

WARNING — Science Education Set. This set contains chemicals and/or parts that may be harmful if misused. Read cautions on individual containers and in manual carefully. Not to be used by children except under adult supervision.

WARNING!

For use only by children over 5 years. For use only under adult supervision. Read the instructions before use, follow them, and keep them for reference.

- **Caution! Kit contains gypsum powder (plaster powder):**
 - Do not place the material in the mouth.
 - Do not inhale dust or powder.
 - Do not apply the material to the body.
 - If ingested, rinse the mouth with clean water and drink clean water.
 - Do not induce vomiting. Seeking immediate medical attention.
- In the event of an injury, always seek medical attention.
- Keep children who are younger than the minimum age stated on the packaging, as well as pets, away from the experiments.
- Keep the experiment kit out of the reach of young children.
- Wash your hands after you have finished your experiments.
- All equipment should be cleaned immediately after use.
- Do not use any tools or materials other than those that come with the set or are expressly recommended in the instructions.
- Do not eat, drink, or smoke in the work area.

Caution! Some components in this kit have sharp points, edges, or corners. There is a risk of injury. Not suitable for children under 3 years due to small parts that could be swallowed or inhaled, posing a choking hazard.

The right to technical changes is reserved.

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Kit Contents



This science kit contains the following parts:

No.	Description	Quantity/Amount	Item No.
1	Greenhouse (floor)	1	708733
2	Greenhouse (dome)	1	708734
3	Plant pot	6	705804
4	Measuring cup (100 ml)	2	708166
5	Measuring cup (30 ml)	3	065100
6	Soil pellet	6	773001
7	Cress seed packet	1	532122
8	Zinnia seed packet	1	708737
9	Scarlet runner bean	1	773000
10	Drinking straw	5	705325
11	Yarn	1	702751
12	Pipette	2	232134
13	Thermometer	1	702280
14	Wooden stick	6	705296
15	Wooden spatula	2	000239
16	Plaster, bag of	1	771052
17	Cut-out sheet	1	708814

Additional household materials you will need: paper towels, knife, scissors, colored pencils, tape, watercolor paints, paintbrush, toothpicks, paper, drinking glass, empty yogurt container, old nylon socks, old wool socks, salt, water, dish liquid, fruits and vegetables (e.g. avocados, lemons, peppers), plant seeds from hardware store or garden center, soil.



Dear Parents,

This greenhouse science kit offers five-year-olds a playful platform to help them grow their first plants! They will have quick success with the enclosed fast-growing plant varieties. Other experiments will require a little more time. Please explain to your child that it can take time and a little bit of patience to grow plants. To help you with this part of it, we have labeled each experiment with an approximate time requirement. That way, you and your child will know how much time to plan or how long it will take to see any results. But the ultimate reward of plants and flowers will seem all the richer for the wait!

Since the curiosity and powers of comprehension of children this age usually exceed their manual dexterity, even the simple experiments will often require your help. Please be ready to support your little researcher whenever your help might be needed.

You should first help your child find a well-lit and well-ventilated location for the greenhouse. Your child will also need a workplace that can stand getting a little messy, where he or she

can experiment in peace. The best thing would be a table right against a window, where the greenhouse can simply be left in place, or set it out of the way on a wide window ledge. Always keep some paper towels on hand during the experiments, since gardeners are always spilling a little dirt or water. And just as with real experimental research or gardening, it is always a good idea to wear old clothes that you don't mind getting a little dirty. Please be sure to help your child get the additional materials that are not included in the kit. It's always best to get everything ready before each experiment, in order to avoid having to repeatedly get up and fetch them.

This experiment kit was designed with young researchers in mind. That is why the experiment descriptions and explanations have been kept as simple as possible. You should work through them together and read them out loud to your child, so he or she can carry out the experiment on his or her own with a good understanding of its purpose.

Here's wishing you a lot of fun and a green thumb!





Dear Kids,

Allow us to introduce ourselves:
We are Peter Pepper, Edgar Eggplant, and Carrie Carrot.

We do have quite a bit of experience with gardening! You can take our word for that. Aren't we nicely grown? But don't get the wrong idea and let your mouth start watering too much. There will be time for eating later on — and with a little luck and patience, you'll be eating your own tomatoes and zucchinis, too. Or you can try your hand with a chocolate cosmos flower, which has an unbelievably delicious chocolaty smell. More about that later! First, the three of us are going to be guiding you through this instruction manual.



Peter Pepper will explain what is actually going on in the experiments, and what you can learn from them.



Edgar Eggplant will be warning you about possible dangers. Whenever you see him, it means "Heads up! Keep your eyes open!" He will also be available to give you a few handy tips.



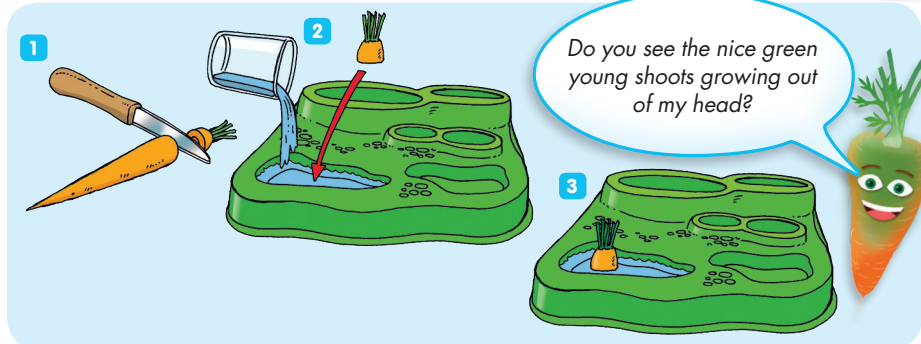
Carrie Carrot will tell you a lot of fun and interesting things! Have a good time in the amazing world of plants!

Sincerely **Carrie, Peter, & Edgar**

01 Carrie Carrot turns green

3–4 Days

1



A carrot has the ability to grow a whole new plant out of some of its parts. All you have to do is provide favorable growing conditions (enough light, air, and moisture).

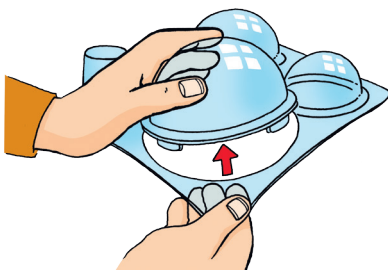


Warning:

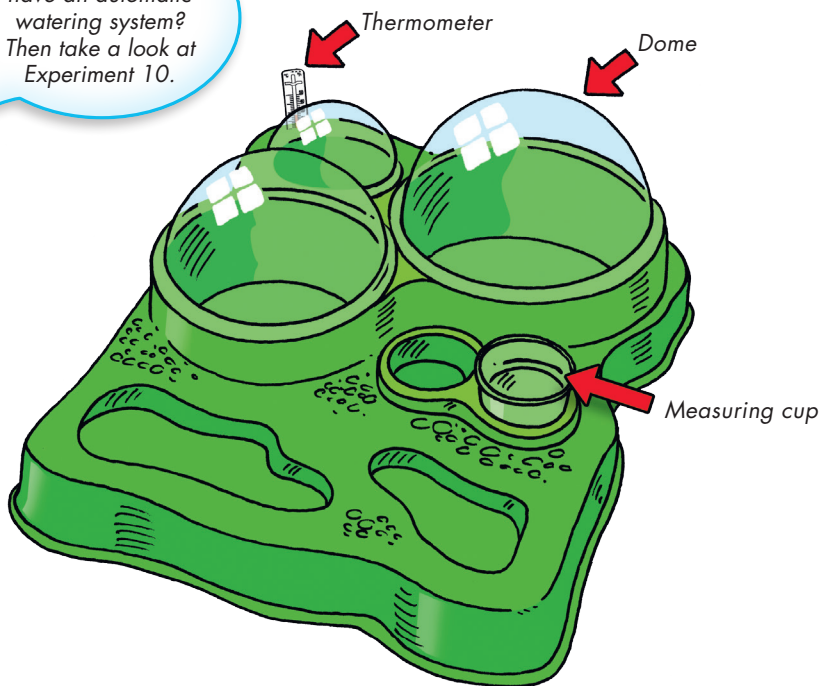
Don't injure yourself! Let your parents help you with using the knife.

