

ENGLISH FOR LANDSCAPE ARCHITECTURE

Małgorzata Ewa Ciereszko



PART I

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FOR LANDSCAPE ARCHITECTURE
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Gardening Basics

I. Warm-up

Discuss these questions in pairs:

1. Have you ever tried to start a garden? Tell your partner about your experience. If you haven't grown any plants before, how would you start if you had a possibility to do so right now?
2. What kind of garden appeals to you? The French formal garden, the English country garden, a rose garden, or maybe a vegetable garden? What do you like about it?
3. Think about the most beautiful garden you have ever come across – what made it so special? Is there anything that you particularly fancy in garden design?

II. Reading

1. Read the text about starting a garden and fill the gaps with the words in the boxes below (there are two boxes – each one for the corresponding part of the text).

● layer ● shade ● beds ● perennials ● roots ● compost
● hose ● spot ● samples ● moist ● annuals

HOW TO START A GARDEN

1. **Get an idea.** Is this going to be a vegetable garden? An herb garden? A flower garden? If you choose to grow flowers, do you want (1)_____, which you must replant each year but which give color most of the summer? Or do you prefer (2)_____, which have a shorter bloom time but come back year after year? You can mix any of the above—after all, it's your garden. Just one bit of advice: Start small. 'Tis better to succeed just a little, than to fail grandly.
2. **Pick a place.** Almost all vegetables and most flowers need about six hours of full sun each day. Spend a day in your chosen (3)_____ and watch how the sun moves across the space. It might receive more sun than you think. But don't despair if your lot is largely sunless; many plants tolerate (4)_____. Check plant tags or ask the staff at your local garden center to find out how much sun a plant requires.

Put the garden where you can't ignore its pleas for attention—outside the back door, near the mailbox, by the window you stare out when you dry your hair. Place it close enough to a water spigot that you won't have to drag the (5) _____ to the hinterlands.

3. **Clear the ground.** Get rid of the sod covering the area you plan to plant. If you want quick results, you can dig it out, but it's easier to smother it with newspaper. A layer of five sheets is usually thick enough; double that if your lawn is Bermudagrass or St. Augustine grass. Spread a 3-inch layer of (6) _____ (or combination of potting soil and topsoil) on the newspaper and wait. It'll take about four months for the compost and paper to decompose.

If you don't want to wait or if the area is covered with weeds such as creeping charlie (*Glechoma hederacea*), you're better off digging the sod out.

4. **Improve the soil.** Invariably, soil needs a boost. The solution is simple: organic matter. Add a 2- to 3-inch (7) _____ of compost, decayed leaves, dry grass clippings, or old manure. If you dig soil (see Step 5), till the organic matter into the soil. If you decide not to dig or are working with an established bed you can't dig, leave the organic matter on the surface and it will work its way into the soil in a few months.

To learn more about your soil, have a soil test done through your county cooperative extension office. They'll lead you through the procedure: how much soil to send from which parts of the garden, and the best time to obtain (8) _____. Expect a two-week wait for their findings, which will tell you what your soil lacks and how to amend it.

5. **Dig or don't.** Digging loosens the soil so (9) _____ can penetrate more easily. But digging when the soil is too wet or too dry can ruin its structure. Dig only when the soil is (10) _____ enough to form a loose ball in your fist, but dry enough to fall apart when you drop it. Use a spade or spading fork to gently turn the top 8 to 12 inches of soil, mixing in the organic matter from Step 4. In vegetable gardens and (11) _____ of annual flowers, turn the soil only once a year in the spring before you plant.

- frost
 - pull
 - sunflowers
 - transplants
 - needles
 - adapted
 - sow
 - watering
 - tomatoes

6. **Pick your plants.** Some people pore over catalogs for months; some people head to the garden center and buy what wows them. Either method works if you choose plants (12) _____ to your climate, your soil, and the amount of sunlight in your garden. You can even surf the Internet for plants to purchase. Here are a few easy-to-grow plants for beginners:

- **Annual:** cosmos, marigolds, impatiens, geraniums, *Calendula*, (13) _____, and zinnias

- **Perennials:** Russian sage, lamb's-ears, black-eyed susans, purple cone-flowers, phlox, pansies, and daylilies
 - **Vegetables:** lettuce, peppers, (14)_____, and cucumbers
7. **Put them in the ground.** Some plants, such as pansies and kale, tolerate cold, so you can plant them in autumn or late winter. Tomatoes and most annual flowers, on the other hand, are touchy about cold, so don't plant them until the danger of (15)_____ has passed in your area. Midspring and midautumn are good times to plant perennial flowers.

Some plants, such as lettuce and sunflowers, are easy to grow from seed. You can (16)_____ them directly in the garden. Be sure to read the seed packet for information about when to plant, how deep to plant, and how far apart to plant the seeds. If you're an adventurous beginner, you can get a head start on the growing season by sowing seeds indoors before the last frost date. You can buy containers or flats designed especially for seedlings, as well as seed-starting soil mixes (available at garden centers). Follow seed-packet instructions, and place the containers on a sunny windowsill or under artificial lights if you don't have window space. Be sure to keep the seeds and seedlings moist but not wet (or they may rot).

An easier method is to buy young plants, called set plants or (17)_____. Just dig a hole and plunk them in the ground.

8. **Water.** Seedlings should never dry out, so water daily while they are small. Taper off as the plants get larger. New transplants also need frequent (18)_____—every other day or so—until their roots become established. After that, how often you need to water depends on your soil, how humid your climate is, and how often it rains. Plants are begging for water when they wilt slightly in the heat of the day. Water slowly and deeply, so the water soaks in instead of running off into the street. To minimize evaporation, water in the early morning.
9. **Mulch.** To help keep weeds out and water in, cover the soil with a couple of inches of mulch. All sorts of mulch are available, from pine (19)_____ to cocoa hulls to bark chips. For a vegetable garden or bed of annuals, choose a mulch that decomposes in a few months. For perennials, use a longer-lasting mulch, such as bark chips.
10. **Keep it up.** Your garden is on its way. Keep watering when needed, and (20)_____ weeds before they get big. Fertilize with a dry fertilizer about halfway through the season. If you use a liquid fertilizer, fertilize every month or so. And remember to stop and smell the—well, whatever you grow.

2. Answer the questions below:

1. How much sun do most vegetables and flowers need every day?

What is the name of a weed mentioned in the article?

Find out the Polish translation. Can you name any other weeds?

1. What natural fertilizers are mentioned in the article? Do you have to place them in the ground?
2. What are the general rules of digging? When should you not dig and why?
3. What is the best time of the year to plant perennial flowers?
4. Do plants need watering every day?
5. What kind of mulch is best for growing vegetables?

*Extra Activity

In Stage 6 there are some names of flowers (annuals and perennials) and vegetables – use them to complete the chart below. Add your own examples.

Annuals English name	Polska nazwa	Perennials English name	Polska nazwa	Vegetables English name	Polska nazwa
	słonecznik		czyściec wełnisty	lettuce	
cosmos		phlox			ogórek
	aksamitka		rudbekia owłosiona	tomato	
zinnia		pansy			papryka
	niecierpek		perowskia łobodolistna		
geranium		daylily			
	nagietek		jeżówka purpurowa		

III. Garden Tools – match the tools in the pictures below with their names in English. What are their Polish equivalents?

● trowel ● rake ● small hand cultivator ● hoe ● pruning shears (secateurs) ● lawn rake (fan rake) ● shovel ● digging fork (spading fork) ● spade ● hand weeder ● hand fork



A. _____



B. _____



C. _____



D. _____



E. _____



F. _____



G. _____



H. _____



I. _____



J. _____



K. _____

IV. Garden Equipment – match the pieces of equipment in the pictures below with their names in English. What are their Polish equivalents?

- watering can • grass trimmer • pistol nozzle
- hedge trimmer • hose trolley • lawn aerator • pump sprayer
- lawn mower • wheelbarrow



A. _____



B. _____



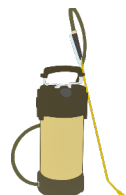
C. _____



D. _____



E. _____



F. _____



G. _____



H. _____



I. _____

GLOSSARY

- **annual** – a plant that completes its life cycle, from germination to the production of seeds, within one year, and then dies (roślina jednoroczna)
- **perennial** – is a plant that lives for more than two years (roślina wieloletnia, bylina)
- **moist** – slightly wet (wilgotny)
- **hose** – a flexible tube for conveying fluids (wąż ogrodowy)
- **bed** – an area where flowers are planted (rabata, grządka, kwietnik)
- **water spigot** – a device for controlling the flow of liquid in a tap (kran, kurek znajdujący się na zewnątrz budynku)
- **hinterland** – a remote area (tu: zaplecze, oddalona część działki, ogrodu)
- **sod** – the surface of the ground, with the grass growing on it; turf (darń)
- **potting soil** – a medium in which to grow plants, herbs and vegetables in a pot or other durable container (ziemia doniczkowa)
- **topsoil** – the top layer of soil (warstwa uprawna/urodzajna)
- **weed** – a plant that is not valued where it is growing and is usually of vigorous growth (chwast)
- **boost** – increase, raise (zwiększyć, wzmocnić, stymulować)
- **manure** – animal dung used for fertilizing land (nawóz, obornik)
- **spade** – a tool with a sharp-edged, typically rectangular, metal blade and a long handle, used for digging or cutting earth, sand, turf, etc. (szpadel)
- **spading fork** – a garden tool with sturdy tines used for loosening and turning soil (widły)
- **sow** – plant (seed) by scattering it on or in the earth (siać, zasiać)
- **pore over sth** – to look **at** and study **something**, usually a book **or** document, carefully (śledzić nad czymś, studiować coś, przesiadywać nad czymś)
- **seed** – small, hard part of a plant from which a new plant grows (nasiono)

- **kale** – hardy cabbage with curled often finely incised leaves that do not form a dense head; also: its leaves used as a vegetable (jarmuż)
- **seedling** – any young plant, especially one grown in a nursery for transplanting (sadzonka, rozsada)
- **rot** – to undergo decomposition from the action of bacteria or fungi (gnić, butwieć)
- **wilt** – to become limp and drooping, as a fading flower; wither (wiednąć)
- **evaporation** – the process of changing from a liquid to a gas, or a change from a liquid to a gas (parowanie, ewaporacja)
- **mulch** – a covering, as of straw, spread on the ground around plants to prevent loss of water or soil, etc. (ściółka ogrodowa, mulcz)
- **cocoa hulls** – the husks of cacao beans used as a stock feed or fertilizer (łupiny kakaowca)
- **bark chips** – small pieces of tree bark (kora ogrodowa)

References:

- [1] <http://www.bhg.com/gardening/yard/garden-care/ten-steps-to-beginning-a-garden> (retrieved: 25.10.2017)
- [2] <https://www.merriam-webster.com/> (retrieved: 25.10.17)

The Rock Garden

I. Warm-up

Discuss these questions in pairs:

1. Do you like rock gardens? Why/ why not? How do they differ from other types of gardens?
2. Is caring for a rock garden different from caring for a regular flower garden? Are there any particular demands to be met?
3. What are the best plants for rock gardens? Which ones are best avoided?
4. Have you ever started your own rockery? Tell your partner about your experience.

II. Reading

Read the text about starting a rock garden and fill the gaps with the words in the box below.

● spread ● grit ● thrive ● soil ● excavator ● shed
● wedge ● rubble ● drainage ● limestone
● rootball ● rockery ● slope

THE ROCK GARDEN

Rock gardens are an excellent way of utilizing a (1)_____ and they make terrific features. You can have them any size you want, with large or small stones. The basic structure is a mixture of rocks and free-draining (2)_____ which are cleverly arranged to imitate a natural rocky outcrop or a scree. Appropriate plants inserted between the rocks give a colourful effect.

The natural look. Take pictures of dramatic outcrops if you go on walking holidays to reproduce the effect on a smaller scale in your own garden. This will avoid your garden looking completely artificial.

If you live in an area of naturally occurring stone, you might find local stone the cheapest and the most visually pleasing. If not, go for stones with a colour that complements the look of your local surroundings. Don't be tempted to use (3)_____ paving, though: excessive demand for natural limestone by gardeners has depleted supplies.

Siting a rock garden. Most of the plants that (4) _____ in rock gardens prefer plenty of sunlight and well-drained soil. Provided these two main requirements are met, rock gardens can be sited almost anywhere and are perfect for positioning on slopes. However, keep them away from overhanging trees or those that are near enough to (5) _____ leaves on them as this can cause the alpine plants to rot. Since rock gardens are big features that take some time to create, make sure you are happy with the chosen position before committing yourself.

Sizing it up. A mixture of rock sizes should be used if possible, to provide a random, natural look, with several small rocks grouped around the larger ones. When choosing plants, the growth habit of each must be considered to allow enough room for natural (6) _____ and growth. Plants such as lewisias are prone to rot at soil level, so they are often planted in vertical crevices between the rocks to give them sufficient (7) _____.

Tip. Place upturned pots over plants before applying mulch to avoid getting (8) _____, bark or whatever on the leaves. Any plants with hairy leaves may be damaged by wet conditions in the winter, and may need to be covered by a sheet of glass to keep off the rain.

How to create a rock garden

1. When you've decided on a shape, size and style for your (9) _____, begin by removing the topsoil to a depth of 15cm (6in) on the site where the rock garden is to be built, and stack this to one side for later use. Fill the excavated area with coarse (10) _____ and stones to improve drainage, before raking soil over the rubble to form a slight mound.
2. Starting with large base rocks, move the rocks into position by dragging them or using a small (11) _____; they can be lifted on the mound using crowbars or by putting a tripod over a rock and tying rope under the rock to act as a cantilever. Place the most interesting and undamaged side of each rock so that it faces outwards.
3. Position the rocks on the site, tilting them slightly towards the centre of the mound. (12) _____ the rocks in place with stones or rubble, and pack soil behind the rocks so that the rock garden develops in layers. Fill all the spaces with soil.
4. Arrange the plants (still in their pots) around the rockery to give a natural-looking effect. Using a trowel dig a hole slightly larger than the plant's (13) _____. Remove the plant from its container and lower into position. Squeeze or mould the rootball to fit the plant into a crevice. Fill soil in around the rootball and firm gently. The final soil surface should just cover the compost of the rootball. When planting is completed, sprinkle a 2,5cm (1in) layer of coarse grit around the plants to form a mulch. Water the plant to settle the compost and grit.

