the lengths of which are proportional to their values. **wykres słupkowy, histogram**
- base** [N-COUNT-U5] The **base** of a microscope is the lower part that supports the rest of the device, and typically holds the light source as well. **podstawa (mikroskopu)**
- base unit** [N-COUNT-U9] A **base unit** is one of seven standard SI units and represents a measurable physical quantity, independent of any other. **jednostka podstawowa**
- beaker** [N-COUNT-U2] A **beaker** is a cylindrical, wide-mouthed container with a flat base that is used to store, measure, and pour substances. **zlewka (laboratoryjna)**
- branch** [N-COUNT-U1] A **branch** is one area of study or subfield of a particular subject. **dziedzina, gałąź (nauki)**
- buret** [N-COUNT-U2] A **buret** is a very narrow, tall glass cylinder that is used to accurately measure volume. **biureta (używana do odmierzenia płynów)**
- burner** [N-COUNT-U3] A **burner** is a device that produces heat or flames. **palnik**
- Celsius** [N-UNCOUNT-U8] If a measurement is **Celsius**, it uses the temperature scale in which water boils at 100 degrees and freezes at 0 degrees. **skala temperatur Celsjusza, stopnie Celsjusza**
- centrifuge** [N-COUNT-U4] A **centrifuge** is a device that spins substances very quickly in order to separate heavy particles from lighter ones. **wirówka (laboratoryjna), centryfuga**
- clamp** [N-COUNT-U3] A **clamp** is a device that is used to secure something in a particular place and prevent it from moving. **zacisk, klamra, łapa laboratoryjna**
- climb** [V-I-U14] To **climb** is to increase at a steady rate. **wzrastać**
- column** [N-COUNT-U13] A **column** is a group of boxes that extends from the top to the bottom of a table. **kolumna (np. w tabeli)**
- convert** [V-T-U7] To **convert** something is to change it into a different form or system. **przeliczać (np. jednostki)**
- coarse focus** [N-UNCOUNT-U5] **Coarse focus** is a microscope mechanism that moves the objective lens toward or away from the specimen. **śruba makrometryczna, pokrętło zgrubnej regulacji ostrości**
- coveralls** [N-PLURAL-U6] **Coveralls** are a full-length protective garment that are worn to prevent hazardous substances from contacting the skin or the clothes. **kombinezon roboczy, ubranie robocze**
- cubed** [ADJ-U11] If a quantity is **cubed**, it is multiplied by itself two times, or raised to the power of three. **podniesiony do trzeciej potęgi, podniesiony do sześcianu**
- cubic centimeter** [N-COUNT-U8] A **cubic centimeter**, also called a milliliter, is a metric unit of volume equal to 1/1000 liter or about 0.03 fluid ounces. **centymetr sześcienny, cm<sup>3</sup>**
- decimal number** [N-COUNT-U12] A **decimal number** is an expression in a numbering system based on the number 10, with digits on both sides of the decimal point. **liczba dziesiętna (ułamek dziesiętny albo liczba całkowita z ułamkiem dziesiętnym)**
- decline** [N-COUNT-U14] A **decline** is the process of becoming worse or smaller in amount. **spadek, obniżenie, zmniejszenie się**
- decrease** [V-I-U14] To **decrease** is to become smaller in number or value. **zmniejszać (się), spadać, maleć**
- degree** [N-COUNT-U8] A **degree** is a unit in a system of measuring temperature. **(metrol.) stopień**
- derived unit** [N-COUNT-U9] A **derived unit** is a unit that is derived from a base unit. **(metrol.) jednostka pochodna**

**desiccator** [N-COUNT-U4] A **desiccator** is a sealable container that is used to preserve items that are sensitive to moisture. (**lab.**) **eksykator, suszarka**

**discover** [V-T-U1] To **discover** something is to find new information about something, or determine that it exists. **odkrywać, dokonywać odkrycia (np. naukowego)**

**divide by** [V-T-U10] To **divide** a quantity (A) **by** another quantity (B) is to split quantity A evenly into B number of parts. **podzielić przez (w dzieleniu)**

