

Play Monster

Little Farmer

Learn the science of farming
while planting and taking
care of your crops!



WARNING:

CHOKING HAZARD - Small parts.
Not for children under 3 years.



WARNING:

This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.



Science4you

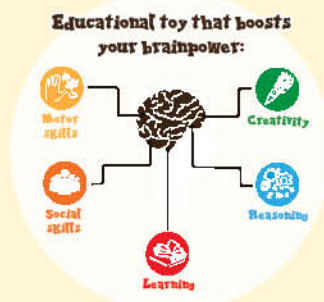
Dear Parents and Guardians:

Through play, children develop different cognitive skills. Scientific studies show that when we are having fun or making discoveries during an experiment, a neurotransmitter called Dopamine is released.

Dopamine is known to be responsible for feelings like motivation, reward and learning and that's why experiences are related to positive feelings. So, if learning is a positive experience, it will stimulate the brain to develop various skills.

Therefore, Science4you aims to develop educational toys that combine fun with education by fostering curiosity and experimentation.

Find out below which skills can be developed with the help of this educational toy!



The educational feature is one of the key strengths of our toys. We aim to provide toys which enable children's development of physical, emotional and social skills.

Find out more about Science4you toys at:

www.playmonster.com



1st edition 2020, Science4you Ltd.
London, United Kingdom
Author: Joana Lemos
Co-author: Vitória Batista
Scientific review: Joana Lemos
Conformity revision: Luísa Chocalheiro

Project management: Flávia Leitão
Product development: Flávia Leitão
Design management: Marcos Rebelo
Packaging design: Filipa Rocha and Joana Gravata
Pagination: Joana Gravata
Illustrations: Joana Gravata



We wanna hear how much fun you had! Get in touch at:
Customer Service
1400 E. Inman Pkwy, Beloit, WI 53511
playmonster@playmonster.com | 1-800-524-4263
For more fun, visit playmonster.com

Copyright © 2020 PlayMonster LLC, 1400 E. Inman Pkwy, Beloit, WI 53511 USA. Made in Portugal. All rights reserved.
Science4you is a registered trademark of Science4you, S.A. and is used with permission.

Index

SAFETY RULES	4
GENERAL FIRST AID INFORMATION	4
ADVICE FOR SUPERVISING ADULTS	4
LIST OF SUBSTANCES SUPPLIED	5
DISPOSAL OF SUBSTANCES	5
KIT CONTENTS	6
1. Once upon a time little seed...	8
Eco-experiment 1. How to start a farm?	10
Eco-experiment 2. What do plants need to live?	12
Eco-experiment 3. Automatic irrigation system	14
Eco-experiment 4. What is the best soil for plants?	16
Eco-experiment 5. How do plants get food?	18
Eco-experiment 6. Do plants move?	20
Eco-experiment 7. What are the parts of a plant?	22
Eco-experiment 8. More space to grow	24
Eco-experiment 9. Is rain always good?	26
Eco-experiment 10. Refined senses	28
Eco-experiment 11. Herb head	30
Eco-experiment 12. Art with plants: bookmarks and scented bags	32
2. Recipes for the little farmer	34

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission in writing of Science4you Ltd., or as expressly permitted by law, or under terms agreed with the appropriate reprographic rights organization. Any unauthorized use of this book, or any violation of this book's rights, allows Science4you Ltd., to be fairly compensated in legal terms, and not excluding criminal liability for those who are responsible for such violations.

SAFETY RULES

- Read these instructions before use, follow them and keep them for reference.
- Keep young children and animals away from the experimental area.
- Clean all equipment after use.
- Make sure that all containers are fully closed and properly stored after use.
- Ensure that all empty containers are disposed of properly.
- Wash hands after carrying out experiments.
- Do not use any equipment which has not been supplied with the set or recommended in the instructions for use.
- Do not eat or drink in the experimental area.
- Do not replace foodstuffs in original container. Dispose of immediately.