Answer the questions below:

- a) Where can you find inspiration for a natural-looking rock garden?

b) What conditions should be avoided in order to cultivate alpine plants?

c) How can you position large rocks in your rockery?

d) What is the main purpose of the first watering of newly-planted plants?

III. Complete the table using words in the box below.
Think about Polish names of the stones and plants.

- hydrangea granite ivy *sedum*/stonecrop
- basket of gold/gold-dust • sandstone • limestone *pyrola*/wintergreen • pebbles lilacbush/purple rock cress aster
- pea gravel *eranthis*/winter aconite iris • flint • evergreen candytuft quartz *fritillaria*/fritillaries tulip marble dahlia *saxifraga*/saxifrage/rockfoil • peony *sempervivum*/houseleek/liveforever
- *bellis*/daisy • basalt • thuja

Types of rock or stone for gardens	Rock garden plants	Plants for other types of gardens

IV. Match the types of rock gardens with their descriptions:

- Woodland Rock Garden • Alpine Rock Garden
- Banks • Desert Rock Garden • “Walk-About” Bed
- The Classic Rock Garden

a) _____ – built on a rise, it melds seamlessly into the surrounding environment. Often utilizes natural outcroppings of native rock.

- b) _____ – rocks preventing erosion become the perfect opportunity for a specialized garden. Usually a simpler planting with easy care, low growing plants is the best use of this opportunity.
- c) _____ – a central raised bed with paths cutting through.
- d) _____ – situated in the trees, this is a shady to partly sunny planted rock garden, which features ferns.
- e) _____ – resemble a windswept mountain peak complete with rugged, lichen-coated rocks and boulders, flowering alpine plants, and twisted evergreens stunted by harsh growing conditions.
- f) _____ – feature cacti and other succulents as well as desert annuals such as California poppies.

V. Divide the rock garden plants into two categories: 'plants for sun' ☀ and 'plants for shade' ●. Match some of those plants with the pictures below. What are their Polish names?

- *Corydalis lutea*/rock fumewort/yellow corydalis
- *Dianthus*/pink
- Alpine poppy
- *Athyrium*/lady-fern
- *Campanula carpatica*/tussock bellflower
- *Phlox subulata*/creeping phlox/moss phlox
- Edelweiss
- *Bergenia*/elephant's ears
- *Achillea tomentosa*/woolly yarrow
- polypody/rockcap fern
- *Aquilegia flabellata*/dwarf columbine
- *Astilbe chinensis pumila*/false goat's beard

Plants for sun ☀	Plants for shade ●



A. _____



B. _____



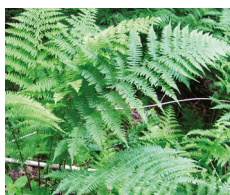
C. _____



D. _____



E. _____



F. _____



G. _____



H. _____

GLOSSARY

- **outcrop, outcropping** – a coming out of bedrock or of an unconsolidated deposit to the surface of the ground (wychodnia, odkrywka)
- **scree** – an accumulation of loose stones or rocky debris lying on a slope or at the base of a hill or cliff (rumowisko)
- **crevice** – a narrow opening resulting from a split or crack (szczelina, rozpadlina)
- **grit** – sand, gravel or dirt (piasek, żwir, brud)
- **rockery** – rock garden (skalniak)
- **rubble** – broken fragments (as of rock) resulting from the decay or destruction of a building (gruz)
- **mound** – a rounded mass projecting above a surface (kopiec)
- **crowbar** – an iron or steel bar that is usually wedge-shaped at the working end for use as a pry or lever (łom)
- **cantilever** – a projecting structure, such as a beam, that is supported at one end and carries a load at the other end or along its length (dźwignia)
- **tilt** – move or cause to move into a sloping position; cause to lean, incline, slop, or slant (odchylić, nachlić, pochylić, przechylić)
- **lichen** – a simple slow-growing plant which typically forms a low crust-like, leaf-like, or branching growth on rocks, walls, and trees (porost)
- **boulder** – a detached and rounded or worn rock, especially a large one (głaz)

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- [3] <http://www.bhg.com/gardening/design/styles/rock-gardens/> (retrieved: 11.11.2017)
- [4] <https://www.merriam-webster.com/> (retrieved: 11.11.2017)

The Bog Garden

I. Warm-up

Discuss these questions in pairs:

1. Imagine you have a bit marshy area in your garden, where some water is always present – how to make use of it?
2. What are the best plant choices for a boggy spot? What plants can't thrive in such places?
3. How can you turn those wet bits into bird-friendly or insect-friendly places?

II. Reading

Read the text about bog gardens and decide on the best headings for each paragraph:

BOG GARDENS

If you have a constantly damp patch of garden, don't ignore it – turn it into a feature. There are plenty of plants that thrive in boggy conditions, adding to the range you can grow. If you'd like to create such a garden, it's easily done and is best positioned next to a pond. Marginal plants can of course be used beside your pond simply to make it look more natural.

A. _____

A bog garden can be any size you like, but the soil does need to be about 30cm (1ft) deep to allow the plants' root systems to develop. Some low spots in the garden can be used to form a natural bog garden, but on a free-draining site a plastic or similar waterproof **liner** will be needed to keep the area moist. Line the bottom two-thirds of the hole, leaving the top one-third free. If the soil becomes too **waterlogged**, the water seeps over the sides of the liner to the soil beneath.

Unless your garden soil is particularly poor, it should be kept for filling the liner because it will closely resemble the surrounding soil and be more compatible with it than any imported compost. Weeds, however, may be a problem in the early stages. For the best effect, a bog garden linked to an **adjoining** pond is perfect, with the overflowing water from the pond seeping into the bog garden. On the other hand, bog gardens work very well as **stand-alone** features.

B. _____

This is invariably in **dappled** shade. Many of the plants grown here are **herbaceous** perennials which grow rapidly in the spring, producing large, soft tender leaves because of the damp conditions. This makes them susceptible to spring frosts and leaf scorch in hot, bright sun.

C. _____

The following list shows plants grouped according to their season of interest. Choose a balance of those with all-year colour and ones with different flowering times.

Spring

- *Cardamine pratensis* (cuckooflower, lady's smock) – a perennial, producing tufts of fern-like **foliage** resembling green foam from a distance. The single flowers are rose-lilac and carried on **stalks** up to 45cm (1½ft) high in spring. The double-flowered form is *C.p.* 'Flore Pleno'.
- *Lysichiton americanus* (skunk cabbage, swamp lantern) – a clump-forming member of the arum family with bright yellow **spathes** which emerge in the spring, followed by large, coarse, cabbage-like leaves up to 1m (3½ft) long.
- *Primula denticulata* (drumstick primrose, primula) – the drumstick primula is a popular, spring-flowering plant with globes of small, purple flowers on thick, **stocky** stems 30cm (1ft) high. The green, coarse leaves form an open rosette, and are often covered with a whitish dusty coating on spring.
- *Salix gracilistyla* 'Melanostachys' (rose-gold pussy willow) – a bushy **shrub** with a spreading habit, which eventually forms a **thicket** 3m (10ft) high and 4m (13ft) wide. The main feature is the black **catkins** and red **anthers** produced in spring before the leaves appear.

Summer

- *Aconitum napellus* (monk's hood, aconite) – a plant with mounds of glossy green, finely cut foliage, with erect **spikes** of hooded navy blue flowers up to 1.5m (5ft) high in summer. Although it will grow in herbaceous borders, this plant performs much better in boggy conditions.
- *Astilbe chinensis pumila* (false goat's beard) – a low-growing attractive plant with mid-green, fern-like foliage and spikes of tiny deep pink flowers on 15cm (6in) high **stems** in summer.
- *Hosta crispula* – an excellent foliage plant with lance-shaped leaves banded with streaks of white. In late summer the lilac-coloured flowers appear on slender green stems up to 75cm (2½ft) long. Prone to damage by **slugs**.
- *Mimulus cardinalis* (scarlet monkeyflower) – this plant has brilliant, scarlet-orange snapdragon-like flowers in late summer on 60cm (2ft) high stems, covered in pale green foliage. It prefers damp rather than wet soil, and may need some protection during winter.

Autumn

- *Aster puniceus* (swamp aster) – the swamp aster has showy, daisy-like flowers which are pale lilac, carried on reddish stems in late summer and early autumn. The mid-green foliage has a rough, hairy texture, and the plant itself can be quite **unruly**, forming large, dense **clumps** up to 1.5m (5ft) high.
- *Eupatorium purpureum* (purple joe-pye weed) – this tall, coarse-leaved plant grows up to 1.2m (4ft) high and produces crowded heads of purple, daisy-like flowers in late summer and early autumn. A vigorous plant that needs plenty of room.
- *Ligularia veitchiana* (leopard plant) – an interesting plant with roughly triangular leaves and tall spikes of **pendant**, sulphur-yellow flowers carried on stems 1m (3½ft) high. The broad, coarse leaves are pale to mid-green, and the whole plant gives off a **musky** aroma.

Winter

- *Cornus alba* (dogwood) – the dogwood is known mainly for its winter colour, deep red stems up to 1.2m (4ft) long, after the leaves have turned a sulphur yellow and fallen in the autumn. There are several **variegated** leaf forms, which also provide summer interest. *C.a.* ‘Spaethii’ has gold and green foliage. *C.a.* ‘Elegantissima’ has green and white variegated leaves.
- *Salix alba* ‘Vitellina’ (golden willow) – the golden-stemmed willow produces new shoots up to 1.5m (5ft) long each year. They are covered in golden-yellow **bark** through the winter, but must be **pruned** hard each spring to produce this vivid effect. *S.a.* ‘Chermesina’ produces orange shoots in winter.

D. _____

Bog gardens must be regularly maintained to prevent any one species from **overcrowding** its neighbours and totally dominating the scene. In very moist soils plant growth can be extremely vigorous, so plants need to be lifted and divided regularly.

Any weeds, **pests** or diseases must be controlled using organic methods, not only because pesticides contaminate the water but also because many of the ornamental plants are close relatives of **invasive** weeds and using chemicals would kill both the weeds and the ornamental plants.

2. Match the words in bold with their definitions below.

Paragraphs A-B and D:

- a) marked with small spots or patches contrasting with the background – _____
- b) tending to spread especially in a quick or aggressive manner – _____
- c) saturated with water – _____
- d) of, relating to, or having the characteristics of an herb – _____
- e) self-contained, not depending on anything else – _____
- f) touching or bounding at a point or line – _____

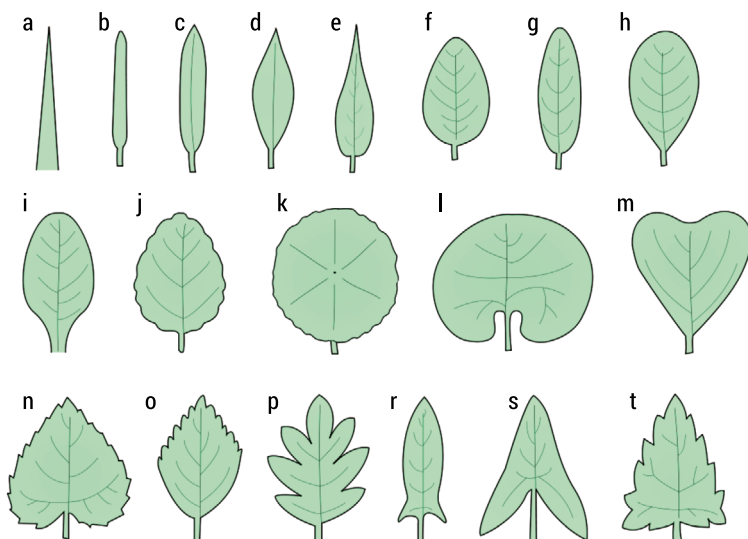
- g) something that you use inside another thing to keep it clean or to protect it – _____
- h) unpleasant conditions caused by too many people or things being in the same place – _____
- i) insects or small animals that damage plants or supplies of food – _____

Paragraph C:

- a) very difficult to control – _____
- b) small creatures with a soft body and no legs that moves very slowly; similar to snails but with no shell – _____
- c) having discrete markings of different colour – _____
- d) the main trunks of plants; *specifically*: primary plant axes that develop buds and shoots instead of roots – _____
- e) something suspended – _____
- f) with some parts of a plant removed to make it grow better – _____
- g) types of inflorescence similar to racemes with flowers that do not have pedicels – _____
- h) the aggregate of leaves of one or more plants – _____
- i) compact, sturdy, and relatively thick in build – _____
- j) the outermost covering of trees and some plants – _____
- k) having an odor of or resembling musk – _____
- l) a dense growth of shrubbery or small tree – _____
- m) groups of things clustered together – _____
- n) large bract or pair of bracts forming a sheath to enclose the flower cluster of such plants – _____
- o) pollen-bearing structure in the stamen (male organ) of the flower usually located on top of the filament of the stamen – _____
- p) scaly, generally drooping spikes or racemes – _____
- q) the main stems of an herbaceous plant often with its dependent parts – _____
- r) a low usually several-stemmed woody plant – _____

III. Match the types of leaves in the picture with their names in the box and with their descriptions below. What are their Polish equivalents?