Assembly

Remove the dome from the plastic sheet. Smooth the edges with a little sandpaper. Have a grown-up help you. Ideally, place your greenhouse on a window ledge, where it will be warm and bright.

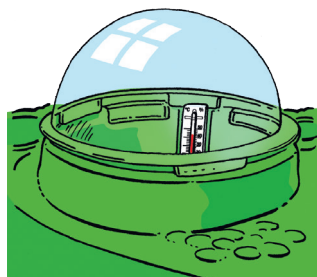


Wouldn't you like to have an automatic watering system? Then take a look at Experiment 10.



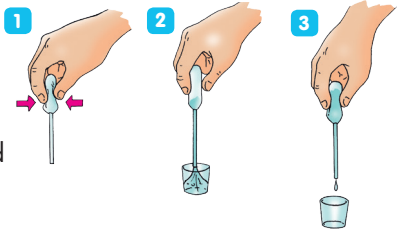
Ventilation

The domes of your greenhouse have ventilation slots that can be opened and closed. Leave the dome closed until you see the first sprouts. That way, the soil won't dry out so quickly. Then, when you see the first little plants, open the ventilation slots to let the plants breathe.



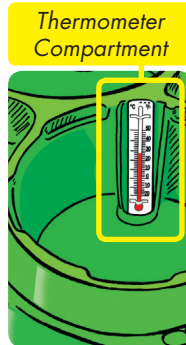
Watering

When you water, you have to be very careful not to wash away the seeds or disturb the seedlings. It's easiest if you use a pipette. This is how it works: Squeeze the top part of the pipette between your thumb and forefinger and dip the pipette in the water. As soon as you loosen the pressure, the liquid will rise up the pipette. Then, by reapplying pressure carefully, you can squeeze the water out drop by drop.



Temperature

Place the thermometer in one of the specially-designed compartments and check the temperature regularly. If it gets too hot, open the ventilation slots and/or set the greenhouse in a shadier location. If it's too cool, look for a spot with more sun and close the ventilation slots. You can also compare the temperature under the dome with the temperature outside it.



Warning: Be sure that your young plants always have moist soil! That is very important. As a reminder, you will find little watering cans on the cutout sheet.



Cut them out and tape them in a location where you will often look: on your bedroom door, for example, or the bathroom mirror.



PROFILE:

In these profiles, you will find things you should know about the seeds from the experiment kit, as well as about a lot of other plants. This is what the pictures mean:



Sow in the greenhouse



Care instructions



Sow outside



Harvesting instructions



Time it takes to sprout



Bloom



Ideal conditions

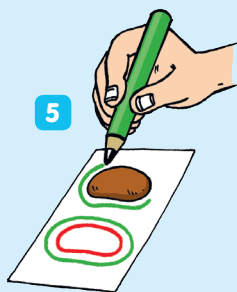
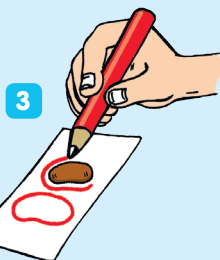
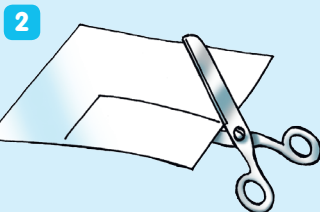


Special characteristics

02 Thirsty Beans

2 Days

1



Save the beans.
You will need
them for later
experiments.



You can see that the beans have grown quite a bit bigger. They have absorbed water and swollen up. When that happens, their tissue and cell parts expand. The beans become soft, and they are ready to sprout.

**Warning:**

Do not eat the beans raw, as they are poisonous. They only become edible after you cook them.

PROFILE: Scarlet runner beans



Let the beans swell up with water. Then plant them individually in the soil about 4–5 cm apart. Cover loosely with soil.



May–July



10 Days



Germination temperature 10–15 °C (50–60 °F)



Water regularly, but do not keep too moist, as the beans might get moldy.



10 weeks after sowing



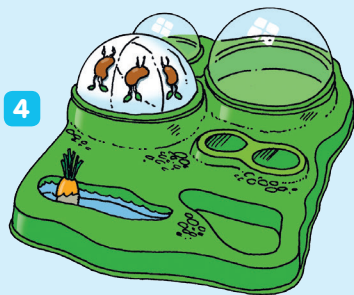
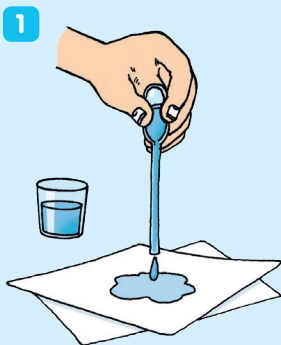
Vitamin- and mineral-rich vegetable



03 Root growth

3 Days

1



After a few days, you will clearly see the roots growing downward. Now, turn the dome upside down so the roots point up. You will observe that the sprouts can tell the difference between up and down, and the roots will soon start growing downward again!



It's easy to observe the beans sprouting through the transparent wall. After a few days, little roots will make their appearance out of a tiny hole in the side of the bean.



You will be able to do more bean experiments soon. Take a look at Experiment 12.

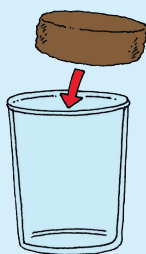
CHAPTER 1: Growing your first plants

04 Big from small

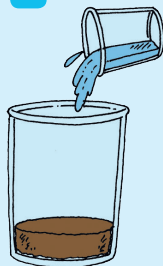
10 Minutes

1

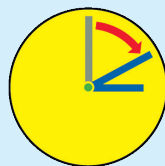
1



2



3



10 Minutes



The soil pellet soaks up water and expands. From the tightly compressed pellet, you get loose soil that you can use for planting.

Your soil pellets are made of ground and compressed coco fibers. Most potting soils are made of peat, which comes from raised bogs. Every year, huge quantities of peat are mined, which destroys the raised bogs!

Raised bogs are very special habitats. The plants that live there have to get by on very little food, because there are not many nutrients in a bog. The sundew plant, for example, has come up with a very unusual trick: It is a "carnivore." It has round glands on its leaves, which exude a sticky liquid. Then, things like ants get stuck in the liquid.



05 Growing cress

3–6 Days

1

PROFILE:
Cress

Sprinkle onto moist soil and
press down lightly.



March–September



3–6 Days



Germination temperature 10–20 °C (50–68 °F)