GENERAL FIRST AID INFORMATION

- **In case of eye contact:** Wash out eye with plenty of water, holding eye open if necessary. Seek immediate medical advice.
- **If swallowed:** Wash out mouth with water, drink some fresh water. Do not induce vomiting. Seek immediate medical advice.
- **In case of inhalation:** Remove person to fresh air.
- **In case of skin contact and burns:** Wash affected area with plenty of water for at least 10 minutes.
- In case of doubt, seek medical advice immediately. Take the chemical and its container with you.
- In case of injury always seek medical advice immediately.

ADVICE FOR SUPERVISING ADULTS

- Read and follow these instructions, the safety rules and the first aid information, and keep them for reference.
- This experimental set is for use only by children over 4 years.
- Because children's abilities vary so much, even within age groups, supervising adults should exercise discretion as to which experiments are suitable and safe for them. The instructions should enable supervisors to assess any experiment to establish its suitability for a particular child.
- The supervising adult should discuss the warnings and safety information with the child or children before commencing the experiments.
- The area surrounding the experiment should be kept clear of any obstructions and away from the storage of food. It should be well lit and ventilated and close to a water supply. A solid table with a heat resistant top should be provided.
- This experimental set contains seeds. The seeds must be kept away from eyes, nose and mouth. In case the seeds come in contact with eyes or mouth, wash with running tap water. In case of rash or irritation seek medical advice.

In case of poisoning by any of the components used in the experiments of this toy, contact your local poison control center or the nearest hospital. Please consult the following link for more information: <https://www.poison.org/>

In case of emergency dial:
9-1-1 or Poison Control: 1-800-222-1222



LIST OF SUBSTANCES SUPPLIED

Carrot Seeds

Watercress Seeds

Green Bean Seeds

Melon Seeds

Radish Seeds

Soil for Plants

Sugar Baby Watermelon Seeds

Recommendations for substances and mixtures: Do not ingest. Avoid contact with the eyes and mouth. Use only according to the instructions. Store in tightly closed containers. Keep in a cool, dry place. Protect from moisture, direct sunlight and heat sources.

DISPOSAL OF SUBSTANCES

Do not dispose of substances and / or mixtures together with household or other waste. Please recycle packaging materials where local recycling programs exist.



KIT CONTENTS



Little farmer stickers and card with decorative elements



Soil for plants



Seed packets



Small measuring cup



Farming tools



Biodegradable flower pots



Planting tray



Pipette dropper

Set up your own gardening station!

Little farmer, use the included stand as a laboratory bench for your experiments. Cut out the dotted spots and place the material you will use during the experiments in the spaces.



Suggested setup

In your Kit you will find 3 packets of seeds to grow the following. Find out what they are and when is the best time to plant them!

Melon (Cantaloupe)



Ideal planting season:
spring
Ideal growth temperature:
65 to 79°F
Ideal harvesting season:
3 to 5 months (80 to 140 days),
after being planted

Sugar Baby watermelon



Ideal planting season:
spring
Ideal growth temperature:
74 to 83°F
Ideal harvesting season:
80 to 110 days, after
being planted

Watercress



Ideal planting season:
any time of year
Ideal growth temperature:
50 to 68°F
Ideal harvesting season:
60 to 80 days, after being planted

Green Beans



Ideal planting season:
spring/summer
Ideal growth temperature:
68 to 77°F
Ideal harvesting season:
50 to 80 days after being planted

Radish



Ideal planting season:
any time of year
Ideal growth temperature:
47 to 68°F
Ideal harvesting season:
25 to 30 days, after
being planted

Carrot



Ideal planting season:
spring/summer
Ideal growth temperature:
61 to 72°F
Ideal harvesting season:
60 to 120 days, after
being planted

Once upon a time
a little seed...

Hello little farmer, did you know that without plants, there could be no life on Earth as we know it?

Plants live all over the planet and in nature there are 2 types of plants: those that are born and grow naturally, without human intervention, and those that are sown or planted by people. We call these **spontaneous plants** and **cultivated plants**, respectively.

What makes up the parts of a seed?

Did you Know...