- hastate
 - peltate/orbiculate
 - deltoid rhomboid
 - spatulate
 - reniform
 - ovate
 - linear
 - obcordate
 - acicular
 - lanceolate
 - sagittate
 - cordate
 - subulate
 - elliptic
 - obovate
 - oblanceolate
 - pinnately
 - lobed
 - oblong



1. _____ – kidney-shaped but rounder and broader than long
2. _____ – shaped like an arrowhead and with the acute basal lobes pointing downward
3. _____ – triangular with basal lobes
4. _____ – heart-shaped with the notch towards the stalk
5. _____ – needle shaped
6. _____ – diamond-shaped
7. _____ – egg-shaped, wide at base
8. _____ – circular
9. _____ – spoon-shaped
10. _____ – pointed at both ends
11. _____ – parallel margins, elongate
12. _____ – tapering point, awl-shaped
13. _____ – heart-shaped, stem at point
14. _____ – triangular
15. _____ – egg-shaped, narrow at base
16. _____ – oval-shaped, small or no point
17. _____ – inversely lanceolate
18. _____ – deviating from a square, circular, or spherical form by elongation in one dimension
19. _____ – lobed in a pinnate pattern, i.e. resembling a feather especially in having similar parts arranged on opposite sides of an axis

IV. Match the names of plants suitable for bog gardens (mentioned in part C in the reading task) with the pictures and determine what kind of leaves they have:



A. _____



B. _____



C. _____



D. _____



E. _____



F. _____

GLOSSARY

- **boggy** – too wet and muddy to be easily walked on; marshy (grząski, bagnisty)
- **feature** – a special attraction (główny punkt, rzecz przyciągająca uwagę)
- **pond** – a body of water usually smaller than a lake (staw, sadzawka)
- **leaf scorch** – any of various plant diseases or conditions characterized by a burned or scorched appearance of the foliage (poparzenie, odparzenie liści)
- **tuft** – a small cluster of elongated flexible outgrowths attached or close together at the base and free at the opposite ends; *especially*: a growing bunch of grasses or close-set plants (kępa; kitka; pęczek)
- **lance-shaped leaves** – leaves in the shape of a lance, i. e. long and wider in the middle (liście lancetowate)
- **snapdragon** – *Antirrhinum*, a plant that is commonly known as dragon flowers or snapdragons because of the flowers' fancied resemblance to the face of a dragon that opens and closes its mouth when laterally squeezed (Iwia paszcza)
- **give off an aroma** – emit a smell (wydawać, rozsiewać zapach)
- **shoot** – a young branch which sprouts from the main stock (młody pęd)
- **bud** – a small lateral or terminal protuberance on the stem of a plant that may develop into a flower, leaf, or shoot (pąk, pączek)
- **awl** – a pointed tool for marking surfaces or piercing small holes (as in leather or wood) (szydło)

References:

- [1] A. Titchmarsh, S. Bradley, *Ground Force Weekend Workbook*, BBC Worldwide Limited, London 1999
- [2] <https://www.merriam-webster.com/> (retrieved: 12.11.2017)
- [3] <https://www.macmillandictionary.com/> (retrieved: 12.11.2017)
- [4] <http://www.biology-online.org/dictionary/> (retrieved: 12.11.2017)

Bog Garden Flowers and Carnivorous Plants

I. Warm-up

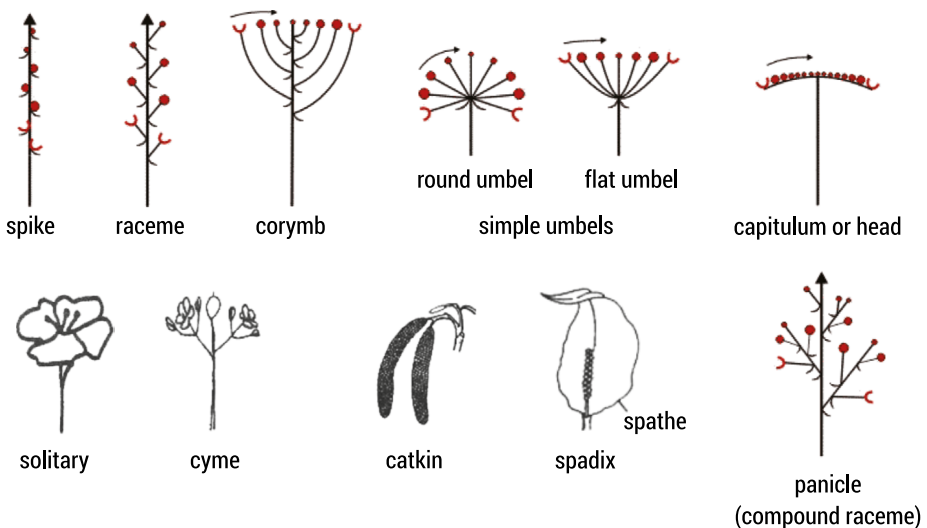
Discuss these questions in pairs:

1. What bog garden plant names do you remember from the previous lesson?
2. What types of leaves do you remember? Can you describe them using general English vocabulary?
3. How can we describe flowers? Do you know any botanical terms that may help you to describe them in detail?

II. Complete the definition of an inflorescence by choosing the correct words *in italics*:

An **inflorescence** is a group or *cluster / individual* of flowers arranged on a *shoot / stem* that is composed of a main *branch / bough* or a complicated arrangement of *branches / boughs*.

III. Match the types of inflorescence in the picture with their descriptions below. What are their Polish equivalents?



1. unbranched, indeterminate inflorescence with pedicellate (having short floral stalks) flowers along the axis – _____
2. a type of spike inflorescence having small flowers borne on a fleshy stem, typically surrounded by a leaf-like curved bract known as a spathe – _____
3. a type of raceme with a short axis and multiple floral pedicels of equal length that appear to arise from a common point – _____
4. a type of raceme with flowers that do not have a pedicel – _____
5. very contracted raceme in which the single sessile flowers are borne on an enlarged stem – _____
6. compound raceme – _____
7. slim, cylindrical flower cluster (a spike), with inconspicuous or no petals – _____
8. unbranched, indeterminate inflorescence that is flat-topped or convex due to their outer pedicels which are progressively longer than inner ones – _____
9. a single-flowered inflorescence – _____
10. a flower cluster with a central stem bearing a single terminal flower that develops first, the other flowers in the cluster developing as terminal buds of lateral stems – _____

IV. Match the names of plants suitable for bog gardens (from the previous unit) with the pictures and determine what kind of inflorescence they have:



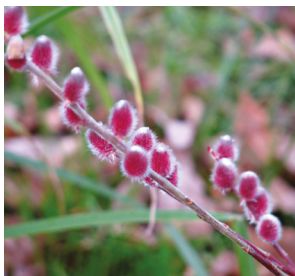
A. _____



B. _____



C. _____



D. _____

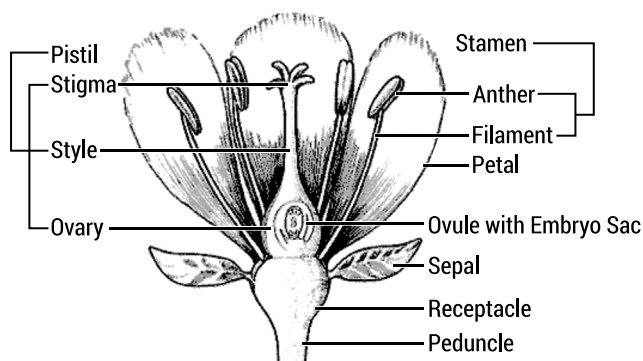


E. _____



F. _____

V. Study the diagrams showing the structure of a flower. Match the terms in the pictures with their definitions below. What are their Polish equivalents?



1. the stalk of a stamen of a flower, supporting the anther – _____
2. one of the male organs of a flower, consisting typically of a stalk (filament) and a pollen-bearing portion (anther) – _____
3. a member of the (usually green) outer whorl of non-fertile parts surrounding the fertile organs of a flower. One of the green parts that form the calyx of a flower. A specialised structure that appears in plants, usually to protecting a new growing shoot, though its function can vary from species to species – _____
4. (in a composite flower head of the daisy family) any of a number of strap-shaped and typically sterile florets that form the ray – _____
5. the part of a pistil that receives the pollen during pollination – _____
6. the stalk bearing a flower or fruit, or the main stalk of an inflorescence – _____
7. (in a composite flower head of the daisy family) any of a number of small tubular and usually fertile florets that form the disc. In rayless plants such as the tansy the flower head is composed entirely of disc florets – _____

8. an enlarged area at the apex of a stem on which the parts of a flower or the florets of a flower head are inserted – _____
9. the stalk supporting a flower – _____
10. the part of a stamen that contains the pollen – _____
11. the central part of a flower from *Asteraceae* or *Compositae* family (commonly referred to as the aster, daisy, composite, or sunflower family) – _____
12. the hollow base of the carpel of a flower, containing one or more ovules – _____
13. a narrow, typically elongated extension of the ovary, bearing the stigma – _____
14. the part of the ovary of seed plants that contains the female germ cell and after fertilization becomes the seed – _____
15. each of the segments of the corolla of a flower, which are modified leaves and are typically coloured – _____
16. the female reproductive organ of a flower, consisting of an ovary, a stigma, and usually a style. It may occur singly or as one of a group – _____

VI. Reading

1. Read the text below and mark the statements True or False:

1. Carnivorous plants grow only in hot and humid climate.
2. Carnivorous plants do not need soil rich in nutritional elements.
3. Mini-bog containers demand a fair amount of shade during the day.
4. To construct a mini-bog of your own you may gather some sand from a beach or other local sandy area.
5. The growing medium should have a consistency resembling mud.
6. When choosing carnivorous plants you should consider their ability to endure low temperature.
7. You should not obtain carnivorous plants from their natural habitat.
8. Carnivorous plants do not need any protection from animals and birds.
9. Carnivorous plants do not need a winter dormancy period.
10. A mini-bog does not require much maintenance.

Grow Carnivorous Plants in a DIY Mini-Bog

If you were asked to imagine a landscape inhabited by carnivorous plants, you might envision some primeval jungle of contorted vines and fearsome beasts. In reality, unless you live on a research station in Antarctica, chances are that some ferocious flora is growing very near you.

An expedition to see wild carnivorous plants in New York City, for example, could consist of a free ferry ride to Staten Island, where the spoonleaf sundew (*Drosera intermedia*), with its glistening “sticky-trap” leaves, can be seen at Clay Pit Ponds State Park Preserve. Several aquatic carnivores of the genus *Utricularia* also grow in the kettle ponds that dot the borough. Far from being delicate, tropical novelties,

many carnivorous plants grow well in the New York City region, and they can be easily cultivated outdoors in most parts of the country in USDA Zones 5 through 10.

In the wild, most carnivorous plants grow in sunny, acidic, nutrient-poor wetlands called bogs. Home gardeners can replicate this environment in a mini-bog planter and grow a diverse array of species like sundews, pitcher plants, and butterworts. You can also include orchids and other noncarnivorous wetland plants to build a fascinating miniature habitat. There's no need to hand feed your carnivores—insects will readily come on their own. Expect to see houseflies and wasps fall prey to your flytraps and pitcher plants.

Below are instructions for constructing a mini-bog using a basic pond liner from a home-improvement store, but you can adapt the idea to other containers too—almost any plastic or metal container without drainage holes can be used to replicate boggy conditions, from a window box or flowerpot to a more idiosyncratic vessel like a salad bowl, tool box, or even an old rain boot. Plan to keep your mini-bog container outdoors in a sunny location for most of the year.

Supplies

- **Carnivorous plants:** Select species that thrive in your climate and site conditions (see below for more details).
- **Rigid high-density polyethylene pond liner, with no drainage holes:** One choice is a 9-gallon black liner, 26 inches wide and 7 inches tall, which can be purchased at any home-improvement store.
- **Round plastic nursery plant pot (approximately 6 inches tall and 10 inches wide):** This pot must have drainage holes.
- **1.5-quart bag of horticultural lava rock.**
- **1-cubic-foot bag of sphagnum peat moss:** The packaging must literally say “sphagnum” peat moss. Sedge peat and sweet peat are not acceptable. It should not have any added nutrients.
- **40- to 50-pound bag of horticultural sand or washed play sand:** Do not use paving sand or sand from a beach.
- **100-cubic-inch bag of fibered sphagnum:** This is simply dried sphagnum moss.
- **Optional top-dressing materials:** Try pine straw, pine bark, live sphagnum, and/or quartz gravel.

Instructions

Step 1: Provide Drainage

Fill the bottom two inches of the pond liner with crushed lava rock for drainage.

Step 2: Make the Reservoir

Place your plastic nursery pot in the center of the pond liner. You will keep this pot empty and fill the container around the pot with soil. Once the mini-bog is complete, you will fill this pot with water, which will slowly drain out into the pond liner to bottom-water your plants.

This allows you to avoid top watering, which can disrupt small plants and compact the soil. The pot also functions as a bog-garden reservoir, reducing the need to water as frequently. Simply refill the pot when the water level drops to its bottom.

Step 3: Prepare the Soil Mix

Create your growing medium by combining 50 percent sphagnum peat moss, 30 percent horticultural sand, and 20 percent long fiber sphagnum moss and saturating it with water until it has a mudlike consistency. Fill the planter (outside the plastic pot) with the soil mix.

If your mini-bog is to be viewed from all vantages, consider building the soil level higher toward the middle of the pond liner for visual appeal. Or vary the depth of the soil and then plant the lower areas with more flood-tolerant species like spoonleaf sundew and parrot pitcher plant (*Sarracenia psittacina*). Higher areas can be planted with less flood-tolerant species like Venus flytrap (*Dionaea muscipula*).

Step 4: Select and Install Plants

Your mini-bog can include a mix of carnivorous plants and other species that thrive in bogs. When choosing carnivorous plants, cold hardiness is your biggest concern. If you live in Zones 7–10, you can grow Venus flytraps, most American pitcher plants (*Sarracenia* species), and most temperate and warm-temperate sundews (*Drosera* species) and butterworts (*Pinguicula* species).

If you live in Zone 6, focus on plants from the Carolinas and farther north, like trumpet pitcher plant (*Sarracenia flava*), sweet pitcher plant (*S. rubra*), and purple pitcher plant (*S. purpurea*).

If you live in Zone 5 or colder, you are limited to very cold-tolerant plants like the northern subspecies of purple pitcher plant (*Sarracenia purpurea* subsp. *purpurea*), round-leaf sundew (*Drosera rotundifolia*), English sundew (*Drosera anglica*), and common butterwort (*Pinguicula vulgaris*).

Regardless of your climate, there will be no shortage of options for beautiful bog plants to accentuate your carnivores. A succession of orchids is one great option and will add seasonal interest. Try grass pink (*Calopogon tuberosus*), which blooms in spring to early summer, followed by the late-summer-blooming nodding ladies' tresses cultivar 'Chadds Ford' (*Spiranthes cernua* var. *odorata* 'Chadds Ford').

