

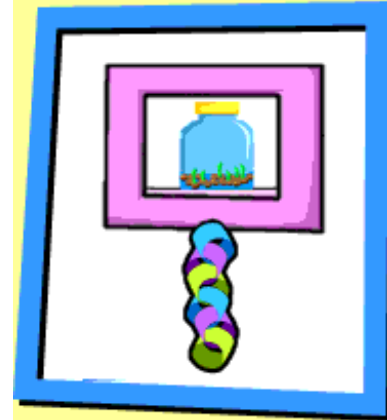


Sprouting Beans

It's not always necessary to have a mini greenhouse to grow plants indoors.

Grow some sprouting beans without needing a garden or even a window sill. The beans must be looked after very carefully, though. They need water twice a day - and the water must be changed often.

Your task is to design and make a timer that will remind you when to change the water.



Equipment

1. Some empty jam jars (with lids).
2. A sieve.
3. A selection of beans and seeds, such as chickpeas, mung beans and alfalfa seeds. Many other seeds can also be used, such as sunflower and sesame seeds, brown lentils or aduki beans, as these all sprout easily.
4. A few sheets of coloured paper or card, ideally a few different colours.
5. A pair of scissors and some sticky tape.

Safety Stuff

Make sure you check with an adult before you begin, as you might need their help at some point. Cover the work surface with some newspaper or an old cloth and make sure you are wearing an apron or some old clothes. Gather together all the items you'll need before you begin. Most of the things you'll need can probably be found by simply hunting around the house, but remember to check with an adult before you take anything. And don't forget to tidy up afterwards.

If you are growing plants, don't put any seeds, flowers or leaves in your mouth. All of the plants you'll be using are safe (some can even be put in salads or nibbled on) but some plants can be poisonous. Better safe than sorry! Make sure you also keep any small items such as seeds, that can easily be swallowed, away from babies and young children.

Steps

Step One

Here is how to grow the beans. Use a separate jar for each type of seed or bean, because they all germinate at different speeds.

Wash the jam jars and their lids. Once the clean jam jars are ready, ask an adult to help you make holes in the lids. Put several holes in each lid so that the beans will be able to breathe inside the jars.

Rinse the beans under cold water and then put about a tablespoonful of beans in each jar. Cover the beans with lukewarm water. Put the lids back on the jars and then turn them upside-down so that most of the water drains out. The jars should now be put in a warm, dark place for three days.



Step Two

After about three days the jars can be moved and put on a warm window sill.

A few days later you will notice the seeds beginning to sprout. When they have roots and leaf-tips, your sprouting seeds and beans are ready. Empty them into a sieve and rinse them once more in cold water.

Now you can eat them.



Step Three

Whilst your beans are growing, the water must be changed twice a day: once in the morning and once in the evening. Each time you change the water, the seeds must be rinsed well with cold water.

Your task here is to design and make a timer that will remind you to change the water, so that you can easily see if you have done so.

Step Four

Use the design for the chain calendar - here - to design and build the timer.

You will need the timer to remind you to change the water in the morning and in the afternoon. How will you do this? You could use different coloured paper for each day, or you could use one colour for the morning reminder and another colour for the evening.

What's the best way to test your timer to see if it works?