

EXPERIMENT MANUAL

Science Advent Calendar

New educational activities
for your holiday countdown

24 NEW
EXPERIMENTS

THAMES & KOSMOS



WARNING.

Not suitable for children under 8 years.
For use under adult supervision.
Read the instructions before use, follow them,
and keep them for reference.

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Dear Parents and Supervising Adults

Children want to explore, understand, and create new things.

They want to try things and do it by themselves. They want to gain knowledge! They can do all of this with Thames & Kosmos experiment kits.

With every single experiment, they grow smarter and more knowledgeable.

Here's how your **Science Advent Calendar** works:

In each of the colorful boxes, you will find the materials needed to conduct an experiment. The instructions for the experiments are printed inside of the boxes, and each box covers a different topic.

Some additional household materials (e.g. household vinegar, lemon juice, etc.) are required. They are listed in the **You will need** section in *italics*. Provide your child with the additional materials before they begin the experiment.

In the package underneath the boxes, there is a hidden cardboard sheet, which will be used for two experiments toward the end of the calendar. If you would like to place your advent calendar boxes as decoration on a shelf or windowsill, please hold onto this cardboard sheet and give it to your child on December 22 (Day 22).

Certain experiments have QR codes that lead to additional content. They can be scanned with a smartphone or tablet with Internet access.

While experimenting with this advent calendar, children will learn basic scientific techniques. In the process, common household products such as vegetable oil, table salt, rice, or oats will be used. Do not return food items used in experiments to their original packaging. Dispose of them in the household trash or down the drain, as appropriate. They are no longer safe for consumption.

As the supervising adult, you should discuss the warnings, safety information, and the possible hazards with the child or children before starting the experiments.

Particular attention should be paid to the safe handling of chemicals and chemical solutions. Please keep this safety information handy at all times. Emphasize to your child the importance of following all instructions and warnings, and the importance of carrying out only those experiments that are described in this manual.

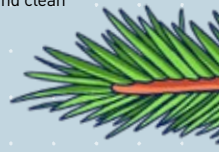
All steps must be followed in the correct order for the experiments to work. Instruct your child to work slowly and carefully. Some experiments require household items like bowls or cups. It is safest for children to experiment with plastic. If you entrust your child with fragile materials, please make them aware of the danger of breakage, and ensure that they handle them carefully. Paper towels should be on hand in case of spills.

This advent calendar is only suitable for children over 8 years of age. Because children's abilities vary so much, even within age groups, as the supervising adult, you should review the experiments and carefully select those experiments that are appropriate and safe for your child. Supervise your child especially during the experiment with plaster. Keep the calendar, accompanying materials, and household materials out of reach of children under 8 years of age.

Choose a spot with your child where they can experiment undisturbed. Ensure the floor and surface of the table are not easily damaged, or that they are covered. Your child should wear old clothing that can be stained, as strong dyes are used in some experiments.

Help your child to gather, or provide them with, the additional materials required. Most of these will be available in your household, but some items may first have to be obtained from the supermarket or other store. We recommend that you have all the materials ready before you start the experiment so that you don't have to interrupt the experiment later to gather something.

After experimenting, always wash hands and clean and dry equipment used in the experiment. We suggest keeping the equipment in the boxes it came from, as it may be needed for other days or may only be functional in combination with its specific box.



We hope you and your child have a lot of fun experimenting with your Science Advent Calendar!

SAFETY INFORMATION



WARNING!

WARNING! Not suitable for children under 3 years. Choking hazard — small parts and small balls may be swallowed or inhaled. Strangulation hazard — long cords may become wrapped around the neck.

WARNING! This kit contains functional sharp edges or points. Do not injure yourself!

WARNING! Never look directly into the sun either with naked eyes or through a lens. You could blind yourself!

WARNING! Never leave the lenses unattended in the sun. Fire danger!

Keep packaging, instructions, and boxes as they contain important information.

Instructions for handling plaster

(for Day 7)

WARNING.

Not suitable for children under 8 years of age.
For use under adult supervision.
Read the instructions before use,
follow them, and keep them for reference.

First aid information

→ **In case of eye contact:** Wash out eye with plenty of water, holding eye open.
Seek immediate medical advice.

→ **If swallowed:** Wash out mouth with water, drink some fresh water. Do not induce vomiting.

Seek medical attention immediately.

→ In case of doubt, seek medical advice without delay:

Take the chemical and/or product together with the container with you.

→ In case of injury, always seek medical advice.

Safety Rules

→ **For the handling of plaster:**

– Do not place the material in the mouth.

– Do not inhale dust or powder.

– Do not apply to the body.

→ Keep out of reach of children under 8 years of age and animals.

- Store chemical toys out of reach of young children.
- Wash hands after carrying out activities.
- Clean and dry all experimental equipment after use and store them correctly.
- Do not use any equipment that has not been supplied with the set or recommended in the instructions for use.
- Do not eat, drink, or smoke in the experimental area.
- Detailed instructions on how to carry out the experiment with the plaster powder are provided in the box instructions for day 7.

Advice for Supervising Adults

- a) This experiment set is not suitable for children under 8 years old. Use under adult supervision. Keep this chemical toy set out of reach of children under 8 years old.
- b) Read, and follow these instructions, the safety rules and the first aid information, and keep them ready for reference.
- c) **Incorrect use of chemicals (plaster) can cause injury or and damage to health. Only carry out those**

activities which are listed in the instructions.

- d) 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.
 - e) The supervising adult should discuss the warnings, safety information and the possible hazards with the child or children before commencing the activities.
 - f) The area surrounding the experiment should be kept clear of any obstructions and away from the storage of food. It should be well lit, well ventilated, and close to a water supply. A solid table with a heat-resistant and easily-cleaned surface should be provided. Wear appropriate clothing when working with plaster.
 - g) The work area should be cleaned immediately after carrying out the experiment.
- **Disposal:** Dispose of spilled plaster and plaster residue in household waste.

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