Only purchase carnivorous plants and orchids from reputable nurseries and dealers. Poaching of wild carnivorous plants and orchids threatens the continued existence of these incredible botanical wonders.

Once you have selected and acquired your plants, think about placement. If your mini-bog will be viewed from all sides, you may want to plant your tallest species toward the center and then terrace down to shorter plants. If it's to be viewed primarily from one side, plant your tallest species at the back and install shorter plants in the front.

Step 5: Top Dressing

Once you have installed your plants, you can top dress your mini-bog with pine needles, pine bark, quartz stone, or live sphagnum to add a sense of realism and protect your plants from the impact of heavy rain. Top dressing may also help protect your plants from marauding squirrels and birds.

Care

Watering

Water quality is always an important concern when growing carnivorous plants. Unless you live in a city like New York, where the tap water has less than 100 parts per million dissolved solids and a pH lower than 8, you should only irrigate your mini-bog with distilled water, reverse osmosis water, or rainwater.

When watering the mini-bog, fill the reservoir pot to the top and then let the water level drop to near the bottom over a period of days, so that oxygen can periodically permeate the soil. If you live in a very rainy region and you find that the mini-bog is constantly flooded, drill some holes in the side of the container about an inch below the surface of the soil to allow drainage.

Light

Your mini-bog must be positioned where it will receive at least five to six hours of direct, unobstructed sunlight.

Overwintering

For most carnivorous plants native to the United States, a winter dormancy period is required for long-term survival. If you are growing plants not winter hardy in your region, you may need to shelter your mini-bog during the winter while still allowing the plants to experience natural dormancy. At the outset of freezing temperatures, move the mini-bog to a sunny glassed-in porch or a windowed basement where it will be cool but protected. Alternatively, leave the mini-bog outside, but bury the pond liner so that its surface is at the same level as the ground, and then mulch the top with two to three inches of pine needles, oak leaves, or straw.

Once established, your mini-bog will require minimal maintenance. Just weed and water the container, and you can expect your mini-bog to last for years. Flies and wasps, beware!

2. Match some carnivorous plants mentioned in the text (in the box) with their pictures. What are their Polish names?

- *Pinguicula vulgaris*/common butterwort
- *Dionaea muscipula*/Venus flytrap
- *Sarracenia psittacina*/parrot pitcher plant
- *Drosera anglica*/English sundew
- *Sarracenia flava*/trumpet pitcher plant
- *Drosera intermedia*/spoonleaf sundew



A. _____



B. _____



C. _____



D. _____



E. _____



F. _____

GLOSSARY

- **raceme** – an indeterminate inflorescence in which a main stem produces a series of flowers on lateral stalks, the oldest at the base and the youngest at the top (grono)
- **pedicel** – the stalk of a flower (szypułka)
- **bract** – a leaf-like structure, different in form from the foliage leaves and without an axillary bud, associated with an inflorescence or flower (podsadka = kwiatostan wsparty liściem (oraz) przysadka = liść przykwiatowy)
- **spathe** – a large bract or pair of bracts forming a sheath to enclose the flower cluster (pochwa kwiatostanu)
- **sheath** – the lower part of leaf enveloping stem (pochwa)
- **pollen** – the microspores of seed plants, the powdery mass of microspores shed from anthers (pyłek)
- **axis** – a plant stem (łodyga rośliny)
- **convex** – having an outline or surface curved like the exterior of a circle or sphere (wypukły)
- unbranched – not having or divided into branches (nierozgałęziony)
- **sessile** – attached directly by the base, not raised upon a stalk or peduncle (uszy-pułkowany)
- **calyx** – the sepals of a flower, typically forming a whorl that encloses the petals and forms a protective layer around a flower in bud (okwiat)
- **corolla** – the petals of a flower, typically forming a whorl within the sepals and enclosing the reproductive organs (korona kwiatu)

- **acidic** – having the properties of an acid, or containing acid; having a pH below 7 (kwaśny)
- **habitat** – the natural home or environment of an animal, plant, or other organism (środowisko życia)
- **horticultural** – of or pertaining to horticulture, connected with gardening (ogrodniczy, ogrodowy)
- **sphagnum peat moss** – a large absorbent moss which grows in dense masses on boggy ground, where the lower parts decay slowly to form peat deposits (mach torfowiec)
- **sedge** – a grasslike plant with triangular stems and inconspicuous flowers, growing typically in wet ground. Sedges are widely distributed throughout temperate and cold regions (turzyca)
- **vantage** – a place or position affording a good view (punkt obserwacyjny)
- **temperate** – moderate, not excessive (umiarkowany)
- **marauding** – going about in search of things to steal or people to attack (grasujące, szabrujące)
- **permeate** – spread throughout (something); pervade (wypełnić, przeniknąć)

References:

- [1] <https://www.merriam-webster.com/> (retrieved: 12.11.2017)
- [2] <https://www.macmillandictionary.com/> (retrieved: 12.11.2017)
- [3] <http://www.biology-online.org/dictionary/> (retrieved: 12.11.2017)
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- [5] https://www.bbg.org/gardening/article/mini_bog_garden_with_carnivorous_plants (retrieved: 18.11.2017)

Container-Grown Plants

I. Warm-up

Discuss these questions in pairs:

1. What kind of equipment may be used to enable you to create a garden in areas unsuitable for gardening, e.g. next to a wall, on a small balcony etc.?
2. Do you know any plants that thrive in pots or other containers?
3. Have you ever tried to make a topiary? What plants have you clipped?

II. Reading

1. Read the text and mark the statements True or False:

1. Hanging baskets are a good way to provide some colour to areas where growing plants is not possible.
2. Plants in hanging baskets should have some room around them to provide easier access.
3. You should always water your hanging basket by pouring water onto the pot tray.
4. Pot-grown climbers should be pruned during winter months for the first couple of years.
5. You can make your own support for climbers, however, thick materials should be avoided.
6. Container-grown climbing plants do not need any support to grow upwards.
7. Some plants can provide a natural form of support for climbers.

CONTAINERS – GROWING UP AND DOWN

No garden is complete without containers. They are a brilliant way of adding scent and flowers to parts of the garden where there aren't any beds, and perfect for growing plants when you've only got a balcony.

Eye-level interest can be created in a number of ways. Perhaps the easiest and most striking effects can be achieved with colourful hanging baskets, pot-grown flowering climbers and cleverly clipped topiary.

Container-grown climbing plants are ideal for hiding unsightly features, brightening up bare walls and softening hard edges of patios.

Hanging baskets

There's no reason why beds, borders and knee-high containers should hog the lime-light. You can surround yourself with colourful seasonal displays just by raising your sight a little higher. Hanging baskets can be used to liven up the duller section of wall or fence, bring new life to gloomy corners and provide the brightest of welcomes next to a front door. All too often, though, they are underused, with many being planted only for high summer. This is a shame because ivies, heathers and skimmia will produce an excellent display in winter and early spring, providing a perfect backcloth for displays of spring bulbs and seasonal plants such as pansies. The advantage of using hardy or perennial plants is that you can transfer them to the garden when you want to make a new look for your basket.

Hanging baskets make excellent use of 'dead' space. They can bring life and colour to empty areas where permanent planting may not be possible.

Planting up and watering

As with most jobs, preparation is all-important, so start by making a list of everything you'll need. Remember that hanging baskets always look best when tightly packed with plants, so don't be tempted to skimp. Choose those that give you a pleasing variety of heights, shapes, colours and forms.

Sit your empty basket over a bucket, then line it with moss or moss substitute. Add enough compost to fill one-third of the basket. Insert the first layer of trailing plants by poking them through, roots first, from the outside. Add another layer of compost and repeat the process just described. Add the last layer of compost, insert the final trailing plants as described, then plant up to the top of the basket with your chosen selection of plants.

Finally, fill the bucket with water and let the basket sit in it for an hour before hanging it up. Thereafter, regular and generous watering from the top is essential to keep hanging baskets looking good. You'll need to do it twice a day during the summer.

Going up!

Pot-grown climbers flourish perfectly well in containers, provided they are regularly fed and watered. Once established, you can train them to your desired shape. To create a plant with a standard stem usually 1.8m or 6ft high, train the main stem up a cane or similar support, removing any side branches each winter to leave the stem clear. When it reaches 1.8m (6ft) in height, remove the tip during the winter months so that new shoots can develop from the top buds. In the third winter, cut these shoots back by one-third to encourage a balanced top. In subsequent years, prune during the summer by cutting the new shoots back to 6cm (2½in).

Climbing aids

Support for climbing plants comes in two forms – either artificial (man-made frames or structures) or natural (other plants, either dead or living). Many forms of tripod-like structures, trellis or frames are available in kit form, or are quite simple to make

from canes or large-mesh chicken wire. The most important point is to avoid using thick materials or objects for plant supports, especially when growing annual or tender climbers, as they are unable to twine around thick posts or poles.

Evergreen plants, such as *pyracantha* or certain species of *ceanothus*, also make good natural supports for annual or herbaceous perennial climbers, as they offer a degree of frost protection through the winter.

Man-made frames are available in all shapes and sizes, from simple arches for climbing roses to animal outlines for adventurous topiary.

Interesting climbers:

- *Cobaea scandens*/cup-and-saucer vine/cathedral bells – large, bell-like flowers, green and violet-purple, height 4.5m (15ft); tender perennial.
- *Eccremocarpus scaber*/Chilean glory-flower – small, tube-like, orange-red flowers, height 1.8m (6ft); frost-hardy perennial.
- *Ipomoea hederacea*/ivy-leaved morning glory – large, trumpet-shaped flowers which are deep blue with a white centre, height 4m (12ft); annual.
- *Lapageria rosea*/Chilean bellflower – long, hanging bell-shaped flowers, light pink in colour, height 2.1m (7ft); frost-tender evergreen.
- *Lathyrus odoratus*/sweet pea – the sweet pea produces large flowers in a range of colours from white to deep burgundy red, height 2.7m (9ft); annual.
- *Lonicera splendida*/honeysuckle – the Spanish honeysuckle has small yellow, tube-like flowers, height 1.5m (5ft); hardy evergreen.
- *Passiflora caerulea*/blue passionflower – spectacular, large, saucer-like flowers, with greenish-white sepals and purple filaments in the centre of the flower, height 4m (12ft); frost-hardy, evergreen in mild winters.
- *Tropaeolum peregrinum*/canary-creeper/canarybird flower – unusual yellow petals, said to resemble an insect in flight, height 2.4m (8ft); tender.

Topiary

The art of transforming climbing shrubs into ornamental shapes is known as topiary, and you can have a lot of fun with it. Start with something simple, such as clipping a pot-grown box or bay tree into a ball-shape. After a bit of practice, the sky's the limit: you can create barley-sugar twists, stars, or even immortalise your cat.

Many garden centres sell differently shaped wire frames that you simply place over the bush you want to clip. Position the frame when your plant is still small enough to sit inside it. As it grows, you simply trim it to the shape provided by the frame.

Plants suitable for topiary include barberry (*Berberis darwinii*), bay (*Laurus nobilis*), box (*Buxus sempervirens*), delavay osmanthus (*Osmanthus delavayi*), privet (*Ligustrum delavayanum*) and yew (*Taxus baccata*).

2. Divide the plants listed in the box into two categories: trailing and upright.

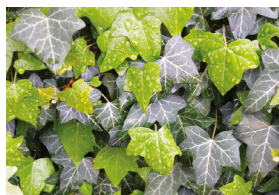
- *Impatiens*/touch-me-not/snapweed
- *Convolvulus sabatius*/blue rock bindweed
- *Artemisia*/mugwort/sagebrush
- pansy
- *Hedera helix*/common ivy
- *Helianthemum*/rock rose/frostweed
- *Verbena tenuisecta*/moss verbena
- *Pelargonium*/geranium
- *Vinca minor*/lesser periwinkle/dwarf periwinkle
- *Thunbergia alata*/black-eyed susan vine

Trailing	Upright

3. Match some of these plants with their pictures below.
What are their Polish names?



A. _____



B. _____



C. _____



D. _____

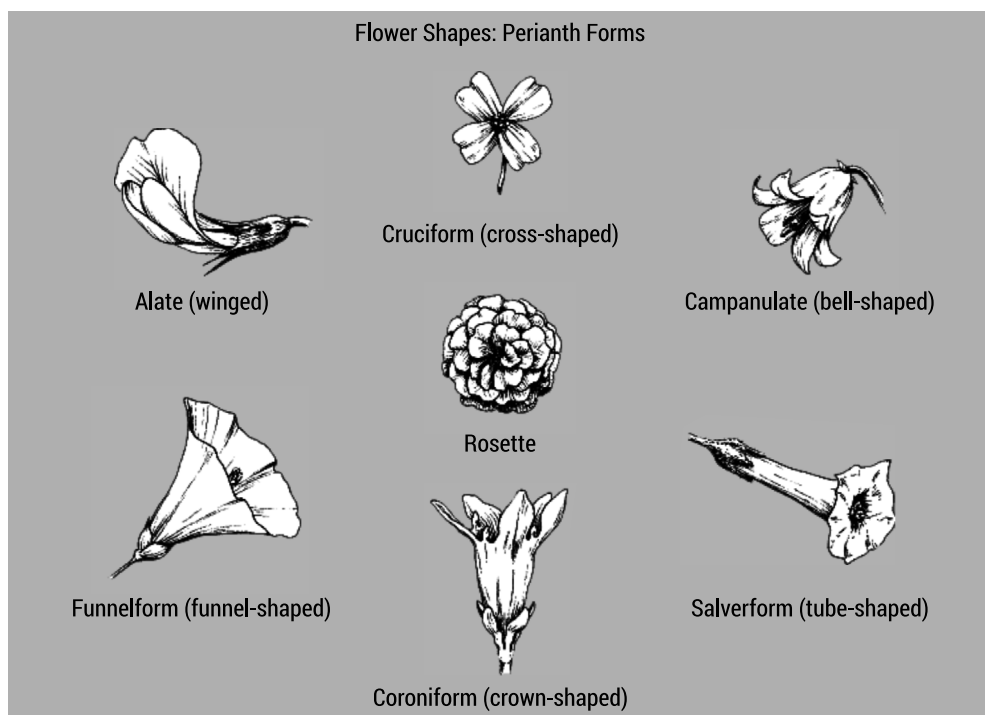


E. _____



F. _____

4. Study the diagram below and match the types of perianths with the pictures of plants mentioned in the reading section.
What are the Polish names of the plants?