**doctoral** [ADJ-U15] If a degree or program is **doctoral**, it leads to a PhD. **doktorski (np. praca, rozprawa)**

**dropper** [N-COUNT-U2] A **dropper** is a small glass tube with a hole on one end and a squeezable bulb on the other, and is used to measure and transfer substances. (**chem.**) **kroplomierz, wkraplacz**

**equal** [V-T-U10] To **equal** something is to be precisely the same number or amount as something. **równać się**

**Erlenmeyer flask** [N-COUNT-U2] An **Erlenmeyer flask** is cone-shaped container with a flat base and a narrow neck. (**lab.**) **kolba stożkowa, kolba Erlenmeyera**

**evaluate** [V-T-U1] To **evaluate** something is to carefully study it and assess its qualities. **oceniać, szacować, poddawać ocenie**

**expand** [V-I-U14] To **expand** is to grow larger. **tu: zwiększać się**

**exponent** [N-COUNT-U11] An **exponent** is a number that indicates how many times a quantity is multiplied by itself, and usually appears to the upper right of the quantity. (**mat.**) **wykładnik potęgi**

**eye wash station** [N-COUNT-U6] An **eye wash station** is a device that produces an upward stream of water, and is used to rinse someone's eyes in case of contact with a hazardous substance. **oczomyjka**

**Fahrenheit** [N-UNCOUNT-U8] If a measurement is **Fahrenheit**, it uses the temperature scale in which water boils at 212 degrees and freezes at 32 degrees. **skala temperatury w stopniach Fahrenheita**

**fine focus** [N-UNCOUNT-U5] **Fine focus** is a microscope mechanism that makes a specimen clearer through small, detailed adjustments. **śruba mikrometryczna, pokrętło dokładnej regulacji ostrości**

**flammable** [ADJ-U6] If a substance is **flammable**, it burns quickly and easily. **łatwopalny**

**fluctuate** [V-I-U14] To **fluctuate** is to change regularly. **wahać się, często się zmieniać, oscylować**

**foot** [N-COUNT-U7] A **foot** is an imperial unit of length equal to 12 inches or about 0.30 meters. **stopa (jednostka długości: 1 ft = 0,3048 m)**

**force** [N-UNCOUNT-U9] **Force** is the ability of something to cause physical change. (**mech.**) **siła**

**forceps** [N-COUNT-U3] **Forceps** are a small hinged tool that are used to grasp objects, usually because the objects are too small to manipulate with the hands. **szczypce, kleszcze, pinceta**

**fraction** [N-COUNT-U12] A **fraction** is a quantity that is expressed as a certain number of parts of a whole, such as 1/4, or one fourth. **ułamek**

**fume hood** [N-COUNT-U6] A **fume hood** is a ventilation device that is used to redirect air containing hazardous chemicals. (**lab.**) **wyciąg (laboratoryjny), okap wyciągowy**

**funnel** [N-COUNT-U2] A **funnel** is a tube that is wide at one end and narrow at the other, and is used to guide a substance from one container into another. **lejek**

**glove** [N-COUNT-U6] A **glove** is a piece of protective equipment that is worn to protect the hands. **rękawica, rękawiczka**

**goggles** [N-PLURAL-U6] **Goggles** are protective devices that are worn over the eyes. **okulary ochronne, gogle**

**graduate** [V-I-U15] To **graduate** is to complete a course of study and receive a degree or certificate. **kończyć (studia, szkołę średnią); uzyskać tytuł, otrzymywać dyplom (np. ukończenia studiów)**

**graduated cylinder** [N-COUNT-U2] A **graduated cylinder** is a round, narrow container that is used to precisely measure the volume of a substance. **cylinder miarowy, menzurka**

**hazardous** [ADJ-U6] If something is **hazardous**, it is potentially dangerous. **niebezpieczny (np. o materiale niebezpiecznym dla zdrowia)**

**head** [N-COUNT-U5] The **head** of a microscope is the part that an image travels through, between the objective lens and the ocular lens. **głowica (mikroskopu)**