Keep soil moist
Shady spot



2 weeks after sowing



Stems and leaves are rich in vitamins
Good in salads or on a sandwich

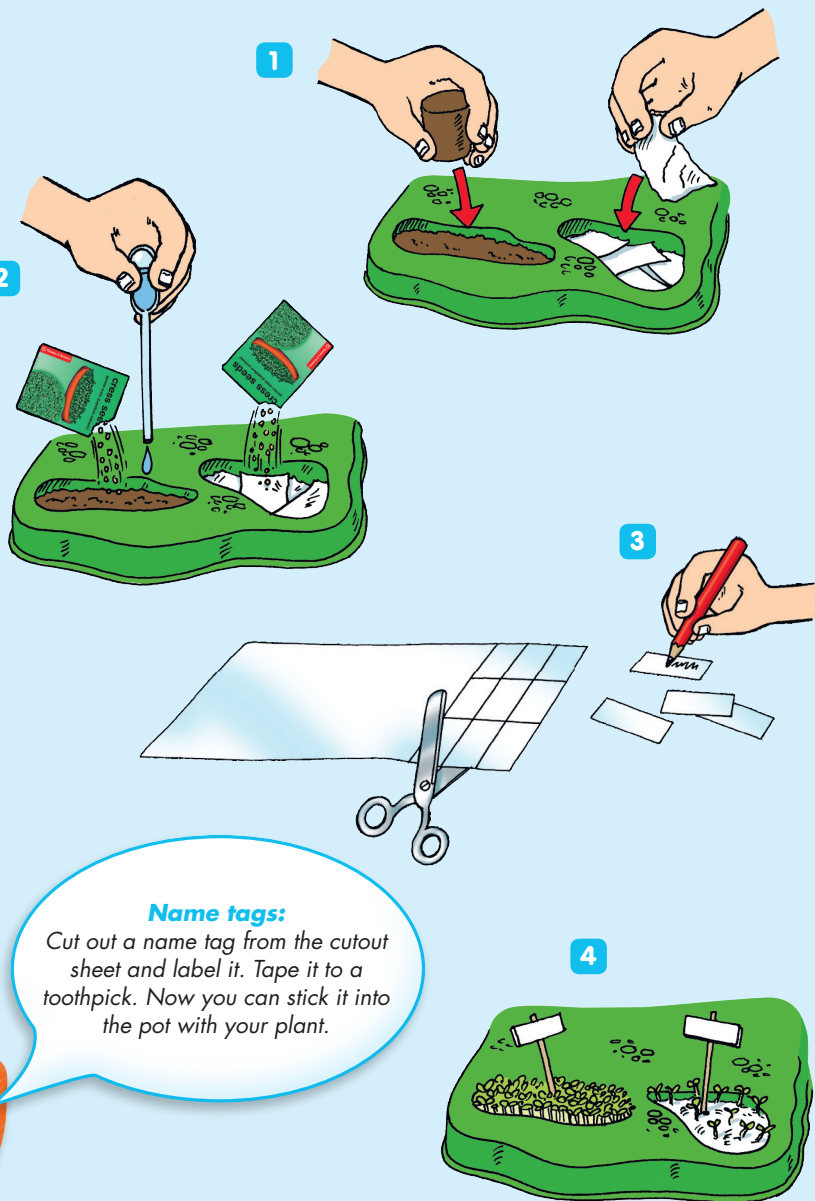


It's easy to observe germination and growth with a cress plant, since they need a lot less time to grow than beans. The seed contains all the nutrients that the young plants need for their early growth, so they can also grow on a damp paper towel.



You will be able to do more cress experiments soon. Take a look at Experiments 11, 14, and 18.

CHAPTER 1: Growing your first plants



06 Growing zinnias

8–14 Days

1

PROFILE: Dwarf zinnia



Plant about half a centimeter deep, not too close together, and cover with soil.



From the end of April



8–14 Days



Germination temperature 18–22 °C (65–72 °F)



Very little water and fertilizer



July–September



Re-flowers well and can therefore be cut for indoor arrangements.

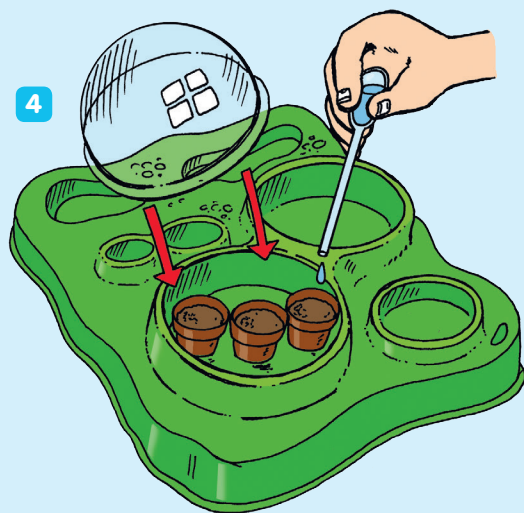
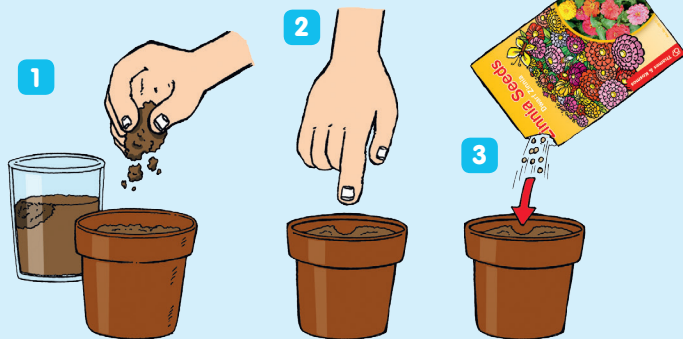


Zinnias need about a week to germinate. Then you will be able to see the first green sprouts pushing cautiously out of the soil toward the daylight.

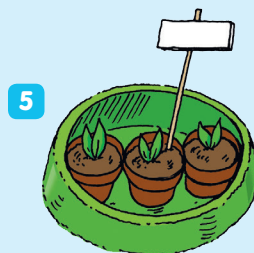


You will be able to do more zinnia experiments soon. Take a look at Experiments 13 and 15.

CHAPTER 1: Growing your first plants



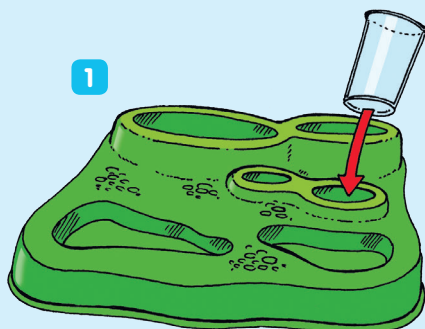
Start by planting 3 pots with zinnias!



07 Plants need water

3 Hours

1

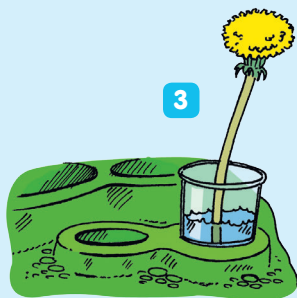


2



3 Hours

3



Make a lengthwise cut in the dandelion stalk before placing it in the water. That way, you will get funny-looking curls.



Only when the plant cells are well supplied with water will they be firm and solid, giving the plant structure and stability. If they don't have water, they will be limp and the plant will collapse.

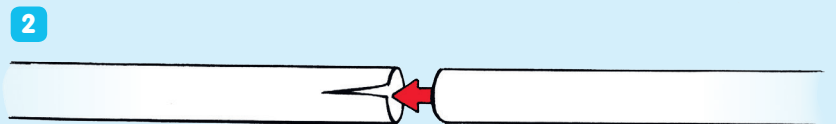
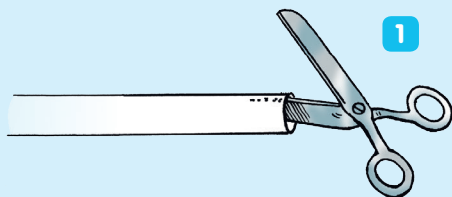


After you pick the dandelion, a whitish sap will drip out of the stalk. Be careful not to get any on your clothes — the stains are hard to wash out.

08 The long water pipe

5 Minutes

1



You will quickly notice that it gets harder and harder to suck the water upward as the straw gets longer. Trees nevertheless manage to transport water many yards from their roots up to their leaves.



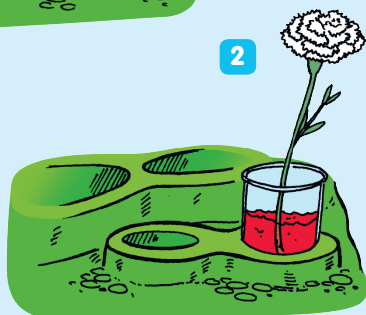
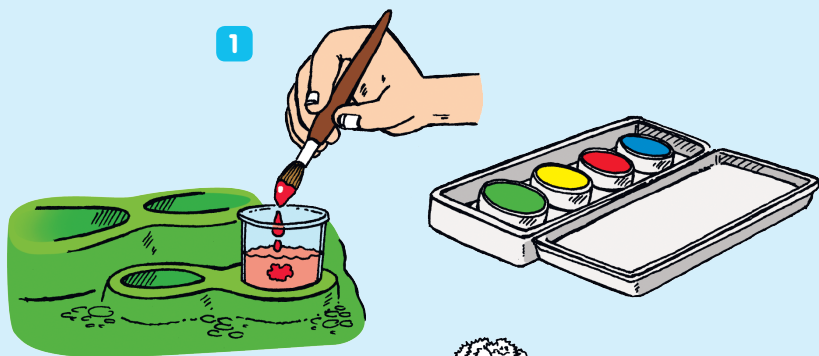
Warning:

It is a good idea to use tape to seal off the spot where the straws are stuck together.