Plants are very important to save the planet? Today, due to air pollution, the presence of many plants is essential. Plants (including trees) are responsible for **photosynthesis**, a process through which they consume the carbon dioxide that exists in the atmosphere and release oxygen!

How does a seed germinate?



Seed coat

Embryo

Stored food

Come with me and let's explore the world of agriculture!

What happens?

Plants germinate (are born) from seeds! To grow, they need nutrients, water and sunlight in just the right amounts, or they may not germinate at all.

Plant life is mainly influenced by 4 factors:



Temperature



Soil (Nutrients)



Water (Humidity)



Light

Agriculture is the science of cultivation (growing things) with the goal of obtaining food or raw materials like wood, plants or animal products. Those who practice or work in agriculture we call a **farmer**! The science that studies agriculture is **agronomy**.

ECO-EXPERIMENT 1

How to start a farm?

What you will need:
Material included in the kit:



Extra materials:

- Water • Wood toothpicks • Scissors
- Adhesive tape • Marker

Always ask an adult for help!

How to make it:

1. Put some soil inside the planting tray.

2. With the farming tools, make sure that the soil is evenly distributed. Use the scooping tool to smooth the soil.

3. Then divide your planting area into 3 equal plots. To do this, use the wooden toothpicks as you see in the picture.

Decorate the planting tray with the fence stickers from your kit!

4. Cut out the nameplates from the card with decorative elements. Ask an adult to write the name of each type of plant that you are going to plant on each one, then stick them in their spaces in the soil.

5. In each corresponding plot, place a few seeds about 1/4 inch deep. Use the poker tool as shown to make holes in the soil for each seed.

6. Then, cover the seeds with the spoon tool. With the Pipette dropper, moisten the soil well where you just planted your seeds.

7. Now just wait until the plants start growing. Check the soil every day for moisture. If you see that it is getting dry, add some water using the dropper and the small measuring cup.

Decorate your garden with the tractor and the scarecrow from the card with decorative elements! Don't forget to stick the elements to a toothpick before you put them in the ground.



**Reduce
Reuse
Recycle**

Eco-farmer:

Little farmer, you can reuse parts of vegetables that we usually throw away to grow new fruits and vegetables: Try putting the top of a carrot on a plate with water to see what happens. You can also dry the seeds from tomatoes, cucumbers, pumpkins, and others you like, and then plant them — you can use the biodegradable flower pots on page 14.

One day a little farmer threw a seed into the ground...



ECO-EXPERIMENT 2

What do plants need to live?

What you will need:
Material included in the kit:

- Small measuring cup
- Biodegradable flower pots
- Pipette dropper
- Little farmer stickers
- Seeds (watercress or green bean)
- Soil for plants

Extra materials:
• Water • Marker • Pencil • Scissors

Always ask an adult for help!

How to make it:

1. With a marker identify the 3 flower pots with A, B and C.

2. Put some soil in each of the flower pots. With the help of the Pipette dropper, place a few drops of water in each pot, just to moisten the soil.

Decorate the flower pots with the colored ribbons from the little farmer stickers!

3. Then put some seeds (of the same type) in each flower pot.

4. Now create different growing conditions:

Flower pot A: place the pot next to a window, where there is sun exposure. Keep the soil moistened with the help of the Pipette dropper and the small measuring cup with water.

Flower pot B: place this pot in a dark place. Also keep this medium moist.

Flower pot C: place the third pot next to a window with sun exposure, but in this case do not add water to the soil.

5. Observe and record your results, in the table below, for at least 8 days.

Day/Grow	Pot A		Pot B		Pot C	
	Yes	No	Yes	No	Yes	No
1						
2						
3						
4						
5						
6						
7						
8						

Light

Abiotic Factors

Soil

Water

Temperature

What happens?