A. _____



B. _____



C. _____



D. _____



E. _____

5. Match the types of perianths from the previous exercise with their descriptions below:

- a) composed of united petals forming a tube that spreads at the open end – _____
- b) having wings or winglike appendages – _____
- c) having the form of a crown or coronet – _____
- d) shaped like a bell – _____
- e) a radial arrangement of horizontally spreading petals – _____
- f) having the form of a funnel or cone – _____
- g) having the shape of a cross – _____

6. Match the topiary plants mentioned in the text about growing in pots (in the box) with their pictures and descriptions below.
What are their Polish names?

- Darwin's barberry (*Berberis darwinii*)
- bay laurel (*Laurus nobilis*) • common box (*Buxus sempervirens*)
- common yew (*Taxus baccata*) • delavay privet (*Ligustrum delavayanum*)
- delavay osmanthus (*Osmanthus delavayi*)



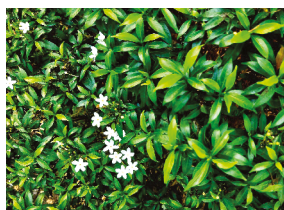
A. _____



B. _____



C. _____



D. _____



E. _____



F. _____

1. _____ – evergreen shrubs or small trees (to 5m or more), with simple, leathery, glossy oval or oblong opposite leaves and clusters of small, pale yellow flowers in the leaf axils followed by pale green to brown fruits, slow-growing, compact in habit.

2. _____ – deciduous or evergreen shrubs or small trees, with simple, entire, ovate leaves and panicles of small, often unpleasantly scented white flowers in spring or summer, followed by black or deep purple berries.
3. _____ – small evergreen trees or large shrubs of rounded habit, with dense, leathery, linear leaves, insignificant flowers and, on female plants, conspicuous fleshy red arils surrounding the solitary seeds.
4. _____ – dense, medium-sized deciduous or evergreen shrubs with spiny shoots bearing simple, often spine-toothed leaves, and small yellow or orange flowers in axillary clusters or drooping racemes, followed by small blue-black berries.
5. _____ – evergreen trees or large shrubs, with leathery narrowly ovate aromatic leaves in dense clusters, and small pale greenish-yellow flowers followed on female plants by black oval berries.
6. _____ – evergreen shrubs or small trees with leathery, opposite leaves and small, usually fragrant, tubular white, yellow or orange flowers with 4 lobes, followed by ovoid blue-black fruits.

GLOSSARY

- **topiary** – the art or practice of clipping shrubs or trees into ornamental shapes; shrubs or trees clipped into ornamental shapes (kształtowanie roślinności ogrodowej, ogród ze sztucznie kształtowaną roślinnością)
- **unsightly** – unpleasant to look at; ugly (szpetny, brzydki)
- **hog the limelight** – draw the focus of attention to oneself at the expense of others (zbierać laury, dyskredytując innych, być w centrum zainteresowania kosztem innych)
- **backcloth** – the setting or background (tło)
- **skimp** – expend or use less time, money, or material on something than is necessary in an attempt to economize (poskąpić)
- **flourish** – grow or develop in a healthy or vigorous way, especially as the result of a particularly congenial environment (kwitnąć, w sensie: dobrze, zdrowo rosnąć)
- **twine around sth** – wind or cause to wind round something (owijać się)
- **trellis** – a framework of light wooden or metal bars used as a support for fruit trees or creepers, typically fastened against a wall (treliarz, kratka)
- **trailing plants** – having a long stem which spreads over the ground or hangs loosely (rośliny płożące / rośliny pnące)
- **perianth** – the outer part of a flower, consisting of the calyx (sepals) and corolla (petals) (okwiat)
- **aril** – an extra seed covering, typically coloured and hairy or fleshy, e.g. the red fleshy cup around a yew seed (osnówka)
- **axil** – the upper angle between a leaf stalk or branch and the stem or trunk from which it is growing (pachwina liścia, kąt liścia) → axillary (adj)

References:

- [1] A. Titchmarsh, S. Bradley, *Ground Force Weekend Workbook*, BBC Worldwide Limited, London 1999
- [2] <https://en.oxforddictionaries.com> (retrieved: 18.11.2017)
- [3] <http://dictionary.reverso.net/> (retrieved: 18.11.2017)
- [4] <https://www.merriam-webster.com> (retrieved: 18.11.2017)
- [5] <https://www.rhs.org.uk/Plants> (retrieved: 18.11.2017)

Beneficial Insects and Garden Pests

I. Warm-up

Discuss these questions in pairs:

1. Are you interested in insects in general or do you find them repelling? Are you afraid of them or do you consider them fascinating? Why?
2. What are beneficial insects? Can you name any?
3. What pests may endanger your garden? How can their number be limited in an eco-friendly way?

II. Reading

1. Read the text about beneficial insects and mark the statements True or False:

1. Most insects in your garden are pests. T / F
2. Parasitizers paralyse their victims. T / F
3. Ladybug larvae voraciously feed on aphids. T / F
4. Praying mantis can limit the number of pollinators in your garden. T / F
5. Ground beetles are beneficial in all stages of development. T / F
6. Robber flies feed on human blood. T / F
7. You should let parasitized caterpillars stay in your garden. T / F
8. In a garden, beneficial insects usually appear after pests. T / F
9. Flowering vegetables and herbs attract many beneficial insects. T / F
10. Chemical pesticides kill only pests. T / F

BENEFICIAL INSECTS IN THE GARDEN

Attract the Bugs That Are Good for Plants!

What Are Beneficial Insects?

The average backyard is home to thousands of insects, but you may be surprised to learn that only about a tenth of these are destructive. In fact, most are either beneficial or harmless. Beneficial insects fall into three main categories:

1. **Pollinators:** We depend on these insects—including bees, butterflies, flies, and moths—to pollinate our garden's flowers.
2. **Predators:** These insects eliminate pests by eating them. Things like ladybugs, praying mantis, and green lacewing larvae fall into this category.

3. **Parasitizers:** Like predators, parasitizers also prey upon other insects, but in a slightly different way. They lay their eggs on or in the bad bugs, and when the eggs hatch, the larvae feed on the host insects. Parasitic wasps are the main member of this category.

Meet the Beneficial Bugs in Your Backyard

Everyone knows their bees from their butterflies, but what about the many other beneficial bugs? It's likely that you've already seen these good guys in your garden, but maybe you weren't formally introduced. Here are a few you might want to become acquainted with:

Ladybugs

Despite their delightful name and appearance, ladybugs are ferocious predators! Before they get their bright red colours, they start out life as larvae, cruising around on plants and feasting on aphids. Did you know that a ladybug larva can eat up to 40 aphids an hour?

Green Lacewings

Adult green lacewings feed on pollen and nectar, but their larvae, which look like a mix between a slug and an alligator, prey upon soft-bodied garden pests, including caterpillars and aphids.

Praying Mantis

A praying mantis will make short work of any grasshoppers that are troubling you; these fierce predators will also hunt many other insect pests that terrorize gardens, including moths, beetles, and flies. Note, however, that praying mantis are ruthless and will also eat other beneficials, like butterflies, bees, and hummingbirds—and even each other!

Spiders

Spiders—though technically arachnids rather than insects—are often overlooked as beneficial, but they are very effective pest controllers. Since they are attracted to their prey by movement, they eat many live insects. Jumping spiders and wolf spiders are especially good at keeping pests under control.

Ground Beetles

“Ground beetles” is the name of a large group of predatory beetles that are beneficial as both adults and larvae. They will eat a wide range of insects, including nematodes, caterpillars, thrips, weevils, slugs, and silverfish. While insects like Japanese beetles should be controlled in the garden, don't crush every beetle you see!

Soldier Beetles

Soldier beetles are an important predator of Mexican bean beetles, Colorado potato beetles, caterpillars, and aphids. Like many beneficials, they are attracted to plants that have compound blossoms, such as Queen Anne's lace and yarrow.

Assassin Bugs

Assassin bugs look like a strange mix between a praying mantis and a squash bug. They use their sharp mouthparts to prey upon many different types of insect pests in the garden. In their adult form, they can be mistaken for squash bugs, so look carefully before you squish something!

Robber Flies

With their extra-long legs, robber flies are bug-eating machines that we're thankful to have on our side. They may look intimidating, but unlike horseflies, they do not attack humans (although they are capable of biting when threatened). Instead, they go after a number of common garden pests. Try not to shoo this fly!

Hoverflies

Another good fly to have in your garden, the hoverfly looks like a tiny yellow-jacket without a stinger. They feed on pollen and nectar and are extremely important pollinators. Their larvae are voracious predators, killing aphids, caterpillars, beetles, and thrips by sucking the juice from their victims.

Parasitic Wasps

Parasitic wasps are very tiny, so you probably won't see them at work. However, they are a very effective pest control.

- **Brachonid wasps** lay their eggs on the backs of tomato hornworms and other caterpillars, forming those white cocoons you see on the caterpillar's back. If you see a parasitized caterpillar, don't kill it. Instead, move it to elsewhere in your garden. The wasp larvae will take care of them for you and turn into more wasps, who will continue to do their good work in your tomato patch.
- **Trichogramma wasps** are minuscule wasps (several of them can fit on the head of a pin) that lay their eggs inside the eggs of over 200 different insect pests, preventing the pests' eggs from ever hatching in the first place.
- **The tachinid fly** looks like just a small housefly, but is an active parasitizer of corn borers, gypsy moth caterpillars, grasshoppers, Japanese beetles, Mexican bean beetles, squash bugs, and green stinkbugs.

Attracting Beneficial Insects

Like all living creatures, beneficial insects have a basic need for water, food, and shelter. By providing these things, your garden will become an inviting home for them.

A diversity of plants will attract a wide range of insects. Many beneficials appear in the garden before the pests do and need alternative food sources such as pollen and nectar if they are to stick around.

- **Early-blooming plants, especially ones with tiny blossoms like alyssum, or biennials such as carrots or parsley** that have been left to bloom, will help draw beneficials to your yard in the spring.
- Later, they will be especially attracted to plants with **compound blossoms such as yarrow, goldenrod, and Queen Anne's lace** and **flowering herbs like lavender, mint, sage, dill, fennel, and lemon balm.**

Remember that if you resort to using chemical pesticides to control insects, you will often kill good and bad bugs alike. Even the so-called "natural" pesticides like pyrethrum and rotenone will kill many beneficial insects.

In her book *Green Thoughts* Eleanor Perenyi writes, "Every insect has a mortal enemy. Cultivate that enemy and he will do your work for you."

III. Match the names of beneficial insects and arachnids in the box with the pictures below. What are their Polish equivalents?

- bumblebees • ladybugs • green lacewings • moths
- praying mantis • wolf spiders • ground beetles
- soldier beetles • assassin bugs • flies • robber flies
- hoverflies • parasitic wasps • butterflies • bees



A. _____



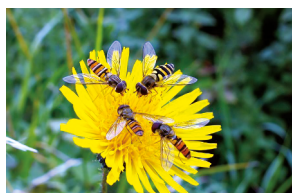
B. _____



C. _____



D. _____



E. _____



F. _____



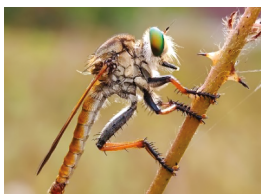
G. _____



H. _____



I. _____



J. _____



K. _____



L. _____



M. _____



N. _____



O. _____

IV. In the reading there are numerous names of pests (not only insects), many of which are found throughout Poland. Match their names in the box with the pictures below. What are their Polish equivalents?

- aphids • caterpillars • nematodes • thrips • weevils
- slugs • Japanese beetle • Colorado potato beetle
- green stink bug/green shield bug



A. _____



B. _____



C. _____



D. _____



E. _____



F. _____



G. _____



H. _____



I. _____

V. Match garden pests in the box with the type of damage they cause

- | |
|--|
| <ul style="list-style-type: none"> ● grasshoppers ● thrips ● green stink bug/green shield bug ● slugs ● aphids ● Japanese beetle |
|--|

- Chewing holes in the leaves (often devouring much of the foliage); in late summer when the adults stop feeding, the larvae (grubs) damage grass by eating the roots. Host plants: roses and many other plants.
- Decreased growth rates; mottled leaves; yellowing, stunted growth; curled leaves; browning; wilting; low yields and, eventually, death of a plant. Along with the loss of plant juices from direct feeding, these pests can spread diseases. Host plants: ornamental trees and shrubs, including roses.
- Their feeding on leaves causes white patches or streaks; they may also carry and transmit viruses. Host plants: flowers.
- Making feeding wounds which often leads to wet rot. Host plants: mainly vegetables, fruit trees and shrubs.
- Chewing holes with smooth edges in leaves and fruits (small seedlings can be consumed entirely). The feeding is most intense at night or during periods of rainy weather. Host plants: wide range of plants, different plant tissues are damaged.
- Chewing large holes in leaves. When the populations are high, they can devour garden plants. Host plants: crops, sometimes garden plants.

GLOSSARY

- **larva** (plural: larvae) – the immature, wingless, and often wormlike feeding form that hatches from the egg of many insects (larwa)
- **pollinator** – an agent (such as an insect) that pollinates flowers (tu: owad zapy-lający)

- **hatch** – to emerge from an egg, chrysalis, or pupa (wylęgać się)
- **mouthpart** – a structure or appendage near the mouth (as of an insect) especially when adapted for use in gathering or eating food (narząd gębowy)
- **stinger** – a sharp organ (as of a bee, scorpion, or stingray) that is usually connected with a poison gland or otherwise adapted to wound by piercing and injecting a poison (żądło)
- **grub** – a soft thick wormlike larva of an insect (such as a beetle) (pędrak)
- **mottle** – to mark with spots or blotches of different colour or shades of colour as if stained (cętkować, upstrzyć)
- **stunt** – to hinder the normal growth, development, or progress of (zahamować rozwój)
- **wilt** – a disorder (such as a fungus disease) of plants marked by loss of turgidity in soft tissues with subsequent drooping and often shrivelling (więdnięcie)

References:

- [1] <https://www.almanac.com/beneficial-insects-garden> (retrieved: 14.06.2022)
- [2] <https://bigbughunt.com/bug-guides/us-and-canada/bug-index.aspx> (retrieved: 15.09.2022)
- [3] <https://www.merriam-webster.com> (retrieved: 15.09.2022)

Landscape with Trees

I. Warm-up

Discuss these questions in pairs:

1. Make a list of all the names of different species of trees and shrubs that you remember. Which are particularly suitable for planting in the home landscape?
2. What are the benefits of landscaping with trees?