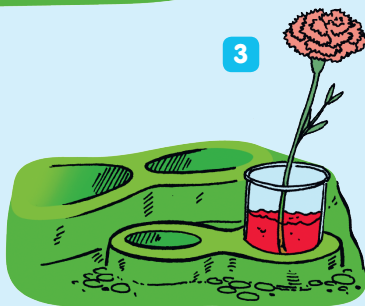
09 Turning white into colors

1 Day

1



A white carnation is a good flower to use for this.



The colored water rises up the flower stalk through narrow tubes to the flower petals.

You can clearly see the veins as they take up the dye.

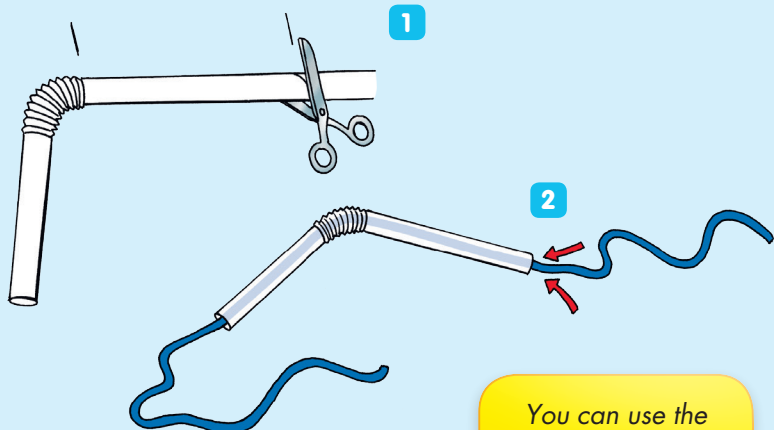
If you divide the stalk in two and put each half in a cup with a different color, you will get a two-colored flower.



10 Automatic watering system

works for a few days

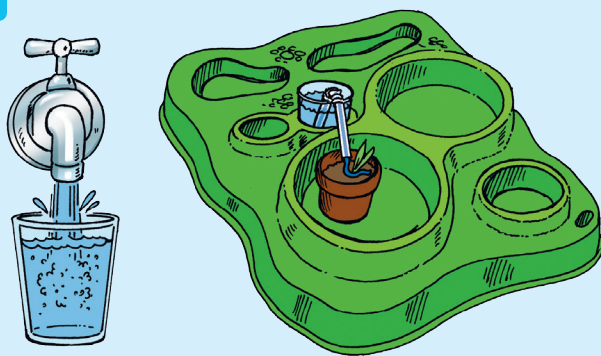
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You can use the zinnia seedlings from Experiment 6.



3



The yarn consists of many individual fibers that soak up water like a sponge. In time, the quantity becomes too much for the wool and the water drips from

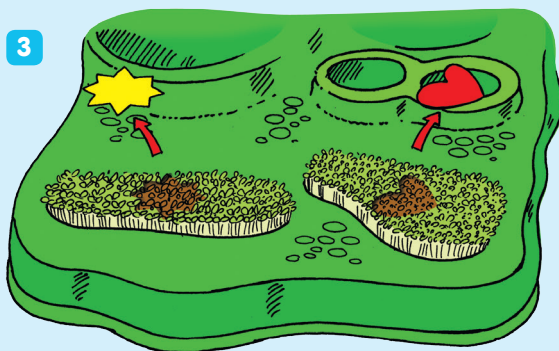
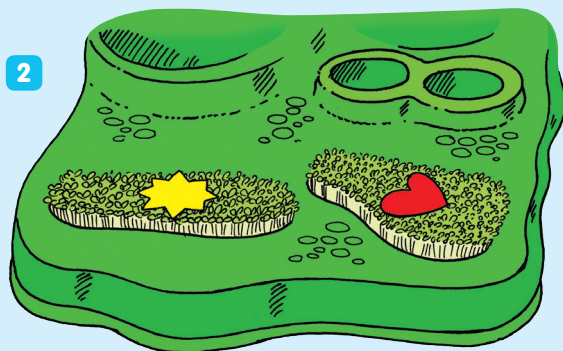
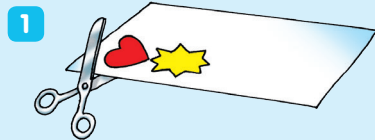
the lower end into the soil in the flowerpot. In this way, the plant in the pot is supplied with fresh water as long as there is water in the cup.



11 Plants need light

3 Days

1

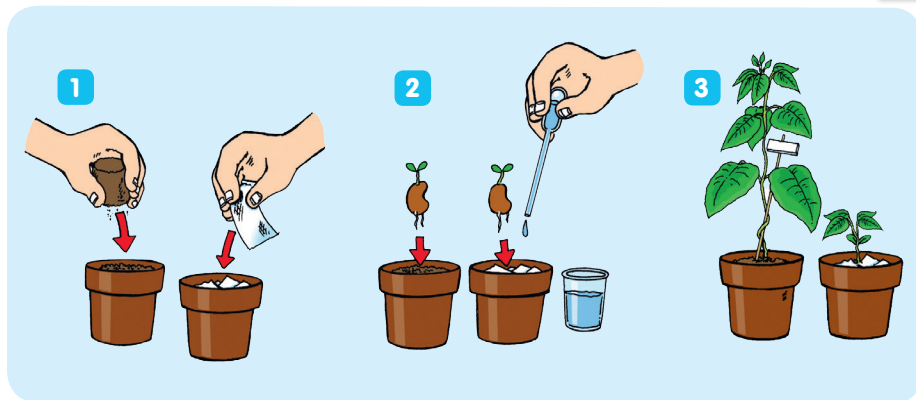


The cress beneath the cardboard shapes doesn't get any light. It stops producing green coloring and turns quite pale. In time, it will die.

12 Plants need nutrients

10 Days

1



To germinate, all that beans need is the food contained inside them. But when they grow bigger, they need additional nutrients. They get those nutrients from the soil, but not from the damp paper towel. That is why the bean will grow better in the soil-filled pot.



Use the sprouted beans from Experiment 3.

Most plants are green! And there is a very important reason for that. The leaves use this green coloring to capture sunlight and produce sugar and oxygen from water and air (more precisely, the gas carbon dioxide). This process is known as photosynthesis. It's a hard word to pronounce, but the process is very important for plants and for us humans too. The plants are able to make new leaves with the sugar. And we humans need the oxygen to breathe!



13 Plants need warmth

1 Week

1



You can use the zinnia seedlings from Experiment 6.



External conditions are very important when growing plants. In order to thrive, they need nutrients, as you found out in Experiment 12.

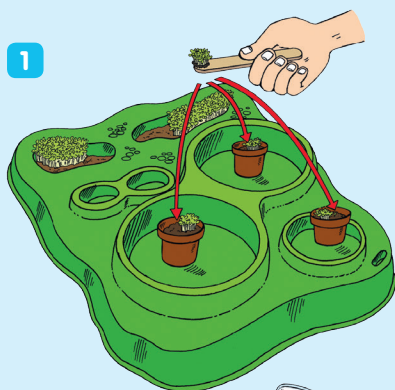
They also need water, warmth, and air. Under the dome, the warmed air isn't carried away as easily as outside, which is why they grow faster there than if they don't have a roof over their head. That's why you can buy peppers from supermarkets even in the winter, thanks to large-scale greenhouses. It would be too cold in most parts of the country to grow plants outside during the winter, but in a greenhouse it is warm even in winter.



14 Poor cress

3 Days

1



1

But maybe the dishwashing detergent you have at home is biodegradable! In that case, the cress plants can recover if you start giving them plain water again after three days.



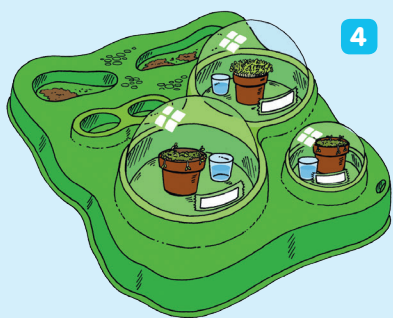
2

salt

soap



3



4



The cress doesn't like the new watering liquid. The test samples shrivel because salt and dishwashing liquid have a harmful effect on plants.