# Glossary

- hot plate** [N-COUNT-U3] A **hot plate** is a device with a burner that is used to heat materials.  **płyta grzejna**
- hundred** [N-COUNT-U10] **-Hundred** is a way of expressing quantities in the thousands by counting how many times 100 goes into the quantity. For example, the quantity 1,400 could be expressed as "fourteen hundred". **sto, setka (np. liczbę 1400 można odczytywać jako "one thousand four hundred" lub "fourteen hundred")**
- imperial** [ADJ-U7] If a measurement is **imperial**, it uses the system that is based on the ounce and the gallon. **angielski (o systemie miar i wag)**
- improper fraction** [N-COUNT-U12] An **improper fraction** is a quantity that is greater than one or equal one and is expressed strictly as a fraction. **ułamek niewłaściwy**
- improve** [V-T-U1] To **improve** something is to make something better. **ulepszać, poprawiać, polepszać**
- increase** [V-I-U14] To **increase** is to become larger or greater in number or value. **wzrastać, zwiększać (się)**
- incubation oven** [N-COUNT-U4] An **incubation oven** is a small, enclosed heating device that is used to grow bacteria. **komora inkubacyjna**
- integer** [N-COUNT-U11] An **integer** is a number that represents a positive or negative whole unit, or zero. **liczba całkowita**
- joule** [N-COUNT-U9] A **joule** is a derived unit that measures work or energy, and is equal to the energy required to apply one newton of force through the distance of one meter. **dżul (jednostka pracy, energii, ciepła)**
- kelvin** [N-COUNT-U8] A **kelvin** is a unit of temperature that is part of the Kelvin scale, in which 0° is absolute zero and water freezes at 273.15°. **kelwin (jednostka temperatury)**
- kilogram** [N-COUNT-U7] A **kilogram** is a metric unit of weight equal to 1000 grams or about 2.2 pounds. **kilogram**
- lab** [N-COUNT-U1] A **lab**, or laboratory, is a room or facility that is used to conduct scientific experiments. **laboratorium**
- leading zero** [N-COUNT-U11] A **leading zero** is a zero that occupies an unused digit place at the beginning of a number string and serves as a placeholder rather than an actual value. **zero wiodące (przed pojedynczą liczbą oznaczającą dzień/miesiąc, np. 01.01.2021)**
- legend** [N-COUNT-U13] A **legend** is a section on a graph or chart that provides information about its features and symbols. **legenda, objaśnienia znaków (np. na mapie)**
- length** [N-COUNT-U7] A **length** is a measurement of the distance along the edge of something. **długość**
- less** [PREP-U10] If a quantity is **less** than another quantity, the second quantity is subtracted or taken away from the first quantity. **odjąć, minus (w odejmowaniu)**
- line graph** [N-COUNT-U13] A **line graph** is a graph that displays data as a series of points connected by lines. **wykres liniowy**
- liter** [N-COUNT-U8] A **liter** is a metric unit of volume equal to 1000 milliliters or about 0.26 gallons. **litr**
- magnification** [N-UNCOUNT-U5] **Magnification** is the degree to which something is made to appear larger than it actually is. **powiększanie**
- master's degree** [N-COUNT-U15] A **master's degree** is a certificate indicating that someone has completed an educational program beyond the level of bachelor's degree. **tytuł/stopień magistra, magister (stopień)**
- meter** [N-COUNT-U7] A **meter** is a metric unit of length or distance equal to 100 centimeters or about 3.28 feet. **(jednostka długości) metr**
- metric** [ADJ-U7] If a measurement is **metric**, it uses the system that is based on the gram and the liter. **metryczny (o systemie miar i wag)**
- microscope** [N-COUNT-U4] A **microscope** is a device that makes small objects or features appear larger. **mikroskop**
- milliliter** [N-COUNT-U8] A **milliliter**, also called a cubic centimeter, is a metric unit of volume equal to 1/1000 liter or about 0.0352 fluid ounces. **mililitr (jednostka objętości)**
- minus** [PREP-U10] If a quantity is **minus** another quantity, the second quantity is subtracted or taken away from the first quantity. **minus (w odejmowaniu)**
- mixed number** [N-COUNT-U12] A **mixed number** is a quantity that is shown as a whole number and a fraction, with the fraction representing a value less than one. **liczba mieszana**