II. Reading

1. Read the text and mark the statements True or False:

Designing a Landscape with Trees

Plants are some of the easiest (and most sustainable) ways to make a landscape more vibrant and welcoming. Planting the right tree for the right place helps ensure that your tree will live a healthy life for years to come. The most successful designs are those that are planned and take climate and environmental factors into consideration.

The Right Tree for the Right Place

This guide will help you get started on creating a healthy and functional yard using trees and shrubs.

Plan Before you Plant

What do you want? Before you can narrow down your tree selection determine why you are planting a tree. Here are some of the most common reasons trees are planted in the home landscape.

- **Shade:** Do you want to add shade to your yard? Pick a tree with a broad canopy that will cast a big shadow.
- **Beauty:** If you want to enhance your curb appeal, consider planting something with vibrant colour or unique texture. Ornamental and flowering trees are a great start.
- **Food:** There is great satisfaction in harvesting your own fruits, nuts, or citrus trees. And you don't have to wait 10 years to reap the benefits. Many fruit trees are available in dwarf varieties and can bear fruit in as little as 3-5 years.

- **Privacy:** Trees work well as a privacy screen and soften harsh landscapes. They also last longer and are more affordable than installing a traditional fence. With so many fast-growing privacy tree options, it's hard not to add more green to your yard.
- **Habitat:** Wildlife are a sure way to bring life to any landscape. Whether its birds, deer, squirrels, or rabbits, there is a tree for every critter.

Ask an Arborist: Why Should I Plant Evergreens?

Once you know why you are planting a tree, you can start browsing trees from that category that will help you accomplish what you want.

DIY: A Beginner's Guide to Landscaping

Selecting your Trees

There are numerous factors to consider when picking the right tree for the right place. Not only do you need to select a tree that is compatible in your hardiness zone, but you must keep in mind other factors that will affect your tree's health.

- **Sun exposure:** How much or how little sun your tree requires will help determine which side of your house to plant on, or which tree is suitable for your designated planting site. Ignoring sun exposure can result in a tree that wilts out from leaf scorch or a tree that dies from not being able to photosynthesize.
- **Location:** As the saying goes, "look up, look down, look all around." How big will your tree get at maturity? How far will the roots spread? Select a space that is appropriate for the size of your tree when it reaches *maturity*. And remember, not to plant too close to houses, utility lines, driveways, and other structures that can be damaged.
- **Pro Tip:** If you're not sure how far to plant from structures, a safe rule is to divide the mature spread of the tree in half and plant it that distance away from your home. If your tree will reach 40 feet high, then plant it approximately 20 feet away from your house. Always err on the side of caution.
- **Moisture:** Another key factor to consider at your planting site is the amount of moisture your tree will get. Make sure to plant in a space that has adequate drainage and will receive enough moisture when watered.

Ask an Arborist: How do I Choose a Nursery Tree?

Designing your Landscape

Once you've selected the appropriate planting site and tree(s), it's time to design your landscape. Trees and shrubs pair well together to add texture and dimension to your landscape. Diversity is key when it comes to planting. Opt for a variety of species and inter-plant them to reduce the chance of pests and disease. Native species tend to do better in terms of life longevity and health. Plant diversity is healthier for your trees, but it also creates stunning designs.

Brighten your Landscape with a Rain Garden

As you're designing your landscape, think about the colour and form the trees and shrubs will grow into. Don't be afraid to mix evergreens with deciduous trees and shrubs.

Pro Tips

- Mulch your trees after they are planted. Not only will it make your tree stand out, but mulch is important to retaining moisture in the soil and preventing the spread of disease.
- Incorporate (existing) mature trees and (new) young trees into your design.
- Plant species that are compatible with one another including shade-loving species that will thrive under the shade of a tree.

There are so many benefits to landscaping with trees. In addition to creating a striking landscape, your trees will increase your property value, lower home cooling and heating costs, remove pollutants from the air, cut stormwater runoff, and help lower stress. Planting a tree is a small act with a big impact.

1. Planting trees is one of the environmentally-friendly ways to enhance the look of your garden. T / F
2. You shouldn't expect to harvest fruit from your garden in the first few years. T / F
3. While selecting what trees to plant in your garden you should consider average annual minimum temperature in your geographic area. T / F
4. It's necessary to visualize how a tree will look like at its mature stage before you plant it. T / F
5. The type of soil in the garden is not a factor to consider during designing the landscape. T / F
6. Indigenous species usually live longer and grow better than alien ones. T / F
7. There is a rule not to mix conifers with broad-leaved trees. T / F
8. Mulching trees improves their health. T / F
9. Having trees in your garden can influence its monetary value. T / F
10. Trees growing in the vicinity of a house can cause higher heating bills. T / F

III. Read the short text about trees and shrubs, and fill the gaps with the words in the box below

- stems • foliage • turn • density • fleshy • shed
 - deciduous • accents • perennials • remain • screens
 - woody • fragrant

Trees are 1. _____, usually with woody trunks, multiple branches and rich 2. _____. It is easy to differentiate between a tree and a herbaceous plant because the latter has a 3. _____ stem, however, it may cause a problem to explain what

the difference between a tree and a shrub is. Generally speaking, shrubs are also perennial 4. _____ plants but they usually have more than one stem and they do not grow as high and do not live as long as trees. Due to a number of 5. _____ the shape of shrubs is different than the shape of trees, which are rather rounded with spreading branches. It is worth pointing out that some trees can be grown as shrubs, especially in urban area (e.g. hornbeam).

The main division of the trees growing in Poland is into 6. _____ (also called broad-leaved) and coniferous ones. Deciduous trees usually 7. _____ their leaves in the autumn, while conifers are evergreens (their needle-like leaves 8. _____ throughout the year). Another categorisation is into angiosperms and gymnosperms. One may also consider the 9. _____ of wood and divide the trees into two classes: hardwood (higher density) and softwood (lower density).

In landscape architecture both trees and shrubs can functions as 10. _____ (hiding unattractive views), background (creating a setting for other plants) or 11. _____ (becoming the main feature of a panorama). A tree can provide shade to a bench or swing, or muffle noise from a nearby street. Many trees and shrubs produce colourful and/or 12. _____ flowers, edible or attractive-looking fruit, or 13. _____ colour in autumn adding visual interest to a landscape.

Most trees' and shrubs' names are made up of two words, e.g. black poplar, however, often the first part is skipped, especially in case of names with the words "black", "common", or "European" etc. We simply say "poplar", "spruce" or "hornbeam", unless we want to be specific (exception: black locust – probably because the word "locust" on its own is a type of an insect).

IV. Fill the chart with missing English and Polish names of trees and shrubs. Latin names are provided

1.	<i>Alnus glutinosa</i>	olsza czarna
2. black elder / common elder	<i>Sambucus nigra</i>	
3.	<i>Robinia pseudoacacia</i>	robinia akacjowa
4. black poplar	<i>Populus nigra</i>	
5.	<i>Betula pendula</i>	brzoza brodawkowata
6. common elm	<i>Ulmus campestris</i>	
7.	<i>Corylus avellana</i>	leszczyna pospolita
8. dog rose	<i>Rosa canina</i>	
9.	<i>Pseudotsuga menziesii</i>	daglezja, jedlica
10. European ash	<i>Fraxinus excelsior</i>	
11.	<i>Fagus sylvatica</i>	buk zwyczajny

12. European hornbeam	<i>Carpinus betulus</i>	
13.	<i>Larix decidua</i>	modrzew europejski
14. ginkgo / maidenhair tree	<i>Ginkgo biloba</i>	
15.	<i>Juniperus communis</i>	jałowiec pospolity
16. mountain pine	<i>Pinus mugo</i>	
17.	<i>Acer platanooides</i>	klon zwyczajny
18. Norway spruce	<i>Picea abies</i>	
19.	<i>Quercus robur</i>	dąb szypułkowy
20. rowan	<i>Sorbus aucuparia</i>	
21.	<i>Pinus sylvestris</i>	sosna pospolita
22. sessile oak	<i>Quercus petraea</i>	
23.	<i>Abies alba</i>	jodła pospolita
24. small-leaved linden	<i>Tilia cordata</i>	
25.	<i>Pinus cembra</i>	limba
26. sycamore maple / sycamore	<i>Acer pseudoplatanus</i>	
27.	<i>Juglans regia</i>	orzech włoski
28. white willow	<i>Salix alba</i>	

V. Work in Pairs

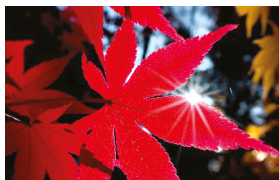
Student A: describe a tree or shrub from the list above (form: round / spreading / pyramidal / oval / conical / vase / columnar / weeping / irregular; shape of leaves / needles; colour of bark; root system – deep / shallow; hardwood / softwood; leaves turn colour / leaves are shed / evergreen; fun facts etc.). Do not mention the name.

Student B: guess the name of the tree / shrub described by Student A.

VI. Match the pictures below with proper names in the box.

Provide Polish translation

- common yew • crab apple • cypress • eastern redbud
- forsythia • hawthorn • Japanese maple
- jasmin • magnolia • sea buckthorn • thuja



A. _____



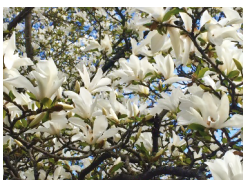
B. _____



C. _____



D. _____



E. _____



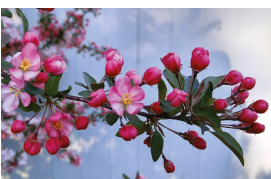
F. _____



G. _____



H. _____



I. _____



J. _____



K. _____

GLOSSARY

- **curb appeal** – the visual attractiveness of a house as seen from the street (atrakcyjność zewnętrzna domu od strony ulicy)
- **dwarf** – an animal or plant much below normal size (skarłowaciały, niskopienny)
- **critter** – (informal) an animal (stworzenie, zwierzak, istota)
- **wilt** – to lose turgor from lack of water (wiednąć, uschnąć)
- **leaf scorch** – any of various plant diseases or conditions characterized by a burned or scorched appearance of the foliage (brązowienie tkanek roślinnych)
- **inter-plant** – to plant a crop between (plants of another kind) also: to set out young trees among (existing growth), (sadzić/siać pomiędzy już rosnącymi okazami)
- **thrive** – to grow vigorously (dobrze się rozwijać)

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- [1] <https://arbordayblog.org/landscapedesign/designing-a-landscape-with-trees/> (retrieved: 13.06.2022)
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The Japanese Garden

I. Warm-up

Discuss these questions in pairs:

1. Do you know what the main purpose of the Japanese Garden is?
2. What are the rules of Japanese Garden design?
3. What are a few examples of plants typical for the Japanese Garden?

II. Reading

1. Read the text and mark the statements True or False:

TEN QUESTIONS FOR GARDENS OF JAPANESE INSPIRATION

The purpose of Japanese Garden art is to create an image of Infinite Presence which is Nature, with apparently limited means.

Tsuyoshi Tamura, Japanese writer, 1935

Zen Garden: no flower, no path: where is man? In the carrying of the rocks, the raking of the sand, the act of writing...

Roland Barthes, French philosopher, 1970

What was the original purpose of this garden and how is it used now?

However small, the Japanese garden meets a deep spiritual need: it maintains human harmony with cosmic forces. All of its details have a ritual use. The great traditional gardens, closely linked to calligraphy, painting and poetry, were made for emperors and aristocrats ('lake-and-island' pleasure gardens) or monks (meditation temple gardens, country retreats which after 1600 became ceremonial tea gardens). For centuries, refined 'gentlemen of leisure' designed garden art implemented and maintained by a caste of **artisan**-gardeners. Tsuyoshi Tamura, writing for the Garden Club of America in 1935, complained that Western fashions were promoting gardens as 'a pleasant place for rambling and exercise' or, worse, an 'outdoor living room for women and children'. The challenge today is to combine various contemporary needs – both public and private – with ancient spiritual function.

How does the local climate affect light, shadow and colours?

Japanese writers link Zen meditation to 'Nature's twilight profundity'. 'Gloomy', 'dusky', '**murky**' – these are all terms of praise. The filtered light and mists of such a 'rain-washed' country inspire poetry celebrating moonlight and the sound of rain on foliage. Kyoto monastery gardens were re-sanded by moonlight, torrents directed to catch the moon's reflection. Western mythologies seek light, cast out dark; here they are 'yin' and 'yang', the ink and the white page, fullness and void, both essential. Colours, especially in the Zen garden and tea gardens, are **muted**, worn or 'tarnished', bearing witness to slow weathering, a 'harmony of dusky green and grey welling out of their ancientness.' 'This dusk is worth all the ornaments in the world', writes the essayist Junichiro Tanizaki. White in the Japanese garden is soft: the rice and the pebbles of Shinto shrines, moonlight, cherry petals or raked sand.

How are differences of scale used in this garden, and what vantage point do you perceive them from?

Traditional Japanese gardens were experienced as 'miniature worlds of beauty' reproducing 'a symbolic space co-extensive with all heaven and earth', whether they had lakes large enough for boating or were concentrated in a bonsai on a tray. Zen gardens use metaphor to produce quintessence – a stone is a mountain, raked sand becomes the ocean. Such a garden was a picture to be contemplated in its entirety from a single viewpoint on the same level. Many contemporary Japanese homes still observe this plan: the garden is quietly appreciated from the living room. 'Stroll' and tea gardens – not domestic but religious categories – invite visitors to move ritualistically through garden space. Often a **veranda** or covered walkway offers pre-arranged viewpoints which change as you progress. Instead of one picture, you have a series on an unfolding scroll.

