

# **GREENHOUSE GARDENING**

## **BEGINNERS GUIDE TO GARDENING**





# AN INTRODUCTION TO GREENHOUSES

Although starting a greenhouse may seem like an intimidating step in your gardening journey (especially if you're just starting out), it actually makes gardening a much easier process. Greenhouses allow gardeners to extend the growing season and harvest a wide variety of vegetables, fruits, herbs, and flowers from even the smallest, unheated structure.

With the help of your greenhouse, you can benefit from an extremely productive harvest throughout the year. And, if you have the space and the ambition to get started, you'll find it's an incredibly rewarding process. That's why we've put together this lesson to get you up to date with everything you'll need to know about greenhouse gardening.







# KEY TERMS TO KNOW

## **Greenhouse**

A structure (usually made from glass) that is used for growing plants. It provides a controlled environment and the gardener can control the temperature, humidity and light to ensure optimal growing conditions.

## **Glazing**

This term refers to the coating that is applied to the outside of the greenhouse to form a weatherproof seal while still allowing sunlight into the structure to allow the plants to grow.

## **Propagator**

This refers to a covered, typically heated container that is filled with compost and used for germinating or raising seedlings.

## **Ventilation**

This is the process of introducing fresh air into the structure to prevent overheating and regulate humidity levels. Ventilation also helps to prevent fungal infections.

## **Irrigation**

This term describes the system in which plants are watered by artificial means to foster their growth.



# BENEFITS OF USING A GREENHOUSE

## **Extended growing season:**

Many of the foods we want to eat are usually grown in far-flung corners of the world where they thrive in warmer, more humid conditions. However, one of the great things about greenhouse gardening is that it allows gardeners to replicate this process in the UK. With a warmer, more favourable environment for delicate or demanding plants, gardeners in colder climates can grow things like tomatoes, melons and citrus fruits locally, at any time of year.

## **Enhanced pest control:**

Greenhouses provide the ultimate protection from pests, birds, and rodents. This allows for greater peace of mind and a higher chance of your plants being able to survive and thrive.

## **Better weather protection:**

Similarly, greenhouses also provide protection from the elements. This is something that is particularly handy in the UK, where we're used to having to deal with lots of wind and rain. You'll no longer have to deal with finding your plants bent out of shape or pulled from their roots after a storm.



## **Ability to customise the**

**environment:** The main reason gardeners opt for starting a greenhouse is the the ability to completely customise the environment according to the needs of their plants. This may mean adjusting the light, temperature or ventilation to ensure that their crops can thrive.



# STARTING SMALL...

Whether you're working with very limited space or you just want to start out small before committing to a full-size greenhouse, a propagator might just be the thing for you. This device (a seed tray covered by a sheet of glass or polyethene), works in the same way as a greenhouse, trapping heat to keep your seedlings at a warmer temperature. Small in size, you can store them comfortably in your home. Plus, the kids will love it! Why not get them involved in the process and start their love of all things nature early?