**molar mass** [N-COUNT-U9] A **molar mass** is physical property that is determined by the relationship between something's mass and its amount of substance. **masa molowa**

**mole** [N-COUNT-U9] A **mole** is a unit that describes an amount of substance containing  $6,02214076 \times 10^{23}$  particles. **mol (jednostka ilości materii)**

**mortar** [N-COUNT-U3] A **mortar** is a bowl in which substances are crushed, and sometimes mixed together, by a pestle. **moździerz**

**MSDS (Material Safety Data Sheet)** [ABBREV-U6] An **MSDS (Material Safety Data Sheet)** is a document that provides product safety information. **karta charakterystyki**

**multiply by** [V-T-U10] To **multiply** a quantity (A) **by** another quantity (B) is to add quantity A to itself B number of times. **pomnożyć przez**

**newton** [N-COUNT-U9] A **newton** is a derived unit that measures force, and is equal to the amount of force required to accelerate one kilogram of matter at one meter per second squared. **niuton (jednostka siły)**

**objective lens** [N-COUNT-U5] An **objective lens** is the glass piece on a microscope that is closest to the slide, and is used to determine a subject's magnification. **obiektyw (w mikroskopie)**

**ocular lens** [N-COUNT-U5] An **ocular lens** is a glass piece on a microscope that the viewer looks through to see the subject. **okular (w mikroskopie)**

**orbital shaker** [N-COUNT-U4] An **orbital shaker** is a device that vigorously moves a container of liquid in order to mix its contents. **wytrząsarka orbitalna**

**ounce** [N-COUNT-U7] An **ounce** is an imperial unit of weight equal to 1/16 pound or about 28.35 grams. **uncja (jednostka masy) (1 oz = 28,3495231 g)**

**-out of-** [PREP-U12] If a quantity is x **out of** y, it has x parts per every y parts possible. **spośród, z (np. 2 spośród 10)**

**over** [PREP-U10] If a quantity is **over** another quantity, it is divided by that quantity. **(podzielić) przez (np. 10 przez 2 = 5)**

**pascal** [N-COUNT-U9] A **pascal** is a derived unit that measures pressure, and is equal to one newton per square meter. **paskal (jednostka ciśnienia)**

**percent** [N-COUNT-U12] A **percent** is a part of one hundred that is represented by the “%” symbol. **procent (jedna setna czegoś)**

**pestle** [N-COUNT-U3] A **pestle** is a hard, rounded tool that is used to crush and mix substances in a mortar. **tluczek (do rozdrabniania substancji w moździerzu)**

**pH meter** [N-COUNT-U4] A **pH meter** is a device that measures the acidity or alkalinity of a liquid. **pehametr, pH-metr**

**PhD** [ABBREV-U15] A **PhD** is a postgraduate doctoral or research degree. **tytuł doktora, doktorat**

**pie chart** [N-COUNT-U13] A **pie chart** is a visual way to represent fractions and percentages in which a circle is divided into proportional parts, similar to slices in a pie. **diagram kołowy**

**pipette** [N-COUNT-U2] A **pipette** is a narrow glass tube that is used to measure substances and transfer them to other containers. **pipeta (szklana rurka do odmierzenia substancji)**

**plummet** [V-I-U14] To **plummet** is to fall very low very quickly. **runąć, spadać, obniżyć się (np. o sprzedaży)**

**plus** [PREP-U10] If a quantity is **plus** another quantity, the two quantities are added together. **plus (przy dodawaniu)**

**point** [N-COUNT-U12] A **point** is a dot placed between whole units and partial units in a decimal number. **tu: przecinek (znak dziesiętny) (uwaga: w języku angielskim w liczbach występuje kropka, natomiast w języku polskim używamy przecinka)**

**postgraduate** [ADJ-U15] If something is **postgraduate**, it is related to students who have already completed degree programs. **podyplomowy (np. studia)**

**pound** [N-COUNT-U7] A **pound** is an imperial unit of weight equal to 16 ounces or about 0.45 kilograms. **funt (jednostka masy) (1 lb = 0,453592 kg)**