How is the garden space related to adjacent buildings and the landscape beyond?

Traditionally, buildings and garden interpenetrate. There are covered walkways and garden **pavilions** in the lake and island parks and ceremonial tea-houses in the stroll gardens, while the sliding partitions of private homes make the garden an 'outdoor room' adaptable to shifting seasons. The garden is as important as the house, and has its own integrity. The straight lines and right angles of architecture provide a necessary frame and backdrop for miniature landscapes that use mainly curves. Beyond the long straight back wall, however, rises the *shakkei*, the famous 'borrowed landscape' of trees or a mountain peak visible afar. In stroll gardens, this will be carefully framed by branches or other landscape features to create links between the near and the far. Are there 'views' here, and if so, how are they brought into the overall experience?

What kinds of paths are open to you and where do they take you?

The garden gate hides what is beyond but invites you to discover it. Your freedom is limited, however: 'The direction of the circuit around the lake is always one way, and the viewer is not supposed to wander away from the footpath or to take wilfully

the **inverse** course, since the composition is set in perfect accord with the circuit.' The visit is a ritual, orchestrated like a piece of music which you would never play backwards or submit to individual variation. Yet you help perform it by accepting, for example, irregular stepping stones and curving paths that literally make you watch your step: walking in a Japanese-inspired garden is always 'a series of tests and sensations', says the French garden writer Jean-Paul Pigeat, who adds, 'the changes of direction to unveil something new are one of the Japanese garden's most profound features'. Broad or long perspectives are excluded: 'In the Japanese garden the vista must be closed, so as to suggest the depth of the earth and the invisible distance of heaven.'

What role does rockwork play in this garden?

It is rockwork that 'tells most clearly the soul of the garden artist'. Horizontal, vertical and diagonal placement is a question of period, type of garden, and the complex symbolism of yin and yang. Mineral elements vary from raked sand, **pebble** cascades, the graphic paving of Zen walkways to dramatic miniature stone mountains. Ceremonial tea gardens use more 'natural' rockwork, carefully evoking random strewing. Rocks are often brought from afar but must be set as they were, half buried, in their place of origin. The famous 12th-century gardening manual still used today, the *Sakutei-ki*, recommends: 'Do not place stones too abruptly, or with too much sophistication, but let them be a little bit vague.' Westerners unfamiliar with the religious context appreciate them as sculpture. But each remains individual; Western designers like Dan Pearson, working in Japan, find that drystone wall are an alien concept.

Are there plants in this garden and if so, how are they used?

The mostly mineral Zen garden style remains intemporal, with moss at best, whereas the landscape, stroll or tea gardens enjoy the rich symbolism of seasonal change – the pine and bamboo together in winter, for example. Flowers, much loved in the art of Ikebana, are present in gardens mainly as shrubs and trees – peonies, azaleas, flowering cherries in spring, foliage colour in autumn, against a constant green background. Dwarf bamboos, moss, ivy, pachysandra, ferns, zoysias, etc., cover a garden floor rarely walked on. Conifers and broadleaf evergreens may be highly pruned – the first according to natural growth habit into 'clouds', the latter into waves and rounded shapes. **Clipped** greenery here catches raindrops, frost, and occasional snow. It helps define space, along with graphic plants such as bamboos, cycas, fatsias; but plant groupings also mark ritual passage of time. Each season has its complex symbols, again perceived by Westerners in purely aesthetic terms.

How is water present, directed, enjoyed, symbolised?

Waterscapes – calm or cascading – lend themselves to miniaturization, whether they suggest 'ocean, lake, pond, marsh or mere stream'. Points of origin and run-off are often included in the picture. Stones were traditionally selected for their capacity to evoke an ocean, river, mountain stream or marshland. The famous Zen dry

gardens, the *kare-san-sui*, represent water with pebbles or sand, not from economy or conservation but as a higher degree of abstraction from the model, an evocation of life immobilized, eternalized. The inimitable Ryoan-ji in Kyoto, says the historian Michel Baridon, 'carries the spirit towards meditation as the Buddhists intended it, by raising the mind beyond the confusion of mere appearances'.

Is this garden formal, or asymmetrical, or is there a dominant focal point?

Traditional Japanese gardens must observe many rules about triangular organization with groups of threes and fives and sevens, informality resulting from elongated triangles. Visitors may merely sense rather than understand these effects. Straight lines and right angles are rare. Such counterpoint precludes any central focus, so that each element signifies only in relation to the others. The sculptor Richard Serra noted in Kyoto that 'the layout of the gardens is based on the perceptual principles of time, meditation and motion. This concept of space is essentially different from our western concept which is based on central perspective and arranges all objects on a line emanating from the eye of a static viewer. In the Zen gardens, directions, continuity and paths work together to deny a fixed measure. Junichiro Tanizaki concurs: 'Beauty is not a substance in its own right but a simple play of shadows, of light and dark produced by the juxtaposition of various substances.'

If this garden is contemporary, or not in Japan, how have traditions been observed and translated into a modern idiom?

The Japanese-American sculptor Isamu Noguchi claims that 'the Japanese tradition allows for the greatest latitude'. Western modernists and minimalists appreciate Japanese enthusiasm on form-defining space, especially asymmetrical formalism. Some, like Noguchi, pursue the abstraction and reduction of natural energies; others, Eastern and Western, extend exploration into theories of chaos and fractal geometry. For the architect Tadao Ando, architecture is 'order abstracted from nature. It is light, sky and water made abstract.' Western ecologists appreciate the Japanese 'osmosis' between humankind and the biosphere, though they reject symbolic miniaturization (especially bonsais). The best Japanese-inspired gardens today explore metaphysical space rather than copying ornamental detail. One stone lantern does not a Japanese garden make, especially when such objects become merely decorative.

Two views

This is what the Japanese do to perfection. They sit snug under a roof on silky mats with paper screens to deflect the **draughts** as the rain anoints, then polishes, then seeps into the landscape. Around them aucubas glisten, maples nod and bamboos bow, while the rivulets of rain form into preordained pools in the moss.

Hugh Johnson, British garden writer, 2002

In the West, once Judeo-Christian beliefs replaced ancient ones, man found himself in the centre of the world, chosen by God to dominate and enslave with nature for his own uses. The image of Paradise thus created, marked by man's authority, was a highly organized, structured garden where nature was tamed, obedient, her bounties and pleasures reserved to those selected to enjoy them for eternity. In the East, man's role in the universe is perceived quite differently: he is merely one among all the elements which compose the world and shares with all the others a fragment of divine being. This sense of unity, globality, can be found in all philosophic and religious currents which, from India to Japan, have crossed Asia and informed its special sense of nature. Thus eastern landscapes are inspired by wild and remarkable places, real or mystical, regions inhabited by the gods.

Erik Borja, French designer, in *Zen Gardens: Space and Illusion*, 2000

1. In the Japanese garden every little detailed has meaning. T / F
2. The Japanese garden favours vibrant colours. T / F
3. One is encouraged to move freely in the Japanese garden. T / F
4. Japanese garden space and nearby buildings merge together. T / F
5. Visitors to the Japanese garden must be subject to some rules, for example following the footpath, or exploring it in a particular direction. T / F
6. The placement of rocks in the Japanese garden should be spontaneous to give it a natural look. T / F
7. The choice of plants in the Japanese garden emphasizes the passage of seasons. T / F
8. Mineral materials are often used to symbolize various forms of waterscapes. T / F
9. The layout of the Japanese garden is designed with a central focus and a static viewer in mind. T / F
10. When designing your own Japanese garden you should focus on the use of Japanese-style ornaments. T / F
11. Eastern beliefs view man as an authoritarian figure empowered to dominate the natural world. T / F

2. Match the words in bold with their definitions below

- a) a current of cool air in a room or other confined space – _____
- b) dark and gloomy – _____
- c) a small stone made smooth and round by the action of water or sand – _____
- d) a landscape in which an expanse of water is a dominant feature – _____
- e) someone who does skilled work with their hands, craftsman – _____
- f) a large, open structure or tent, providing shelter – _____
- g) not bright – _____
- h) cut or cut off with or as if with shears – _____
- i) a usually roofed open gallery or portico attached to the exterior of a building – _____
- j) opposite in order, nature, or effect – _____

3. Match the types of Japanese Garden in the box to the pictures below.
Choose the best description for each type

- Karesansui (Rock, Dry, Zen Garden)
- Tsukiyama (Hill and Pond Garden)
- Kaiyushiki-teien (Stroll Garden) ● Chaniwa (Tea Garden)
- Tsuboniwa (Courtyard Garden)



A. _____



B. _____



C. _____



D. _____



E. _____

1. A beautiful garden designed in the Edo period (1603–1867) for a leisurely stroll along its winding circular path, which is walked clockwise. This garden typically contains a pond, islands, trees, artificial hills and rocks, as well as features from other styles of gardens. Beautiful views can be admired from different viewpoints when visiting _____.

2. Like the Hill Garden, a _____ is bigger than a Zen Garden, and features a path often made of stepping stones leading to a tea ceremony house. _____s reached the height of their development during the Azuchi-Momoyama Period (1573–1603) when the tea masters refined their design by embodying them with the spirit of “wabi”, or rustic simplicity. The garden is made up of an inner and outer garden, with guests using a stone basin (tsubaki) for ritual cleansing when entering the inner garden through the middle gate. Stone lanterns provide both effective lighting and an atmospheric decorative element.
3. The _____ consists mainly of carefully arranged rocks of varying shapes and sizes surrounded by sand. Flowing sand and gravel are used to represent the sea or rivers, while rocks embodies an island. The garden represents the spiritualism of Zen Buddhism, and provides a space and simplicity that’s ideal for meditation. The _____ was introduced in the 14th century when military rulers embraced the newly introduced Zen Buddhism, which had a strong influence on garden design.
4. The small space often found between Japanese buildings can be turned into a scenic beauty spot known as a _____, made up of simple arrangements with elements from Zen, Hill and Tea Gardens. In the past many traditional samurai properties boasted _____s, as did various Japanese merchants. Today they are more likely to be found in temples, and the residences of aristocrats. They were introduced in the Heian period and developed into the Edo (1603-1867) era. What’s evident is that Japanese gardens are designed to capture natural beauty through simplicity, and to represent the serenity of Japanese natural landscapes. Each garden is a place for peacefulness and meditation that one often seeks to recreate.
5. _____ refers to the creation of man-made hills, and is a classic type of Japanese garden that embodies a miniature of natural scenery. Hills, ponds, streams, stones, bridges, flowers, plants and long winding paths can all be found in a _____, with the aim to facilitate a peaceful stroll. It is typically larger than the Zen Garden.

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- [1] L. Jones, *The Garden Visitor’s Companion*, London 2009, s. 166–181
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Key

Gardening basics

II.1 1. annuals, 2. perennials, 3. spot, 4. shade, 5. hose, 6. compost, 7. layer, 8. samples, 9. roots, 10. moist, 11. beds, 12. adapted, 13. sunflowers, 14. tomatoes, 15. frost, 16. sow, 17. transplants, 18. watering, 19. needles, 20. pull

II.2 1. about six hours of full sun, 2. creeping charlie (bluszczyk kudybanek), przykładowe chwasty: perz – couch grass / quick grass / dog grass / witch grass; podagrycznik pospolity – ground elder / bishop's weed / goutweed / snow-in-the-mountain; pokrzywa – (stinging) nettle; mniszek – dandelion; koniczyna – clover, 3. compost, decayed leaves, dry grass clippings, or old manure; not necessarily – you can leave the organic matter on the surface and it will gradually work its way into the soil, 4. see: step 5, 5. midspring and midautumn, 6. yes, but only seedlings and new transplants, 7. a mulch that decomposes quickly

Extra activity: sunflower – słonecznik, cosmos – kosmos, marigold – aksamitka, zinnia – cynia, impatiens – niecierpek, geranium – geranium/pelargonia, calendula – nagietek, lamb's-ear – czyściec wełnisty, phlox – floks, black-eyed susan – rudbekia owłosiona, pansy – bratek/fiołek ogrodowy, Russian sage – perowskia łobodolistna, daylily – liliowiec/dziennica, purple coneflower – jeżówka purpurowa, lettuce – sałata, cucumber – ogórek, tomato – pomidor, pepper – papryka

III. A. shovel (łopata), B. spade (szpadel), C. rake (grabie), D. digging fork (spading fork) (widły szerokozębne), E. hoe (motyka), F. lawn rake (fan rake) (grabie wachlarzowe, grabie do trawników), G. small hand cultivator (pazurki), H. hand fork (widełki), I. trowel (rydel ogrodniczy), J. hand weeder (opielacz), K. pruning shears, secateurs (sekator)

IV. A. lawn aerator (aerator gwiazdkowy), B. lawn mower (kosiarka), C. hedge trimmer (elektryczne nożyce do żywopłotu), D. watering can (konewka), E. hose trolley (wózek z węzem), F. pump sprayer (opryskiwacz), G. pistol nozzle (pistoletowa końcówka do węża), H. wheelbarrow (taczka), I. grass trimmer (podkaszarka)