Cress is a kind of herb, while beans are a vegetable, and an apple is a fruit. That much is obvious! But an avocado — is that a fruit or a vegetable? And what exactly is the difference?

The answer is not so simple. Of course, it depends on the person providing it. A cook would say that all fruits are sweet or tart, and can be eaten without having to be prepared.

Vegetables have to be seasoned or cooked in order to taste good — so, for example, a squash or an avocado. Of the legumes, we usually use just the seeds in the kitchen (beans, peas, and lentils). In addition, other plant parts such as roots or leaves are grouped together with vegetables if they have to be seasoned or cooked — for example, spinach (leaves) or carrots and radishes (roots).

A botanist (the name given to plant researchers) would draw the line somewhat differently. Botanically, the most important thing is which part of the plant is used. So a botanist would put fruits like apples, cherries, and strawberries in the same pot with tomatoes and squash. And vegetables would be divided between leafy vegetables and root vegetables.



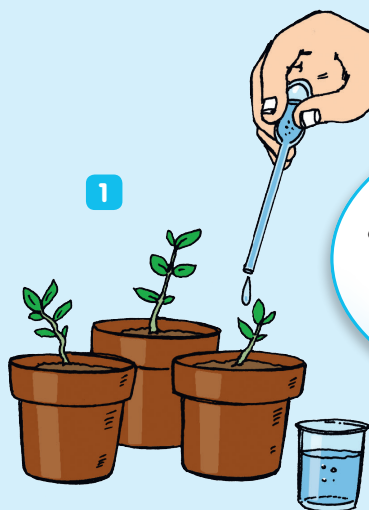
There are also edible plant parts that don't fit into the system very well: herbs, spices, and nuts form their own groups. And mushrooms also can't be grouped with anything else.



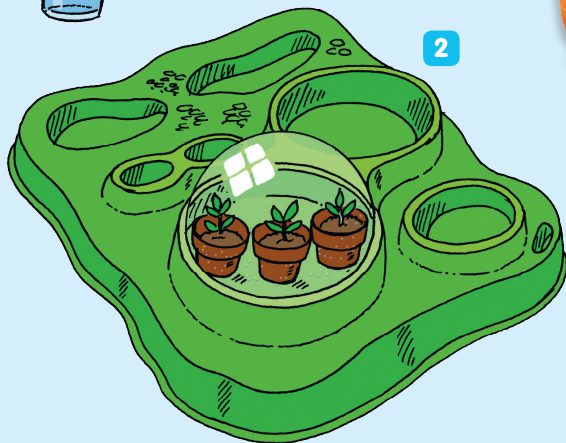
15 Sweaty plants

2 Hours

1



You can perform the same experiment with a larger potted plant or a tree in the garden. Place a plastic bag over a twig and tie it tightly closed with a piece of string. After a little while, you will see droplets of water on the inside of the bag.

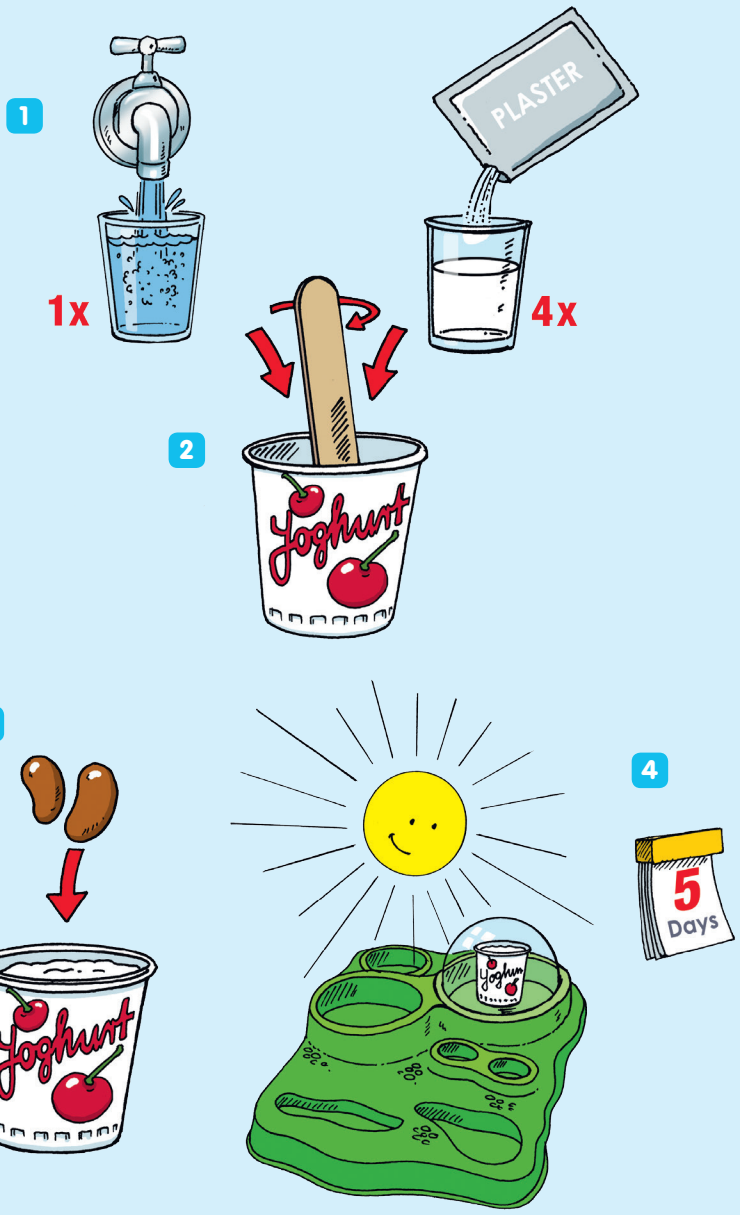


Plants take up water and nutrients from the ground with their roots. They release excess water through tiny openings on the underside of their leaves. The water vapor condenses, meaning it turns to liquid again, which is visible

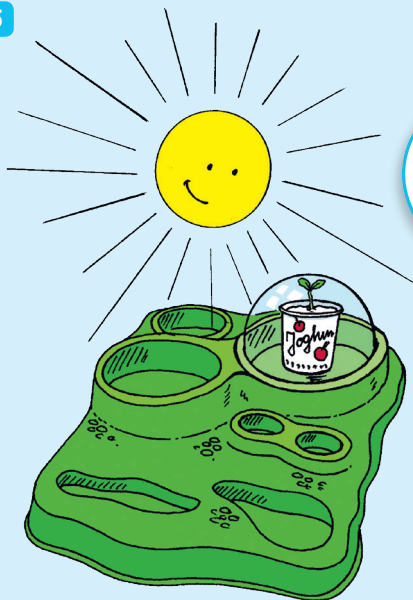
as little droplets on the dome. If you open the ventilation slots, some of the moisture can evaporate to the outside again and the dome won't fog up so easily.

16 Explosive beans

5 Days 1



5



The ancient Greeks made use of the explosive force of beans to split large blocks of rock. They would simply bore holes into the rock and insert beans and water.



After five days, you will suddenly see cracks in the plaster with the bean sprouts coming out of them. The beans soaked up water and started sprouting inside the plaster. Since there wasn't enough room for them, they battled against the block of plaster and broke their way free into the light. Plants have enormous force. They can even grow through asphalt!



Important!

