

ACTIVITY

Theoretical-practical activity: creation of seed bombs (soil + clay + seeds) to throw or bury in order to spread plants and flowers that support biodiversity and help pollinating insects such as bees and butterflies.

OBJECTIVES

- to promote understanding of the interaction between the geosphere (soil and rocks) and the biosphere (plants)
- to explain plant reproduction and seed dispersal, as well as the importance of pollinators
- to help students understand the concepts of biodiversity and geodiversity
- to foster active citizenship

TARGET GROUP

Children in early childhood education (ages 3-6) and primary school (ages 6-10).

ESTIMATED DURATION

1-2 hours

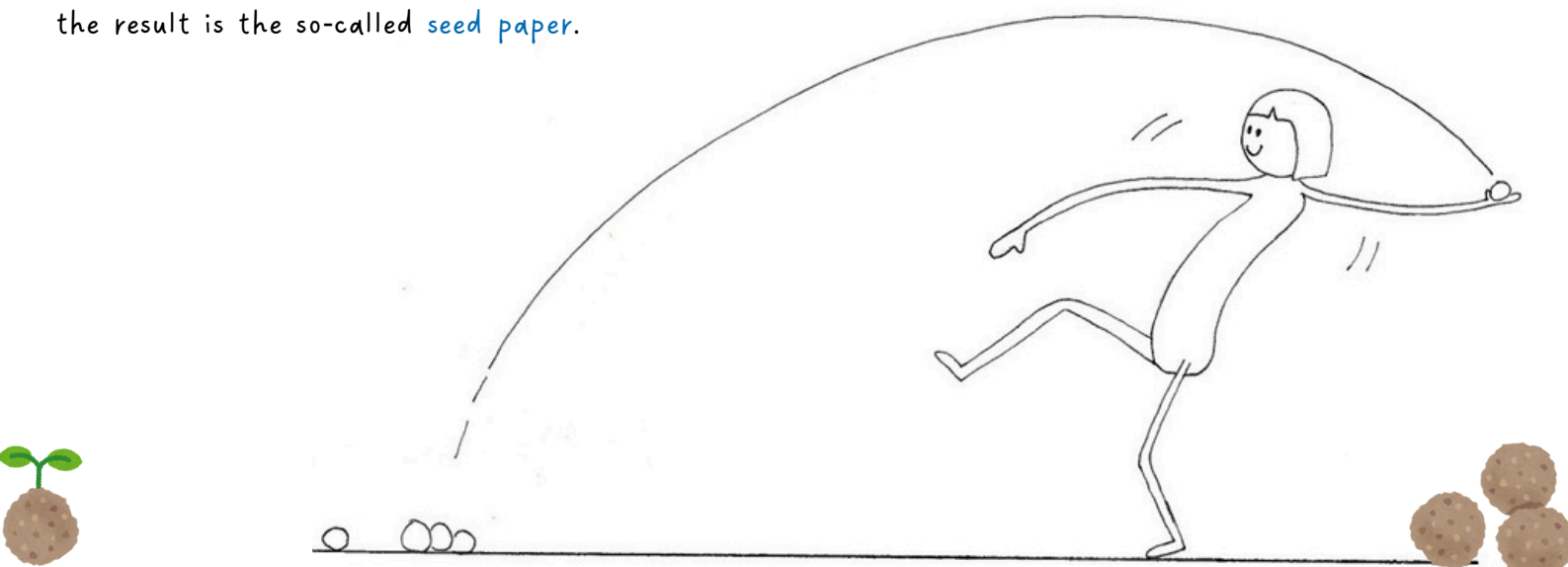
ACTIVITY INTRODUCTION AND KEYWORDS

Before starting the activity, it is advisable to introduce the topic by talking about **soils**, clays (including their uses such as making pots, bricks, ceramics, and so on), and **seeds**, as well as their connections. It may also be useful to explain the difference between **native species** (always preferable, especially in protected areas) and **non-native species** and to illustrate how important it is to create micro-habitats for small fauna (e.g. birds and pollinating insects), even in urban gardens and balconies.

The activity can be carried out anywhere: at home, in the school garden, in a public park, etc.