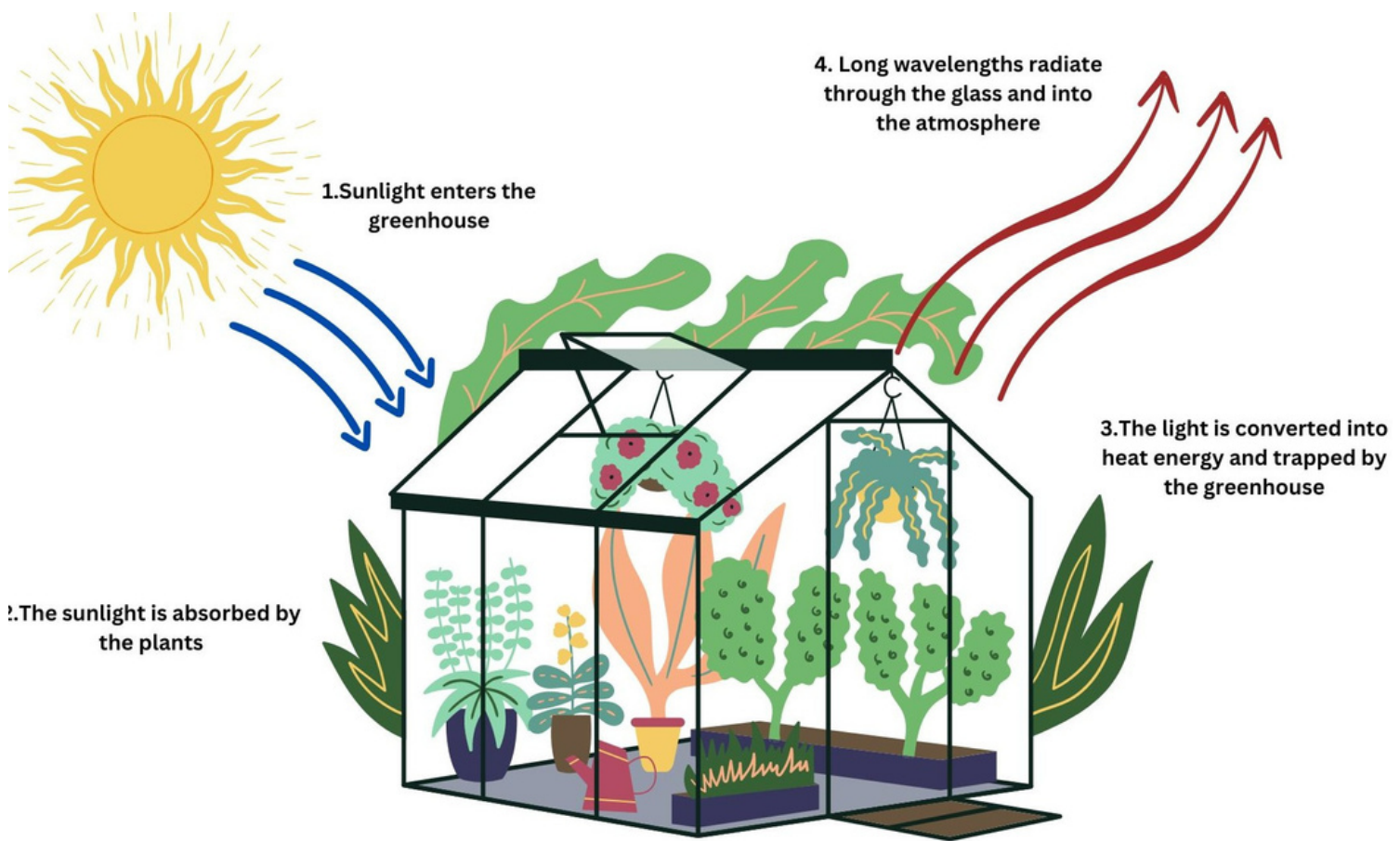
However, one thing to be aware of with propagators is that you'll have less control than you would a full greenhouse (in terms of ventilation and temperature), so you will need to be careful not to expose it to direct rays of sunlight for too long. This will cause temperatures to rise rapidly, killing your seedlings. You should also consider starting with a cold-frame greenhouse. Larger than a propagator, but still smaller than a conventional greenhouse, this option sits on the ground with a sloping, glazed lid.





# HOW DO GREENHOUSES WORK?

Greenhouses, made from glass or plastic panels, essentially convert light energy into heat energy. They let in sunlight, which is then absorbed by plants inside. Heat energy is then released and stays trapped within the greenhouse, allowing it to remain warm. This allows gardeners to grow plants that thrive in warmer conditions, even during the winter.



In addition to this, greenhouses provide a consistent supply of concentrated carbon dioxide, which allows plants to grow larger leaves and a more robust stem. Also, greenhouse conditions make it more likely for plants to fruit and flower early. However, greenhouses must still have windows, vents or fans to ensure proper ventilation and allow for temperature control. For if it gets too hot this may lead to the destruction of whatever plants are kept inside.



# HEATING SYSTEMS

Greenhouses can also be heated artificially by various different heating systems. These systems include:

**Electric:** Efficient and easy to install, electric systems are popular with many beginner gardeners. They can be purchased for as little as £20. However, in the current energy crisis, this option may prove quite expensive to run.