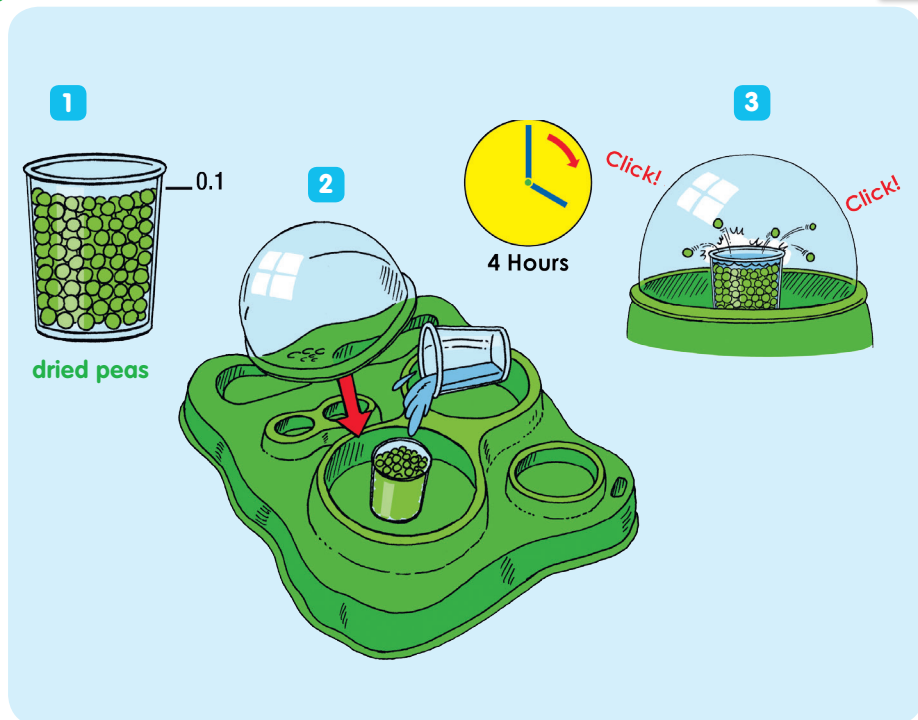
Before you start, please read the safety warnings on the inside front cover of this manual.



17 Phantom peas

4 Hours

1



The peas soak up water. When they do that, they get bigger and need more room. The peas at the very top are pushed off by the ones underneath and fall from the cup onto the floor of the greenhouse. Each time that happens you hear a clicking sound, which can seem a little spooky when there's nobody around.

You can also put the cup with peas and water inside a tin can, and then set the can in a kitchen cupboard. Who do you think you might be able to spook that way?



18 Cress and grass

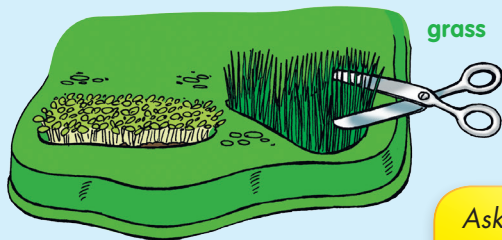
7 Days

1

1

cress

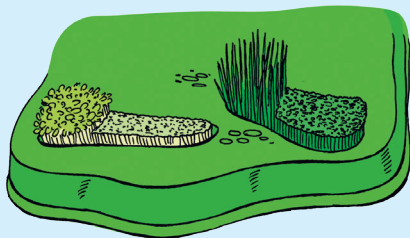
grass



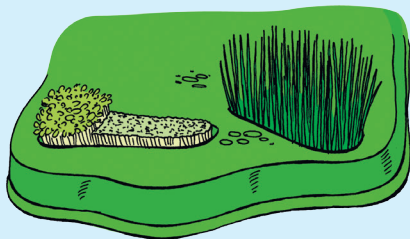
Ask a grown-up to cut a little section of grass sod from the yard or park.



2



3



The grass grows back and it will soon look the way it did before you cut it, while the cress does not grow back. That is because of the so-called growth point of the plant. That is the point at which the plant starts to grow. With grass, this point lies just above the ground.

Even when you cut the grass, the growth point is not removed, and the grass can grow back. The cress growth point lies much higher, right under the green top. So if it gets cut off, the cress can't grow anymore.

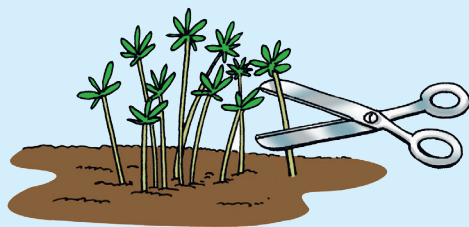


19 Cuttings

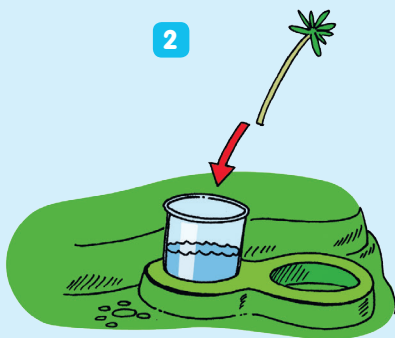
14 Days

1

1



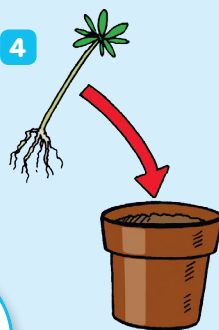
2



3



4



Cut a dandelion stem into little pieces and place them on a damp paper towel. You will be astounded to see how new plants can grow out of these little plant pieces too.



In addition to growing from seeds as you saw before, plants can also grow from cuttings. Each cutting should have at least one bud or leaf above it. In water, roots will form, and the new plant can then be planted in fresh soil.



Not all plants are suited for growing from cuttings, though. Try it with grapes, spider plants, rosemary, lavender, roses, philodendron, or begonias. Watch out for thorns!

Everything you need to know about gardening:



All the seeds and plants discussed here are easy to get in garden centers and nurseries.



When sowing seeds, always pay attention to the instructions on the seed packet.



Don't plant the seeds too close together, or they will crowd each other and not grow well. If the seedlings have room, they will be stronger and more robust.



Sow the seeds in lightly packed, moist soil. Some seeds germinate in the dark, while others need light. Dark-germinating seeds should be covered with a layer of soil. Finally, press down lightly again on the soil. And don't forget to water!



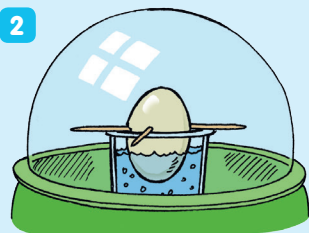
You will soon notice that the seedlings have become much too big for the greenhouse. You will have to transplant them into larger pots or directly into the garden. But wait until there is no more frost expected. That will be around the middle of May in places with cold winters. And again, don't forget to water!



20 My orchard

several weeks

1



Of course, you can also try growing other types of fruit in your greenhouse. Try sprouting a lemon seed. Then be sure to set the pot under the greenhouse dome, so you can have the best germination conditions for your little orchard.



Warning: The brown coating on the avocado pit inhibits sprouting, so it has to be removed. It's easiest if the avocado pit is already wet. Then just take it out of the water, remove the coating, and suspend it in fresh water again. The avocado pit can't take direct sun.

PROFILE: AVOCADO



Remove the pit from the fruit and suspend it in water with tooth-picks.



2 Weeks – 4 Months



Germination temperature 20–25 °C (68–77 °F)



Refill the water as it evaporates from the glass. When the roots are 3–4 cm long, carefully repot into a flowerpot with potting soil. Give it plenty of sun, warmth, and adequate water.



Due to its shape and green, wrinkly outer peel, the avocado is also known as an alligator pear.





PROFILE: Citrus plants

(Lemons, Oranges, Mandarins,
Grapefruits, and Limes)

Take seeds from fruit, remove any fruit residue, and rinse off. Then place the seeds in hot water (about 50 °C, or 120 °F) for 10 minutes. Plant in damp soil at a depth that is twice the diameter of the seed, and cover with soil.