**prerequisite** [N-COUNT-U15] A **prerequisite** is something that someone is required to do before doing something else, such as a basic class that a student must take before taking an advanced class. **tu: wymóg**

# Glossary

- pressure** [N-UNCOUNT-U9] **Pressure** is the amount of physical force imposed on an object by something that the object is in contact with. **ciśnienie, parcie, nacisk**
- program** [N-COUNT-U15] A **program** is a series of courses that are related to each other and are designed to provide a complete education in a particular area. **tu: kurs, przedmiot (na studiach)**
- progress** [N-UNCOUNT-U1] **Progress** is the process of developing and improving. **postęp (np. techniczny)**
- quantity** [N-COUNT-U12] A **quantity** is an amount or numerical value. **wielkość**
- question** [V-T-U1] To **question** something is to assess or seek more information about it in order to determine whether particular ideas are true. **pytać, zadawać pytania, kwestionować**
- reduce** [V-T-U12] To **reduce** or simplify a fraction is to change it to the form with the lowest possible whole numbers. **skrócić (o ułamkach)**
- research** [N-UNCOUNT-U1] **Research** is the process of investigating materials and sources to reach new conclusions. **badanie, badania, badania naukowe**
- respirator** [N-COUNT-U6] A **respirator** is a piece of protective equipment worn over the mouth and nose to prevent the inhalation of dust and other potentially dangerous substances. **tu: półmaska**
- rise** [N-COUNT-U14] A **rise** is the process of increasing in a quality or amount. **wzrost (zwiększenie się czegoś)**
- rounding error** [N-COUNT-U11] A **rounding error** is an inaccuracy that results from reducing the length of a decimal number, usually because of convenience or available space. **błąd zaokrąglania**
- row** [N-COUNT-U13] A **row** is a horizontal section of data in a table. **wiersz (np. w tabeli)**
- safety can** [N-COUNT-U6] A **safety can** is a metal container for storing hazardous materials that is designed to relieve pressure by releasing vapor when it is heated. **bezpieczny pojemnik metalowy (do składowania materiałów niebezpiecznych)**
- scale** [N-COUNT-U8] A **scale** is a system in which measurements of something are based on a particular value. **skala, podziałka**
- scatter plot** [N-COUNT-U13] A **scatter plot** is a chart that shows data points on an x and y axis not connected by any lines. **wykres rozrzutu (punktowy)**
- science** [N-UNCOUNT-U1] **Science** is a broad area of study that analyzes properties and processes through observation and experimentation. **nauki przyrodnicze**
- scientific notation** [N-UNCOUNT-U11] **Scientific notation** is a way of expressing very large or very small quantities, which always shows a number multiplied by the number ten with an exponent. For example, 3,000,000 in scientific notation is  $3 \times 10^6$ . **notacja naukowa, notacja wykładnicza (sposób przedstawienia liczby rzeczywistej)**
- shrink** [V-I-U14] To **shrink** is to get smaller. **zmniejszać się, kurczyć się, maleć**
- SI (International System of Units)** [ABBREV-U9] The **SI (International System of Units)** is a widely used system of measurement that uses the same prefixes as the metric system. **układ jednostek SI**
- significant figure** [N-COUNT-U11] A **significant figure** is a digit that identifies the level of precision of a quantity, and includes all digits except for leading zeros, some trailing zeros, and digits exceeding those of the original quantity. **cyfra znacząca, cyfra wartościowa**
- slide** [N-COUNT-U5] A **slide** is a flat piece of transparent material that holds a subject while it is viewed through a microscope. **szkiełko podstawowe/przedmiotowe (na nim umieszcza się preparat do oglądania pod mikroskopem)**
- spatula** [N-COUNT-U3] A **spatula** is a tool with a wide, flat blade that is used to mix and spread substances. **łopatka laboratoryjna**
- spectrophotometer** [N-COUNT-U4] A **spectrophotometer** is a device that measures the strength or intensity of light. **spektrofotometr**
- squared** [ADJ-U11] If a quantity is **squared**, it is multiplied by itself once, or raised to the power of two. **podniesiony do kwadratu, podniesiony do drugiej potęgi**
- stabilize** [V-I-U14] To **stabilize** is to reach a state in which changes are infrequent. **stabilizować (się)**
- stage** [N-COUNT-U5] A **stage** is the flat surface on a microscope where the slide is placed. **stolik przedmiotowy (mikroskopu)**