The seeds contain all the **nutrients** that plants need to grow, so they also grow easily in cotton. However, the external conditions in which the plant finds itself also influence its growth. With this experiment it is possible to conclude that **moisture** and **light** are two essential factors for plant growth, i.e. in the absence of light or moisture plants cannot grow. We can thus list four **abiotic key factors** for plants to grow in a healthy way:

- **Soil:** the composition of the soil and the nutrients present in it are essential for the development of all plant species
- **Water:** the presence of water is very important because water is a necessity for all living beings, including plants
- **Light:** the presence of light is essential for the development of plants, as they need it for photosynthesis
- **Temperature:** some species develop better at certain temperatures

Over several days the little farmer gave her water and nutrients so she could grow...

Reduce
Reuse
Recycle

Eco-farmer:

Little farmer, what if you made your own flower pots out of reusable materials? You just need the cardboard tubes left over from toilet paper and a pair of scissors:



Besides helping the environment, these pots can be planted directly in the soil after your seeds start to germinate! Isn't it super green?

4. Ask an adult to cut a piece of absorbent string about 6 inches long. Put one end into the glass with water and stick the other end of the thread in the pot with the plant, creating a connection between the pot and the glass.

The automatic irrigation system is ready!

ECO-EXPERIMENT 3

Automatic irrigation system

What you will need:
Material included in the kit:



• Small measuring cup

Extra materials:

• Tall glass • Absorbent string • Flower pot with plant* • Ruler • Water • Scissors

* Use one of the flower pots from the previous experiments

Always ask an adult for help!

1. Turn the tall glass upside down and place it on a smooth surface.

2. Fill the small measuring cup with water and place it on top of the cup you have turned upside down.

Tip: When your plants grow, you can transplant them to a larger flower pot or to the garden, along with the biodegradable flower pot!

What happens?

In this experiment, the water molecules are absorbed by the string and at the same time are attracted by the water molecules that are nearby, generating a force that "pulls" the water into the pot, supplying your plant with water until the glass is empty.

As the days went by, the seed grew stronger and stronger...

ECO-EXPERIMENT 4

What is the best soil for plants?

What you will need:
Material included in the kit:

- Pipette dropper
- Seeds (watercress or green bean)
- Biodegradable flower pots
- Soil for plants

Extra materials:
• Clay soil • Sand • Water • Marker

Always ask an adult for help!

- With the help of the Pipette dropper, use water to water your crops.

Little farmer, did the seeds grow the same in each pot?

How to make it:

- Fill half of each flower pot with each type of soil: clay soil, soil and sand.

- With the marker, identify the pots with the names of the different samples.



- Then place one seed (of the same type) in each pot. Ensure that it is buried about 1/4 inch deep.



- Check your crops every day and water them if necessary.

What happens?

The soil is the top layer of the Earth's crust and is composed of mineral agglomerates and organic matter, resulting from the decomposition of living beings (animals and plants). The soil has several important functions: it is fundamental as a source of nutrients for plants, but its composition also interferes with agricultural activity. The characteristics of the soil are influenced by climate, the incidence of sunlight, the type of rock that it came from, the plant cover and organic matter. In this way, soils can be classified as you can see in the next table:

Sandy soil:

Composed mainly of sand. It presents a granular consistency and is very porous and permeable. In addition, it has low humidity and dries quickly. It is poor in nutrients.

Clay soil:

It has very small and compact grains, but it is impermeable to liquids, that is, the liquids can barely pass between its grains. For this reason, it retains a lot of water. It is, on the other hand, a soil rich in nutrients.

Humiferous soil:

Consisting mostly of humus, that is, the result of the detriment work of living beings, such as worms. It is the ideal soil for agriculture because it is aerated, permeable and rich in nutrients and mineral for plants to grow.

Limestone soil:

It contains a lot of limestone, being ideal for use in construction.

Did you Know...

To make the soil more fertile and to help vegetables and fruits grow faster and healthier, farmers use **fertilizers** or **compost**. Sometimes fertilizers and compost can be harmful, so to avoid contamination of food, soil and water, it is important to use natural products — **organic farming**.



Composting is an example through which **natural fertilizer** can be made. This is a process of transforming organic waste, such as food waste, peels, tree leaves, among others. By composting, you not only improve the quality of your soil and your garden, you are also helping the environment, since you materials that would otherwise be thrown away.