2–3 Weeks



Germination temperature 22–25 °C (72–77 °F)



Water regularly
Place outside in the summer,
or inside the house in winter



July–September



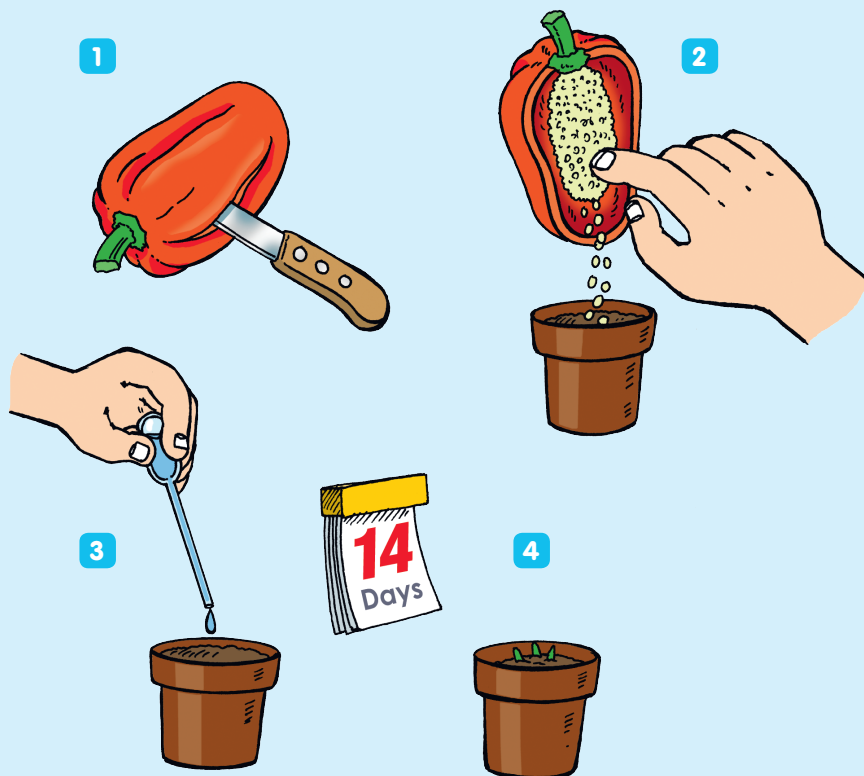
A home-grown citrus plant will start to bloom
after 8-10 years.



21 My vegetable garden

14 Days

1



You already saw how beans sprout in Experiment 2. When your plants grow larger, you will have to plant them in a larger pot and give them a little pole to cling to.

Of course, you can also grow other types of vegetables in your greenhouse. Try growing peppers, zucchinis, or tomatoes. But they will have to be replanted outside or in larger pots as soon as they have reached a certain height.



PROFILE: Pepper



Soak dried seeds for 2 days and let them swell up or use fresh seeds right from a pepper. Plant the seeds about 1 cm deep in the soil and press down firmly. Seeds should be planted about 2 cm apart.



Middle to end of May



5–14 Days



Germination temperature 28–32 °C (82–90 °F)
Plant in a bright spot in the garden, but not in the hot sun



Water regularly, but don't let the soil get waterlogged. Fertilize regularly and support the plants with a stake.



July



September/October



Originally from South America, the pepper is one of the very oldest cultivated plants.

PROFILE: Zucchini



Space seeds far apart or plant in individual pots, cover with some soil, and press down.



From mid-May



7–14 Days



Germination temperature 15–25 °C (59–77 °F)
In a sunny spot in the garden



Water well and fertilize regularly.



From end of June to October for zucchini
of about 15–20 cm, which taste the best



Zucchini can grow to be huge; the largest one ever
harvested was 2.3 meters long and weighed almost 30 kg.

PROFILE: Tomato



Plant seeds about 1 cm deep in the soil, keep warm
and evenly moist until germination.



Mid-May



8–14 Days



Germination temperature 20–22 °C (68–72 °F)
In a sunny location in the garden; protected from wind and rain



Water and fertilize regularly. If 4–5 flowering stalks are
present, regularly remove any side shoots or suckers.



Starting in July

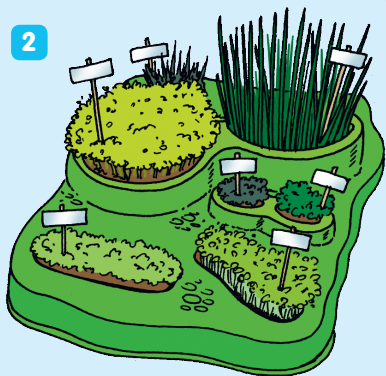


Will soon need a stake for the plants to cling to.

22 My herb garden

8-14 days, depending on seed type

1



You can also use your greenhouse as an herb garden. You're already an expert at growing cress. Now you can try your hand with parsley, chives, or dill.

I know a tasty recipe for *Herbed Cottage Cheese*:

- 250 g Cottage cheese
- 3 tablespoons cream
- finely-sliced herbs such as chives, dill, and parsley from your herb garden
- Salt
- Pepper

And add a little paprika, and you're done!

Mmm, delicious!



PROFILE: Parsley



Cover seeds well with soil, because they prefer to sprout in the dark, and keep moderately moist.



April–August



8–14 Days



Germination temperature 15–20 °C (59–68 °F)
Loose, fertile soil, sun to half-shade



Regularly loosen the soil and do not water too heavily, because parsley can't stand waterlogged soil.



The whole year, as soon as the plants are big enough



The roots are winter-hardy, and will send out new shoots early in the year.

PROFILE: Dill



Sow in rows, cover with just a little soil, and press down.



Starting in April



8–14 Days



Germination temperature 10–20 °C (50–68 °F)
Loose, sandy soil



Water regularly, re-sow every 2–3 weeks to keep having new harvests.



Starting in May



Often used to flavor pickles

PROFILE: Chives



Sow in rows, cover with just a little soil, and press down.



Starting mid-May



8–14 Days



Germination temperature 10–20 °C (50–68 °F), sunny or semi-shady location, sandy soil enriched with lime or bonemeal



Water liberally and harvest often.



June/July



Outside starting in May, then continuously



High in vitamins A and C

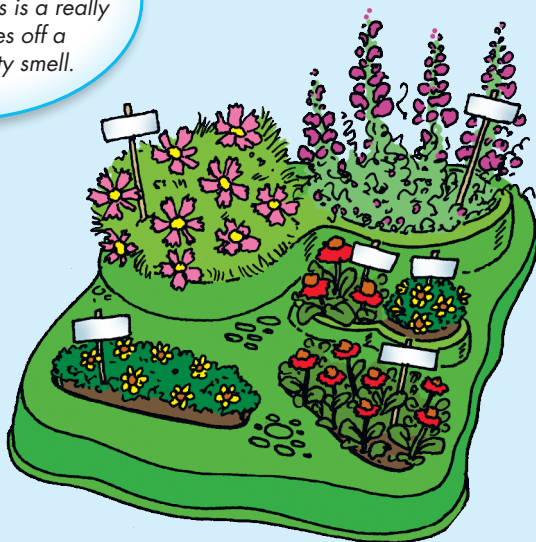
23 My sea of flowers

Germination time 8-25 days
depending on seed type

1



The zinnias from Experiment 6 will go really well in the sea of flowers, too! The chocolate cosmos is a really cool plant. It gives off a delicious chocolaty smell.



Cosmos and sweet peas work well here. You can start them in your little pots and then replant them into balcony planters or large flowerpots. You will have to provide your flowers with plenty of water.



In the summer, you can set your sea of flowers on the terrace or balcony. Maybe you'll get a visit from a butterfly. The cosmos flowers, in particular, provide a lot of nutrition with their pollen and nectar.



PROFILE: Cosmos



Cover seeds with a layer of soil 0.5 cm deep, press down, and water.



Starting in May



14–20 Days



Germination temperature 15–20 °C (59–68 °F)
Sunny location



Always keep soil moist



July–October



Attracts butterflies

PROFILE: Sweet peas



Plant a seed in the soil every 5 cm, 4–5 cm deep.



March–April



14–21 Days



Germination temperature about 15 °C (59 °F), sunny spot



Water liberally and fertilize occasionally



June to September



The more often you cut them, the better they will bloom.

PROFILE: Chocolate cosmos



Plant the seeds about 0.5 cm deep and water carefully.



April–May



20–25 Days



Germination temperature 18–20 °C (64–68 °F)
Sun to semi-shade



Water amply, loosening the soil regularly to prevent it from getting waterlogged.



July–October



Its sweet chocolate-like smell attracts bees, bumblebees, and butterflies.



1





You have mixed together a light gray, gooey paste out of water and plaster powder, which is easy to pour into the beetle and snail molds. Once it has dried, you can carefully loosen it from the mold and paint it with watercolors. These two bugs are guaranteed not to eat your plants, so feel free to decorate your greenhouse with them.