VARIANTS

Recycled paper from old newspapers or egg cartons can be used instead of soil and clay. In this case, the result is the so-called **seed paper**.



WHAT ARE SEED BOMBS?

Seed bombs are small spheres made of soil and clay with seeds inside (e.g. flowers, vegetables, trees, etc.). They can be placed on unused land or in other areas such as urban spaces or home and school gardens to help improve the environment.



Seed bombs are an ancient sowing technique revived and spread by the Japanese farmer **Masanobu Fukuoka** after World War II. Today, they are also used in **Guerrilla Gardening** to green and brighten degraded urban areas.

One of Fukuoka's major works, written by a pioneer of natural farming, is "The Natural Way of Farming - The Theory and Practice of Green Philosophy".

Clay not only acts as a binder but also protects the seeds from being eaten and from mold or drought.



Seed bombs can be launched in either spring or autumn and when it rains the clay dissolves completely, releasing the seeds so they can germinate!

WHAT IS SEED PAPER?

Seed paper is a type of biodegradable paper that contains seeds and can be planted to grow flowers or herbs. Once placed in the soil, the paper decomposes and the seeds begin to germinate.

Seed paper can be purchased or easily made at home using recycled paper (e.g. egg cartons) soaked in water and then blended. The excess water is removed from the resulting pulp, the seeds are added and the mixture is rolled out with a rolling pin. Once dry, it can be cut into shapes such as flowers, hearts or other decorative designs.

HOW TO MAKE THEM ?

Materials

- 5 parts of river clay (also dried clay is fine)
- 3 parts of good potting soil (or potting soil + compost)
- 1 part of seeds (either a single species or a mix)
- 1 bowl
- 1 spoon
- 1 spray bottle with water
- newspapers (to cover the work surface)

Steps

1. Put all the ingredients into a bowl and mix thoroughly, first with a spoon and then with your hands. Add the water little by little using a spray bottle until you obtain a smooth, even mixture with a consistency similar to modeling clay or shortcrust pastry.



2. Form small balls about the size of a walnut. If you prefer, you can flatten them or roll out the mixture and cut it with cookie cutters or press it into ice-cube trays shaped like flowers, hearts, and other designs. Flat shapes adhere better to the soil, increasing the chances of successful germination.



3. Let the seed bombs dry for at least 24 hours in the sun or in the open air. If they are not used right away, you can store them in a cool, dry place, for example in egg cartons.

CHOOSING THE SEEDS

You can use different types of seeds, either purchased or collected in nature, ideally in the same places where the seed bombs will later be thrown. Collecting seeds can itself be a useful activity that makes the experience even more complete. Native species are preferable as they can create small patches of spontaneous vegetation that are important for supporting biodiversity.

Be careful not to spread seeds of exotic (non-native) plants within protected areas!

TIPS...

The activity can be carried out on the occasion of **EARTH DAY** (22 April).



You can observe and record all the different steps and moments in a notebook, from the preparation to the sprouting and growth of the seedling, documenting everything with drawings or photographs.

Seed bombs can be made and given as gifts, perhaps placed in a homemade container and accompanied by instructions both for throwing them and for making them again.



Clay is a particular type of sedimentary rock, composed of very fine minerals (mainly silicates) often mixed with sandy debris produced by the breakdown and alteration of other rocks. Its properties have been known since ancient times and humans have used it for many purposes: ceramics, roof tiles, bricks, dwellings, and other manufactured objects.

When it absorbs water, clay swells and becomes a "plastic" mass that is easy to shape. However, when fired at high temperatures, it permanently loses its ability to absorb water and becomes hard and resistant. During the transition from raw clay to fired clay, its colour, texture, and weight also change: from dark and moist it becomes lighter in colour, lighter in weight, dry, and partly powdery.

Thanks to its soap-like and felting properties, clay was once also used to clean and treat wool fabrics, making them more compact, resistant, and sometimes even waterproof. This practice was common in Abruzzo, particularly in the Maiella area until the early decades of the twentieth century. In the fulling mills, structures powered by waterwheels along streams and rivers, the wool fabric was immersed in hot water and beaten with hammers. In addition to clay, other natural substances were used, such as ash, fermented urine, and plant-based soaps, but clay was highly appreciated for its effectiveness and easy availability.

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