See the Eco-Farmer on the next page and create your own organic compost for your crops!

With so many good nutrients that the little farmer put on the soil, the little seed grows non-stop...

Reduce
Reuse
Recycle

Eco-farmer:

Little farmer, create your own compost: In a large container place the compost waste alternately with some layers of soil. Add water and stir the contents regularly. The compost will be ready in 3 months. Then just add it to the soil of your garden!

Put in a large container for composting:

grass, tree leaves, parts of plants and vegetables, coffee grounds, egg shells, soil, water, paper, potato peel, paper towels

Do not put in the container:

bones, fat, butter, animal feed, milk, stones, cans, etc.

ECO-EXPERIMENTS

How do plants get food?

What you will need:

Material included in the kit:

- Pipette dropper

Extra materials:

- Food coloring • Glass • Water
- Scissors • White carnation

Always ask an adult for help!

3. With scissors, cut the stem of a white carnation about 4 inches long. Ask an adult for help with this step.

4. Place the carnation inside the glass with colored water.

5. Now just wait and see what happens.

6. Repeat this experiment, using other carnations and other food colorings.

How to make it:

1. Put some water in a glass.

2. With the Pipette dropper add 15 drops of food coloring to the water.

Wait a few days and see what happens! Always refill the glass so the flower doesn't run out of water!

What happens?

The colored water rises up the stem, until it reaches the leaves and the flower, becomes the coloring of the food coloring used — scientists call this phenomenon **capillarity**. The plants get food through the roots. In their absence, the stem carries the water directly to feed the plants.

Until one day,
a little plant
comes up...

ECO-EXPERIMENT 6

Do plants move?

What you will need:
Material included in the kit:

• Pipette dropper

• Biodegradable flower pots

• Seeds (watercress or green bean)

• Small measuring cup

Extra materials:

• Cotton • Sand

Always ask an adult for help!

4. Wait a few days and watch what happened. Don't forget to water the flower pots.

Did you know...

Charles Darwin, english naturalist and biologist, conducted several experiments where he subjected the apex (tip) of the plants to different treatments, obtaining the results illustrated in the following image?

Image 1. Results obtained by Darwin:

A – Presents curvature

B and C – Does not present curvature

D – Although it is covered, it presents an inclination to light

How to make it:

1. Put cotton in both flower pots and add some seeds.



2. Fill the small measuring cup with water and, with the help of the Pipette dropper, water the seeds.

3. Place the pots near a window with sun exposure, in the position indicated in the next image.



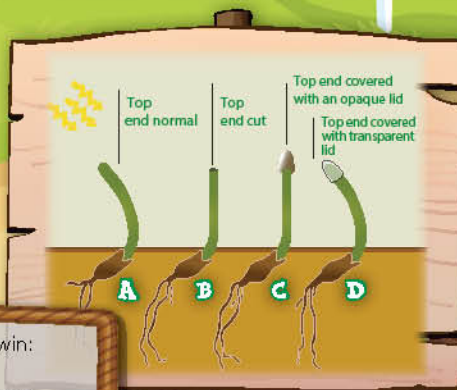
What happens?

Plants with a cut apex or prevented from receiving light do not turn towards the light, that is, they do not present phototropism. Based on the results that Darwin obtained, he also concluded that plants produce substances (phytohormones) that influence their behavior and growth. He also concluded that when they are subjected to lateral light. This message is transmitted from the upper part to the lower part of the plant, which causes the curvature in direction of the light. This characteristic is called **positive phototropism**. It is this phenomenon that you observe in the B pot of the experiment.

Did you know...

Sunflowers are famous plants because of their **heliotropism**, that is, sunflowers move throughout the day towards the sun!

and the plant kept growing...



ECO-EXPERIMENT 7

What are the parts of a plant?

What you will need:

Material included in the kit:

- Small measuring cup
- Seeds (watercress or green beans)

Extra materials:

- Transparent glass
- Plain gelatin
- Water
- Spoon
- Logbook and pencil

Always ask an adult for help!