**stirring rod** [N-COUNT-U3] A **stirring rod** is a long, thin piece of glass or other material that is used to mix or agitate substances. **bagietka (prosty pręt szklany używany np. do mieszania płynów w naczyniach laboratoryjnych)**

**study** [V-T-U1] To **study** something is to learn more about it, often in school or another formal context. **uczyć się, badać, studiować**

**subtract** [V-T-U10] To **subtract** one quantity from another quantity is to reduce it by that amount. **odejmować (np. liczby)**

**table** [N-COUNT-U13] A **table** is a visual representation of data made up of rows and columns. **tabela**

**temperature** [N-UNCOUNT-U8] **Temperature** is a measure of how hot or cold something is. **temperatura**

**test tube** [N-COUNT-U2] A **test tube** is a narrow container that is used for holding small amounts of substances. **probówka**

**thermometer** [N-COUNT-U4] A **thermometer** is a tool that is used to measure temperature. **termometr**

**thesis** [N-COUNT-U15] A **thesis** is the final degree requirement for a graduate degree, and often includes a project or research paper. **praca naukowa, rozprawa**

**times** [PREP-U10] If a quantity is **times** another quantity, it is multiplied by that quantity. **razy (w mnożeniu), pomnożony przez**

**to the nth power** [PHRASE-U11] If a number is raised **to the nth power**, it has an exponent of “n,” or is used in a multiplication “n” number of times. For example, 2 raised to the 5th power equals 32. **do n-tej potęgi**

**tongs** [N-COUNT-U3] **Tongs** are a hinged tool used to grasp objects. **szczypce**

**toxic** [ADJ-U6] If something is **toxic**, it is poisonous to people or the environment. **toksyczny**

**trailing zero** [N-COUNT-U11] A **trailing zero** is a zero that is used to occupy unused places at the end of a decimal number and serves as a placeholder rather than an actual value. It is sometimes insignificant and can be omitted, while in other cases it is included to indicate the number of significant places in a quantity. **zero końcowe**

**tubing** [N-UNCOUNT-U3] **Tubing** is long, cylindrical material that a substance travels through to get from one location to another. **rury, rurki, przewody rurowe**

**undergraduate** [ADJ-U15] If something is **undergraduate**, it is related to students who have not yet completed any degree program. **licencjacki (np. studia)**

**volume** [N-COUNT-U8] A **volume** is a measure of how much three-dimensional space something occupies. **objętość (wielkość fizyczna)**

**volumetric flask** [N-COUNT-U2] A **volumetric flask** is a container that is designed to contain a specific amount of a substance at a certain temperature, and is usually flat-based and pear-shaped, with a thin, cylindrical neck. **kolba miarowa (naczynie laboratoryjne)**

**wash bottle** [N-COUNT-U2] A **wash bottle** is a flexible container that can be squeezed to discharge substances, and is often used in the process of cleaning lab equipment. **tryskawka**

**weight** [N-UNCOUNT-U7] A **weight** is a piece of metal that weighs a particular amount (e.g. 1 kilo), used for measuring how much something else weighs. **odważnik, ciężarek**

**weight** [N-UNCOUNT-U7] **Weight** is a measure of how heavy something is. **waga, ciężar**

**whole number** [N-COUNT-U12] A **whole number** is a positive integer or zero. **liczba całkowita nieujemna**

**x-axis** [N-COUNT-U13] The **x-axis**, or horizontal axis, is the line that extends from the left to the right on a graph. **oś odciętych, oś x (w układzie współrzędnych)**

**y-axis** [N-COUNT-U13] The **y-axis**, or vertical axis, is the line that extends from the top to the bottom on a graph. **oś rzędnych, oś y (w układzie współrzędnych)**