**Propane:** This type of system is very reliable and produces a lot of heat, so is often used in larger spaces. A more environmentally friendly process than using gas or diesel, a propane tank will pump heat directly into the greenhouse.

**Solar:** We're sure you already know all about this system. Simply put, solar energy uses energy from the sun and converts it into heat. Although a sustainable option, it's unfortunately not that reliable with our (usually dull) UK weather.

**Biomass:** A biomass heating system uses natural sources of energy to generate heat. It works by burning chips, logs or wood pellets to power the heating. It is a great option for your greenhouse, as waste taken from your plants (for example, dead leaves) can be used in the heating process.





# ACTIVITY TIME!

Greenhouses come in all shapes and sizes, whether you want a freestanding or attached house, you can find the right one for you by answering the questions below. Just grab some paper and jot down your answers.



1. Consider the location & size you have to work with. Wherever you put your greenhouse will have to have access to a decent amount of sunlight and protection from strong winds. Once you identify this space, make a note of the measurements of the area. This will help you decide on the size of your greenhouse.
2. Decide on your budget early on in the process. Greenhouses can vary wildly in price and cost anywhere up to £15,000. So, once you've decided on how much you're willing to spend it will help reduce the parameters of your search.
3. Think about the details. This means carrying out some research and deciding on whether you would prefer a steel, PVC or timber frame. You'll also want to consider whether you'll want glass, plastic or polycarbonate glazing.
4. Don't forget about the ventilation and insulation! Make sure you note down on your list that your greenhouse will have to have adequate ventilation (e.g. windows, vents, etc.) and insulation.
5. All that's left to do is use your list to help you in your search for the perfect greenhouse for you. If you need a little extra help to make your decision, you may want to pop into your local garden centre to ask for some expert advice.





# HOW TO USE A GREENHOUSE IN 6 STEPS

## 1. Planning

Once you have purchased and set up your greenhouse, it is essential that you measure the floor space to ensure you have enough room for all of the crops you wish to grow.

## 2. Sowing seed indoors

Gather clean trays and pots, seeds and multipurpose compost. This is all you'll really need to get started. Follow the instructions on the packet of seeds to start planting. The seeds will germinate on a heated propagator unit in the greenhouse or on a sunny windowsill indoors (be aware that the propagator may struggle to maintain warm temperatures in cold weather in unheated greenhouses).

## 3. Growing

Seedlings require a light, ice-free area to develop once they have sprouted. And an unheated greenhouse probably won't get warm enough until April. So, you may want to think about heating and fleecing (putting a cover over) a section of your greenhouse to create a favourable environment for the growth of these plants. Remember to keep an eye on the weather forecast and be prepared to take these additional steps in the event of a frost.



#### **4. Planting**

When crops are sturdy and well-rooted, plant them in their final positions. It's possible to plant them in growing bags, containers, or the borders of the greenhouse. Tie cordon tomatoes with strings or canes and make sure climbing plants like cucumbers and melons have enough support.

#### **5. Summer maintenance**

Install an irrigation system or make sure to water your plants every day; tomatoes can suffer from issues like blossom end rot if not given enough water. On hot days, make sure to properly ventilate your greenhouse by opening the doors and vents.

#### **6. Winter maintenance**

During the winter months, we recommend giving your greenhouse a little spruce up. Make sure that the glass is clean, as you'll want as much light as possible to enter to keep it warm during the colder months. For many structures, bubble wrap-style insulation can also be added to help keep temperatures high during winter.

If your greenhouse is heated, ensure an indoor regulator is used to keep a base temperature in the evenings. It's a good idea to buy a minimum/maximum thermometer to keep an eye on the temperature. And, if you have a spare moment, take the time to clean, oil and maintain your garden tools which can carry disease.





# USEFUL TOOLS & EQUIPMENT FOR YOUR GREENHOUSE

## Thermometer & humidity gauge

A thermometer with a humidity gauge is a crucial piece of kit for your greenhouse. It will allow you to keep track of the conditions and help you adjust according to the needs of your plants. Pretty inexpensive, your gauge should come in at under £20.