5. Wait for it to cool a little, but without solidifying completely. Then, put some seeds (about 5) inside the glass. This way, they will stay close to the surface.

ATTENTION: When you finish the experiment, throw away all used food.

How to make it:

1. With the small measuring cup, measure 100 ml of water. You will have to make 5 measurements of 20 ml each.

2. Ask an adult to heat this water. Carefully put the hot water in the transparent glass.

3. Now pour the contents of one packet of plain gelatin powder (about 10 - 12 grams (g)) into the glass and mix well, using a spoon.

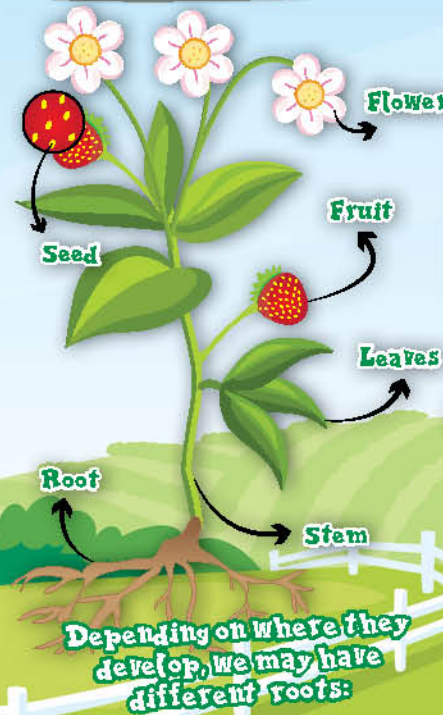
4. Make sure the gelatin is well dissolved in the water.

6. Now you will have to be patient and wait for the seeds to start to germinate! As the days go by you should be able to see several changes.

SCIENTIST FARMER:

With a pencil and a logbook, keep track of the changes you see in your seeds every day! Draw everything you see. Don't forget to write down the date of each observation.

Image 2. Structure of a flowering plant.



1. Underground Root



2. Aquatic Root



3. Aerial Root



SEED: Responsible for the reproduction of the plant.

FLOWER: Allows the reproduction of the plant and grows the fruit.

FRUIT: Usually contains seeds that will originate a new plant.

LEAVES: They allow the plant to breathe. These produce the plant's food while releasing oxygen.

STEM: It carries food from the roots to all parts of the plant. It also supports the leaves, flowers and fruits.

ROOT: Anchors the plant to the ground. It is through this that the plant gets food.

What happens?

Plants are made up of several parts. All of which have specific characteristics and functions, as you can see in image 2. The seeds already have the nutrients they need to start their germination. It is therefore enough for them to find the ideal environmental conditions for this to happen. In the case of this experiment, the gelatin preparation allowed the seeds to germinate!

Growing...



Did you know...

There are two types of plants, depending on whether or not they lose their leaves throughout the year? A plant that loses its leaves at a certain time of the year is called a **deciduous plant**. On the other hand, plants that keep their foliage throughout the year we call **persistent leaf plants**.

ECO-EXPERIMENT 8

More space to grow

What you will need:

Material included in the kit:



- Farming tools • Garden from Eco-experiment 1 with plants about 2 in. tall

Extra materials:

- Big pot • Soil for the garden • Transplant shovel

Always ask an adult for help!

How to make it:

1. Fill the big pot with garden soil.

2. With the transplanting shovel, make a hole in the soil so you can put the plant there.

3. Carefully use a farming tool to remove the plant from Eco-experiment garden 1 and place it inside the hole you made previously.

Little farmer, you can choose to transplant your crops into a larger pot or into a garden or your yard! If you choose a garden/yard, start the experiment at point 2.

A transplant shovel is a very important tool when it comes to moving plants in a garden!

ATTENTION SCIENTIST!

You must not pull the plant out of the ground, but dig it from the greenhouse along with some of the soil that is attached to its roots.

4. Now you just observe your plants growing nonstop! Don't forget to water them.

What happens?

In order for the plants to grow faster and without becoming rootbound, it is necessary to transplant them into larger pots or gardens when they reach a certain size. This size depends on the species and is usually done when the plants are at least 2 inches tall.