The rock garden

II. 1. 1) slope, 2) soil, 3) limestone, 4) thrive, 5) shed, 6) spread, 7) drainage, 8) grit, 9) rockery, 10) rubble, 11) excavator, 12) wedge, 13) rootball, **2.** a) by taking pictures of outcrops on walking holidays, b) overhanging trees or tree close enough to shed leaves on those plants, c) using a small excavator, crowbars or a tripod, d) settling compost and grit. **3. types of rock or stone for gardens:** granite (granit), sandstone (piaskowiec), limestone (skała wapienna), basalt (bazalt), pebbles (otoczaki), pea gravel (drobny żwir wielkości grochu), flint (krzemień), quartz (kwarc), marble (marmur), **rock garden plants:** *sedum*/stonecrop (rozchodnik), *sempervivum*/houseleek/liveforever (rojnik), basket of gold/gold-dust (smagliczka skalna), lilacbush/purple rock cress (żagwin zwyczajny), *pyrola*/wintergreen (gruszyca), *saxifraga*/saxifrage/rockfoil (skalnica), *fritillaria*/fritillaries (szachownica), evergreen candytuft (ubiorek wiecznie zielony), *eranthis*/winter aconite (rannik), **plants for other types of gardens:** tulip (tulipan), dahlia (dalia), ivy (bluszcz), thuja (żywotnik, tuja), iris (kosaciec, irys), peony (piwonia), bellis/daisy (stokrotka), aster (aster), hydrangea (hortensja). **4.** a) The Classic Rock Garden, b) Banks, c) "Walk-About" Bed, d) Woodland Rock Garden, e) Alpine Rock Garden, f) Desert Rock Garden. **5. 'plants for sun':** Alpine poppy (mak alpejski), *Campanula carpatica*/tussock bellflower (dzwonek karpacki), *Phlox subulata*/creeping phlox/moss phlox (flok szydlasty), *Achillea tormentosa*/Woolly Yarrow (krwawnik wełnisty), Edelweiss (szarotka alpejska), *Dianthus*/Pink, **'plants for shade':** *Corydalis lutea*/rock fumewort/yellow corydalis (kokorycz żółta), *Aquilegia flabellata*/dwarf columbine (orlik wachlarzowaty), *Bergenia*/elephant's ears (bergenia grubolistna), *Astilbe chinensis pumila*/false goat's beard (tawułka chińska), *Athyrium*/lady-fern (wietlica), polypody/rockcap fern (paprotka zwyczajna), **pictures:** A. *Achillea tormentosa*/woolly yarrow (krwawnik wełnisty), B. *Aquilegia flabellata*/dwarf columbine (orlik wachlarzowaty), C. Edelweiss (szarotka alpejska), D. *Corydalis lutea*/rock fumewort/yellow corydalis (kokorycz żółta), E. Alpine poppy (mak alpejski), F. *Athyrium*/lady-fern (wietlica), G. *Astilbe chinensis pumila*/false goat's beard (tawułka chińska), H. *Campanula carpatica*/tussock bellflower (dzwonek karpacki)

The bog garden

II. 1. suggested headings: A. How to make a bog garden, B. The best position, C. The best plants, D. The ecological balance, **2. A-B & D:** a) dappled (nakrapiany, cętkowany), b) invasive (rozprzestrzeniający się), c) waterlogged (przeziąknięty wodą, podmokły), d) herbaceous (zielny), e) stand-alone (niezależny, autonomiczny), f) adjoining (przyległy), g) liner (wyściółka), h) overcrowding (zatłoczenie, nagromadzenie), i) pests (szkodniki), **C:** a) unruly (niesforny, nieposłuszny), b) slugs (pomrowy, ślimaki nagie), c) variegated (pstry, urozmaicony), d) stems (łodygi), e) pendant (zwieszający się), f) pruned (przycięte), g) spikes (kwiatostany kłosy), h) foliage (listowie, liście), i) stocky (krępy, mocnej budowy), j) bark (kora), k) musky (piżmowy), l) thicket (gąszcz, zarośla, gęstwina), m) clumps (kępy), n) spathes (podsadki, liście

przykwiatowe), o) anthers (pylniki, worki pyłkowe), p) catkins (kotki, bazie), q) stalks (żdźbła, łodygi), r) shrub, **III.** a) subulate (szpilkowy), b) acicular (igiełkowy), c) linear (równowąski), d) lanceolate (lancetowaty), e) oblanceolate (odwrotnie lancetowaty), f) ovate (jajowaty), g) oblong (podługowaty, szpiczasto-jajowaty), h) obovate (odwrotnie jajowaty), i) spatulate (łopatkowy), j) elliptic (eliptyczny), k) peltate/orbiculate (tarczowy, okrągły), l) reniform (nerkowaty), m) obcordate (odwrotnie sercowaty), n) cordate (sercowaty), o) rhomboid (romboidalny), p) pinnately lobed (pierzastowrębny), r) hastate (oszczepowaty), s) sagittate (strzałkowy), t) deltoid (trójkątny), 1) reniform, 2) sagittate, 3) hastate, 4) cordate, 5) acicular, 6) rhomboid, 7) ovate, 8) orbicular/peltate, 9) spatulate, 10) lanceolate, 11) linear, 12) subulate, 13) obcordate, 14) deltoid, 15) obovate, 16) elliptic, 17) oblanceolate, 18) oblong, 19) pinnately-lobed. **IV.** A. *Salix alba* 'Vitellina'/Golden Willow (wierzba biała, odmiana złocista, tzw. złotocha), linear, B. *Cornus alba*/dogwood (dereń biały), lanceolate, C. *Hosta crispula* (funkia kędzierzawa), cordate, D. *Primula denticulata*/drumstick primrose/primula (pierwiosnek ząbkowany), spatulate, E. *Eupatorium purpureum*/purple joe-pye weed (sadziec purpurowy), oblanceolate, F. *Ligularia veitchiana*/leopard plant (języczka Veitcha), reniform.

Bog garden flowers and carnivorous plants

II. cluster, stem, branch, branches, **III.** 1) raceme (grono), 2) spadix (kolba), 3) umbel (baldaszek, baldach), 4) spike (kłos), 5) capitulum / head (koszyczek), 6) panicle (wierzchotka), 7) catkin (kotka), 8) corymb (baldachogrono), 9) solitary, 10) cyme (wierzchotka), **VI.** A. *Aconitum napellus*/monk's hood, aconite (tojad mocny), raceme, B. *Lysichiton americanum*/skunk cabbage, swamp lantern (tulejnik amerykański), spadix, C. *Aster puniceus* /swamp aster, capitulum/head, D. *Salix gracilistyla* 'Melanostachys' (rose gold-pussy willow), catkin, E. *Primula denticulata*/drumstick primrose/primula (pierwiosnek ząbkowany), round umbel, F. *Mimulus cardinalis*/scarlet monkey flower (brak polskiej nazwy, podobna roślina znana w Polsce – kroplik żółty), solitary. **V.** 1) filament (nitka pręcika), 2) stamen (pręcik) – *plural*: stamina/stamens, 3) sepal (działka kielicha), 4) ray floret (kwiat języczkowy), 5) stigma (znamię słupka), 6) peduncle (szypułka kwiatu), 7) disc floret (kwiat rurkowy), 8) receptacle (dno kwiatowe), 9) flower stem (szypułka kwiatu), 10) anther (pylnik, worek pyłkowy), 11) central disc (środek koszyczka astrowatych), 12) ovary (założnia), 13) style (szyja słupka), 14) ovule (założek), 15) petal (płatek korony), 16) carpel / pistil (obie wersje poprawne – słupek), **VI.** **1.** 1. F, 2. T, 3. F, 4. F, 5. T, 6. T, 7. T, 8. F, 9. F, 10. T, **2.** A. *Drosera intermedia*/spoonleaf sundew (rosiczka pośrednia), B. *Drosera anglica*/English sundew (rosiczka długolistna), C. *Sarracenia psittacina*/parrot pitcher plant (kapturnica papuzia), D. *Pinguicula vulgaris*/common butterwort (tłustosz pospolity), E. *Sarracenia flava*/trumpet pitcher plant (kapturnica żółta), F. *Dionaea muscipula*/Venus flytrap (mucholówka)

Container-grown plants

II. 1. T, 2. F, 3. F, 4. T, 5. T, 6. F, 7. T, **2. Trailing:** *Convolvulus sabatius*, *Hedera helix*/common ivy, *Verbena tenuisectax*, *Vinca minor*/lesser periwinkle/dwarf periwinkle, *Thunbergia alata*/black-eyed Susan vine **Upright:** *Artemisia*/mugwort/sagebrush, pansy, *Helianthemum*/rock rose/frostweed, *Pelargonium*/geranium, *Impatiens*/touch-me-not/snapweed. **3.** A. *Convolvulus sabatius*/blue rock bindweed (gatunek powoju – brak polskiej nazwy), B. *Hedera helix*/common ivy (bluszcz pospolity), C. *Helianthemum*/rock rose/frostweed (posłonek), D. *Impatiens*/touch-me-not/snapweed (niecierpek), E. *Thunbergia alata*/black-eyed Susan vine (tunbergia oskrzydłona), F. *Vinca minor*/lesser periwinkle/dwarf periwinkle (barwinek pospolity), **4.** A. *Lapageria rosea*/Chilean bellflower (płatawa różowa) campanulate, B. *Lathyrus odoratus*/sweet pea (groszek pachnący), alate, C. *Eccremocarpus scaber*/Chilean glory-flower (Ekremokarpus, pałczatka szorstkawa), salverform, D. *Cobaea scandens*/cup-and-saucer vine/cathedral bells (kobeja pnąca), campanulate, E. *Ipomoea hederacea* /ivy-leaved morning glory (wilec), funnellform, **5.** a) salverform (o kształcie tuby zakończonej nagłym rozszerzeniem przypominającym tacę), b) alate (skrzydełkowaty), c) coroniform (o kształcie korony), d) campanulate (dzwonkowaty), e) rosette (o kształcie rozety), f) funnellform (lejkowaty), g) cruciform (o kształcie krzyża), **6.** A. 6) delavay osmanthus (*Osmanthus delavayi*), osmantus Delavaya **B.** 3) common yew (*Taxus baccata*) cis pospolity C., 4) Darwin's barberry (*Berberis darwinii*), berberys Darwina, **D.** 2) delavay privet (*Ligustrum delavayanum*), ligustr Delavaya, E. 5) bay laurel (*Laurus nobilis*), wawrzyn szlachetny, F. 1) common box (*Buxus sempervirens*), bukszpan wiecznozielony

Beneficial insects and garden pests

II. 1. F, 2. F, 3. T, 4. T, 5. T, 6. F, 7. T, 8. F, 9. T, 10. F. **III.** A. soldier beetles (omomiłkowate), B. praying mantis (modliszka), C. assassin bugs (zajadkowate), D. ladybugs (biedronkowate), E. hoverflies (bzygowate), F. wolf spiders (pogońcowate), G. green lacewings (złotookowate), H. parasitic wasps (owadziarki), I. ground beetles (biegaczowate), J. robber flies (łowikowate), K. moths (ćmy), L. flies (muchówki), M. bees (pszczoły), N. butterflies (motyle), O. bumblebees (trzmiele). **IV.** A. Japanese beetle (popilia japońska), B. weevils (ryjkowce), C. aphids (mszyce), D. green stink bug/green shield bug (odorek zieleniak), E. Colorado potato beetle (stonka ziemniaczana), F. caterpillars (gąsienice), G. slugs (trzonkoocze, np. pomrowy), H. thrips (wciorastki), I. nematodes (nicienie). **V.** A. Japanese beetle, B. aphids, C. thrips, D. green stink bug/green shield bug, E. slugs, F. grasshoppers

Landscape with trees

II. 1. T, 2. F, 3. T, 4. T, 5. F, 6. T, 7. F, 8. T, 9. T, 10. F; **III.** 1. perennials, 2. foliage, 3. fleshy, 4. woody, 5. stems, 6. deciduous, 7. shed, 8. remain, 9. density, 10. screens, 11. accents, 12. fragrant, 13. turn; **IV.** 1. black alder, 2. bez czarny, 3. black locust,

4. topola czarna, 5. common birch, 6. wiąz pospolity, 7. common hazel/European filbert, 8. dzika róża, 9. Douglas fir, 10. jesion wyniosły, 11. European beech, 12. grab zwyczajny, 13. European larch, 14. miłorząb dwuklapowy, 15. juniper, 16. kosodrzewina, 17. Norway maple, 18. świerk pospolity, 19. pedunculate oak, 20. jarząb pospolity, 21. Scots pine, 22. dąb bezszypułkowy, 23. silver fir, 24. lipa drobnolistna, 25. Swiss pine / Arolla pine, 26. klon jawor, 27. walnut, 28. wierzba biała; **VI.** A. Japanese maple (klon palmowy), B. jasmine (jaśmin), C. eastern redbud (judaszowiec kanadyjski), D. sea buckthorn (rokitnik zwyczajny), E. magnolia (magnolia), F. forsythia (forsycja), G. hawthorn (głóg), H. thuja (żywotnik), I. crab apple (dzika jabłoń), J. common yew (cis pospolity), K. cypress (cyprys)

The Japanese garden

II.1 1. T, 2. F, 3. F, 4. T, 5. T, 6. F, 7. T, 8. T, 9. F, 10. F, 11. F; **II.2** a) draught, b) murky, c) pebble, d) waterscape, e) artisan, f) pavilion, g) muted, h) clipped, i) veranda, j) inverse; **II.3** A.2. Chaniwa (Tea Garden), B.4. Tsuboniwa (Courtyard Garden), C.3. Karesansui (Rock, Dry, Zen Garden), D.1. Kaiyushiki-teien (Stroll Garden), E.5. Tsukiyama (Hill and Pond Garden)

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- [4] <https://commons.wikimedia.org/wiki/File:Sea-buckthorn-oliv.jpg>; <https://creativecommons.org/licenses/by-sa/3.0/>; no changes were made
- [5] <https://pxhere.com/pl/photo/862982>; <https://creativecommons.org/licenses/publicdomain/>; no copyright
- [6] https://commons.wikimedia.org/wiki/File:Forsythia_flower.JPG; <https://creativecommons.org/licenses/by-sa/3.0/>; no changes made
- [7] https://commons.wikimedia.org/wiki/File:Forsythia_flower.JPG; <https://creativecommons.org/licenses/by/2.0/>; no changes were made
- [8] https://commons.wikimedia.org/wiki/File:Warcino_%C5%BCywotnik_olbrzymi_ga%C5%82%C4%85%C5%BA_29.12.09_pl.jpg; <https://creativecommons.org/licenses/by-sa/3.0/>; no changes were made
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- [11] <https://commons.wikimedia.org/wiki/File:Cypr%C3%A8s.jpg>; <https://creativecommons.org/licenses/by-sa/4.0/>; no changes were made

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- [1] <https://commons.wikimedia.org/wiki/File:Shunsoro.jpg>; <https://creativecommons.org/licenses/by-sa/3.0/>; no changes were made
- [2] <https://commons.wikimedia.org/wiki/File:Shima-Tsuboniwa.JPG>; <https://creativecommons.org/licenses/by-sa/3.0/>; no changes were made
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