Important!

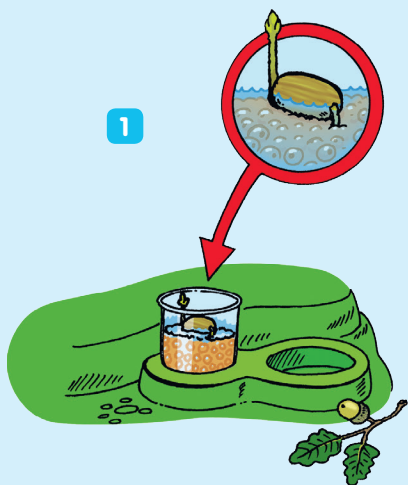
Before you start, be sure to read the safety advice on the inside front cover of this manual.

25 My little oak tree

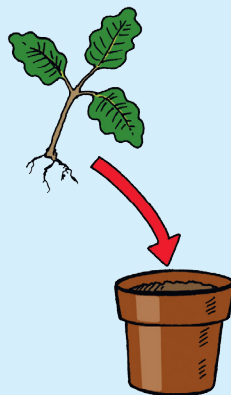
7 Days

1

1



2



After a few days, the acorn's shell will split and a thick root will grow down into the water. On the other side of the acorn, a tender shoot will grow toward the sky.



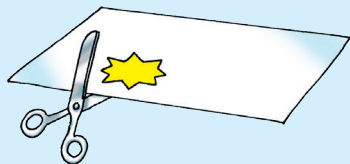
Always be sure that the acorn is only halfway in the water! Leave your little oak tree inside the house until springtime, and then you can set it outside.

26 The water lily

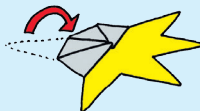
10 Minutes

1

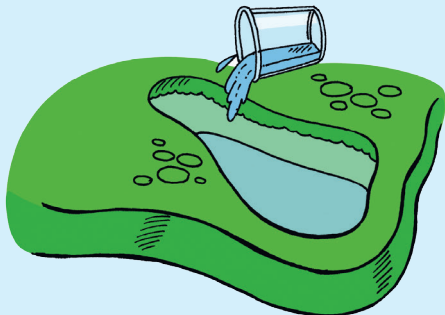
1



2

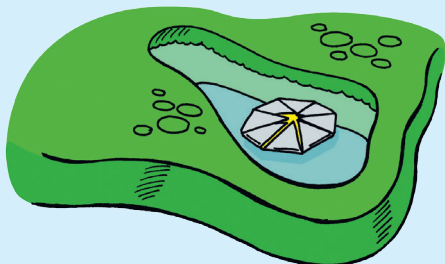


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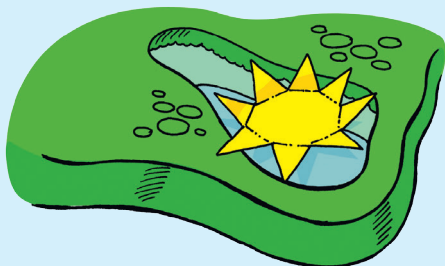


10 Minutes

4



5

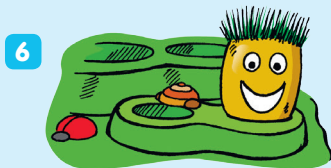
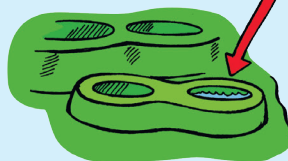
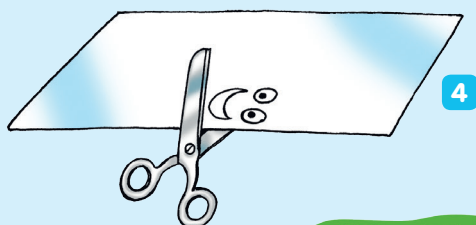
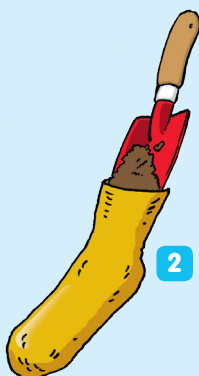


The paper absorbs water, which pushes into tiny spaces in the paper fibers. As the paper swells up and the folds expand, the flower gradually opens.

27 Mr. Grass Head

14 Days

1



When the grass is long enough, you can give Mr. Grass Head a haircut. How would he look with a ponytail?



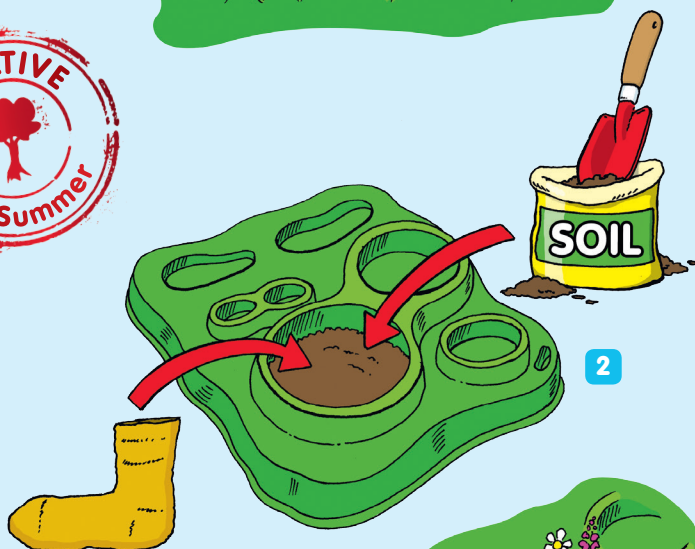
As the grass seeds germinate, they grow out through the sock. Green hairs start to sprout on the head and then grow longer and longer.



28 The surprise sock garden

about 2 weeks

1



The seeds of the plant get caught in your socks and remain stuck there. You can study them with a magnifying glass if you like. They will start growing in the soil and, before long, you will have a surprise sock garden in your flowerpot.

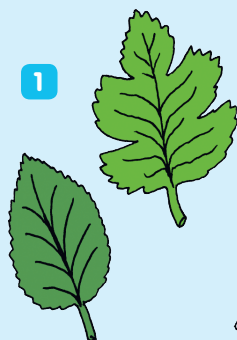
29 Picture rubbings

15–30 Minutes

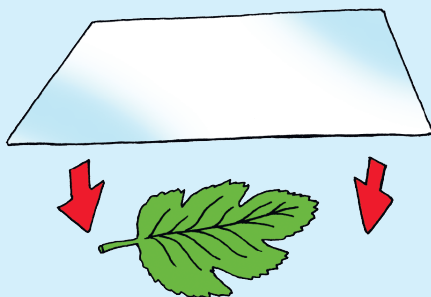
1



1



2



3



In addition to leaves, you can make rubbings of tree bark. Hold the paper against the trunk and rub softly over it. You will be amazed how many different kinds of tree bark there are.



With the rubbing technique, you will not only be able to see the exact shape of the leaf, but the pattern of veins as well.



Picture rubbings work best if you use a soft colored pencil or crayon.

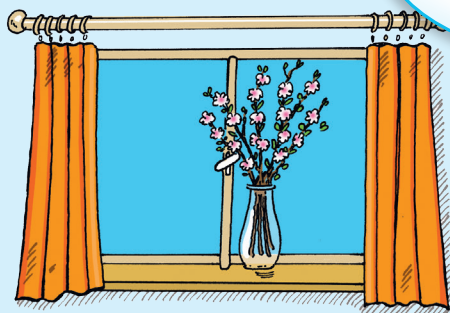
30 Blooming branches

3 Weeks

1



If you cut cherry branches in early December and put them in a vase with water, they will bloom by Christmas Eve.



If you put the branches inside, the brightness and heat will send the signal that it's spring. The buds will bloom and leaves will sprout from the twigs. Doing this is called "forcing the branches."



In addition to cherry tree branches, ones from apple, pear, plum, and forsythia trees will also work well. The water in the vase should be lukewarm. Cut the branch at a sharp angle. Have your parents help you with this.