Ecological tip:

Add some used coffee grounds to the soil where you're going to transplant your plants. Coffee grounds keep some pests away and are a good natural fertilizer for the soil!

If don't have much room for your crops, create a vertical garden, for example reusing plastic bottles; you can even link them together to create a more efficient irrigation system.



Growing nonstop... until it has beautiful flowers!

Reduce
Reuse
Recycle

Eco-farmer:

Little farmer, reuse the water where you have cooked food (let it cool down!), or collect rainwater in reusable containers, to water your plants. This will save you lots of water, plus provide your plants with much more nutritious water!



ECO-EXPERIMENT 9

Is rain always good?

What you will need:
Material included in the kit:

• Pipette dropper

• Seeds (choose one type of vegetable seeds to use here)

• Soil for plants

Extra materials:
• 4 Equal flower pots • 4 Glasses
• Water • Salt • Vinegar
• Dish soap • Marker • Tablespoon

Always ask an adult for help!

Glass A: Water



How to make it:

1. Put some soil in each pot. Add 3 to 5 seeds in each one. The seeds should be covered with about 1/4 inch of soil. Label each pot with A, B, C and D.

2. Wait about 1 week until your seeds germinate

3. Prepare the various solutions:

Glass B: 1 tablespoon of vinegar for 1 glass of water



Glass C: 1 tablespoon salt for 1 glass of water



Glass D: 1 tablespoon dish soap for 1 glass of water



ATTENTION: When you finish the experiment, throw away all the used food.

4. For one week, with the help of the Pipette dropper, water one pot with water (A) and the others with the matching letters (B, C and D).

Note: don't forget to wash the Pipette dropper when you change the solution!

5. Write down what you see in the table on the next page.

Table of records:

Day	1	2	3	4	5	6	7
Pot A							
Pot B							
Pot C							
Pot D							

What happens?

The plants that are watered only with water should show normal growth; different from what happens with plants that were watered with the other solutions. In nature, sometimes the rain is not good for plants due to air pollution. This may contain some chemical elements which are harmful to plant development, and they might not survive.

Did you Know...

Due to air pollution there is a phenomenon called **acid rain**? This phenomenon has serious and negative consequences, which affect human health, agriculture (plants and soils), waters and some buildings and monuments.

The rain also helped the seed to grow!



ECO-EXPERIMENT 10

Refined senses

What you will need:

Material included in the kit:



• Garden from Eco-experiment 1

Extra materials:

• Herbs and other plants (of your choice) • Pencil

How to make it:

1. Put some of your senses to test! Use your crops from experiment 1 and fill in the following table, like a true scientist farmer!

2. Repeat the procedure for other herbs and plants you have at home! Be aware that you should only taste the plants that are edible!

	Texture	Smell	Visual description	Taste
Garden plot 1: -----				
Garden plot 2: -----				
Garden plot 3: -----				

Little farmer, why do flowers and some plants have smell?

Flowers have different aromas to attract **pollinators**: bees, butterflies, flies, dragonflies and even some birds. These animals, when traveling from plant to plant, help their reproduction.

Did you Know...

The nose is the organ responsible for the sense of smell? And, that even with blindfolded eyes you can distinguish different smells and identify them?

This is because the human body possesses what we call **olfactory memory**.



Smell



Taste



It is through the 5 senses that we can experience the world around us and identify all the different sensations!



Vision

Touch



Hearing

And the bees flew from flower to flower...



ECO - EXPERIMENT 11

Herb head

What you will need:
Material included in the kit:



• Soil for plants

Extra materials:

• Nylon stocking • Grass seeds
• Tablespoon • Scissors • 2 Buttons or pins • White glue • Water • Yogurt cup

Always ask an adult for help!

How to make it:

1. Put two tablespoons of grass seeds inside the nylon stocking.



2. Fill the stocking with soil to make a ball about the size of a tennis ball.

3. Tie a knot in your stocking so you can form a ball.

4. Now glue the buttons or put the pins on the ball you made, these will be the eyes of your doll!

5. Fill half of the yogurt cup with water and place your doll down so that it touches the water.



What happens?