## Heater

A heater is great to have on hand, especially in the UK as we can't always rely on sunny days to naturally heat our greenhouses. Particularly important during the winter months, an effective heater will ensure that your plants are kept at just the right temperature. Depending on the size and quality you're after, a heater will set you back anywhere from £20 – £70+.

## Shades

Never underestimate the power of properly shading your greenhouse. A real lifesaver (literally) during summer heatwaves, roller blinds or external shade netting will protect your plants from getting scorched.

## Watering system

Whether you stick with a simple watering can while starting out or go a little more high-tech with a drip feed watering system, ensuring that your plants receive the correct amount of watering is crucial for their survival.





# PROBLEMS YOU MAY ENCOUNTER

No matter how seasoned the gardener, working with a greenhouse means you'll likely encounter a problem or two at some point. This is especially true for a complete beginner. So, what can you look out for?

## **Temperature regulation**

One of the most crucial aspects of greenhouse gardening is temperature regulation. You'll want the greenhouse to remain warm in order for your plants to thrive, but too warm and you risk killing them altogether. So, to maintain a consistent temperature, whether in the heat of summer or on the coldest day of snowy UK Christmas, you'll need to do some research. This will likely involve investing in some insulation (but more on that later), shade cloth or even some fancy automated systems if your budget allows.

## **Pest maintenance**

Although greenhouses provide shelter and are generally great for keeping your fragile plants from harm's way, they do not guarantee a completely pest-free experience. In fact, the warmer temperatures of greenhouses can attract spider mites, aphids and others. These pests can damage your plants and even carry diseases. So, you may want to consider stocking up on some pesticides.







### **Outbreaks of disease**

As plants are within close proximity of each other in a greenhouse, it makes it very easy for diseases to spread quickly. That means if you aren't vigilant, a disease could wipe out your entire crop. Diseases can enter your greenhouse in a number of ways, whether it be via contaminated tools, pests or even infected seeds. So, try to remain on top of pest control and make sure to regularly clean your tools.

### **Mold, mildew and fungus**

Similarly to managing temperature, it's important that the humidity levels are strictly controlled in your greenhouse. If humidity is too high, it will likely lead to the growth of mold, mildew and fungus. This can not only damage the plants but also the health of the gardener. That's why it's important to ensure that you don't overwater your plants and invest in a dehumidifier if necessary. You can also make sure to open all the vents, doors and windows to allow fresh air to circulate regularly and use a hygrometer to keep an eye on the humidity levels, to ensure they don't get out of control.







# HOW TO HEAT YOUR GREENHOUSE ON A BUDGET

## **Make use of soil-warming cables**

Soil-warming cables are made to heat greenhouse borders, benches, and propagating trays. Because the silicone leads deliver heat to the roots, where it's most needed, the top growth will not harm the roots. Soil-warming cables can cost as little as £15.

## **Utilise blinds to capture natural sunlight**

Blinds are an investment worth making for your greenhouse. Keep the internal blinds open to heat your greenhouse when the sun is shining, and when it gets dark, lower them to keep the heat in. It's as simple as that.

## **Insulate with bubble wrap**

You can also cover the windows of your greenhouse with bubble wrap to prevent heat loss. During the winter, just cut the bubble wrap to size and affix to the inside of the closed glass to keep in as much heat as possible. If you have a small greenhouse you can also cover the outside of your greenhouse in plastic wrapping.



# EASY-TO-GROW GREENHOUSE PLANTS

Growing fruit and vegetables is a favourite for many greenhouse gardeners. It allows you to have your own organic crop supply all year long, and can really help you to live a healthier life. Here's a list of fruit and vegetables we recommend beginners grow in their greenhouses:

## Herbs

- Rosemary
- Lavender
- Bay Laurel
- Thyme
- Sage
- Mint

## Fruit & Veg

- Carrots
- Onions
- Asparagus
- Spinach
- Turnips
- Kale
- Tomatoes
- Strawberries
- Raspberries
- Peppers
- Cherries
- Grapes
- Chillies
- Lemons

## Flowers

- Violets
- Peace Lily
- Marigolds
- Daisies

That's it for today. We hope that this lesson has helped you gain more of an understanding about what greenhouse gardening involves, how they work and the steps you'll need to take to start your own.