By keeping the stocking in the water, water rises by **capillarity**, up to the soil, where the grass seeds are. If you put more water in the cup every day and if you allow your doll to be in the sun, you will see that the grass can grow quite easily, because it has all the ingredients it needs.

Wait for the grass to grow!

...pollinating many little flowers...

ECO-EXPERIMENT 12

Art with plants: bookmarks and scented bags

What you will need:

Extra materials:

- Plants and leaves • Old books
- Newspaper sheets • Cardboard • Glue
- Raffia thread/satin ribbon • Ruler
- Pencil • Scissors • String • Small bag of cotton or colored fabric • Paper punch

Always ask an adult for help!

Art 1 - Ecological bookmarks

How to make it:

1. Pick some flowers and leaves you want to dry.

2. Put the flowers and leaves between newspaper sheets and then put them inside an old book.

3. Close the book. To speed up the process, put other books on it, to add more weight.

4. Let it sit for 1 to 2 weeks. During the first week you should exchange the newspaper sheets every day.

5. With the ruler and the pencil, draw 2-inch by 9-inch rectangle on a thin piece of cardboard. Ask an adult to help you cut out your rectangle.

6. Use the glue to decorate the cardboard in the way you like. Now, add the flowers and pressed leaves.

7. On the upper part of the rectangle make a hole with the hole puncher, and pass one of the ends of the thread through it. Choose the thread that best suits the decoration of your bookmark. It can be raffia, green satin ribbon, pink, red, etc. Join the two ends of the thread and tie it in a knot so it doesn't come loose. The bookmark is ready!

Art 2 - Scented bags

How to make it:

1. Pick some flowers or herbs and tie them together in a small bunch.

2. Hang the bunches upside down, in a warm place, so that they dry for a while.

3. After the flowers are very dry, put them in the bag or in the center of the piece of fabric and tie it closed with the satin ribbon. Your scented bag is ready!

Surprise whoever you like most with these fantastic book markers and scented bags!

...leaving full of flowers the tree that once was a little seed

Recipes for the little farmer

Recipe 1: Watercress and radish salad

Ingredients:

- 7 oz. of watercress
- 1 small can of corn
- 3.5 oz. cherry tomatoes
- 3.5 oz. radish



Preparation:

1. With the help of an adult, wash and arrange the cress, then wash and cut in half the radish and cherry tomatoes.
2. Rinse the corn with cold water and arrange all the ingredients in a bowl. Season to your taste and enjoy your salad!

Recipe 2: Carrot and green bean cream soup

Ingredients:

- 5 carrots
- 14 oz. pumpkin
- 1 turnip
- 2 medium potatoes
- 1 onion
- 2 garlic cloves
- A little of salt
- 2 tablespoons of olive oil
- 3.5 oz. green beans

Preparation:

1. With the help of an adult, wash and peel all vegetables. Put them all (except the green beans) in a pan covered with water and let it cook for 25 minutes. Cut the beans into small pieces.
2. Then puree everything very well. Adjust the seasonings and add the olive oil.
3. Finally, add the little pieces of green beans and let them cook until they are soft.



Once upon a time there was a little seed... that became a beautiful, strong tree, from which delicious fruits full of nutrients were gathered for all the little farmers in this story!



Recipe 3: Melon or watermelon milkshake

Ingredients:

- 14 oz. sugar baby watermelon or other melon (peeled and without seeds)
- 1 container of yogurt

Preparation:

1. With the help of an adult, put the fruit in the blender with the yogurt and blend until smooth.

It's ready!
So easy to make!



How many fruits are in the picture?



Oxygen

Carbon dioxide

Photosynthesis: the plant consumes carbon dioxide and produces oxygen.

Never forget little farmer, plants are very important for our survival. They produce the oxygen that we need to breathe and they provide us with much of the food we need to eat.

Check out more COOL
experiments!



Science4you



Find out more at www.playmonster.com



9990200078736