About the “Little Scientists’ House” Foundation

The charitable foundation “Little Scientists’ House” is involved in a nationwide initiative for the education of preschool and primary school age children in the areas of natural science, mathematics and technology. The services of the foundation support education professionals and teachers in accompanying girls and boys on their voyages of discovery through everyday life. The Helmholtz Association, the Siemens Foundation, the Dietmar Hopp Foundation, the Deutsche Telekom Foundation and the Autostadt in Wolfsburg are partners of the “Little Scientists’ House” Foundation. The foundation is promoted by the Bundesministerium für Bildung und Forschung (Federal Ministry for Education and Research).

Is your child’s day-care center, nursery or primary school already a “Little Scientists’ House”?

Inform the professional and teaching staff at the daycare center, nursery or primary school about the continuous training and opportunities for practical experience available through the “Little Scientists’ House” Foundation. Accompany children as well as the professional and teaching staff at your educational facility when inquiring about natural science phenomena and mathematical or technical issues. You can also help motivate your child’s daycare facility or school in making inquiry-based science activities visible to the outside world with a “Little Scientists’ House” certificate! For more information, see: ***www.haus-der-kleinen-forscher.de.***

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Primary school age children, too, can become explorers online:
www.meine-forscherwelt.de

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KLEINE FORSCHER
Naturwissenschaften und Technik für Mädchen und Jungen

FOR PARENTS

EXPLORING BEGINS WITH QUESTIONS

YOUR CHILD IN A “HAUS DER KLEINEN FORSCHER” (LITTLE SCIENTISTS’ HOUSE)

GEFÖRDERT VOM

Bundesministerium für Bildung und Forschung

PARTNER:

Helmholtz-Gemeinschaft
Siemens Stiftung
Dietmar Hopp Stiftung
Deutsche Telekom Stiftung
Autostadt GmbH

Dear Parents,

Do you know how much water is in the sea? Has your child ever asked you how salt gets in the sea? Have you ever observed your child contemplate each and every building block in order to keep the tower as stable as possible while stacking it higher? Or, at the dinner table, wondered why an apple has wrinkles like Grandma?

Children are curious and they carefully observe their immediate environment; they ask questions and voice their assumptions. They want to discover and understand the world around them.

The "Little Scientists' House" Foundation ("Haus der kleinen Forscher") fosters this curiosity and interest in natural science, mathematics and technology, thus laying an important foundation for your children's future learning. The foundation offers continuous training courses for childcare providers and educators, as well as for primary school teachers, and supports them in introducing inquiry-based scientific, mathematical and technical topics to the children in everyday life.

"Why can't we fly the kite today?" – How you can support your child with exploration activities!

You can encourage your child's spirit of exploration at home. It's not only a matter of providing the correct physical explanation, e. g. there's not enough wind and the kite's gravity pulls it down. Support your child in the quest for answers.

Does your child realize the actual concept of wind? In order to learn the significance of phenomena such as "wind" or "gravity", it is important for children to exchange ideas, as well as gain experiences by working with others.

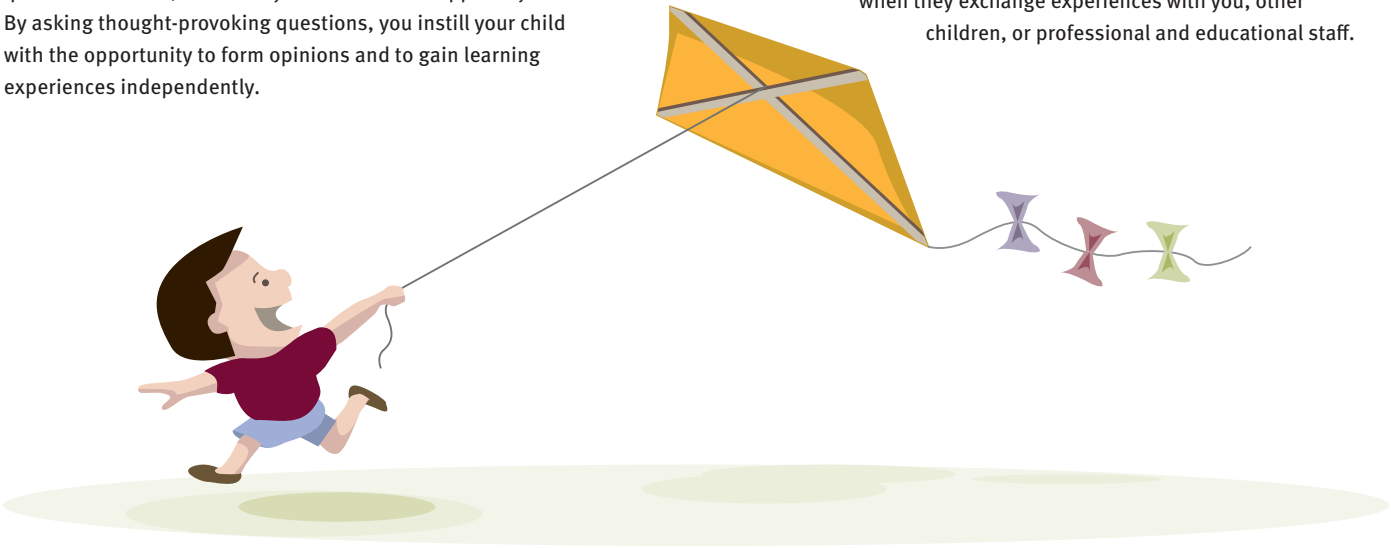
Ideas for discussion with your child: What is wind? Does it always blow at the same speed? Where does it come from? Ask questions such as, "What do you think would happen if you...?". By asking thought-provoking questions, you instill your child with the opportunity to form opinions and to gain learning experiences independently.

What makes children young explorers

Enjoyment, curiosity, and interest should be at the forefront of inquiry and discovery. Through that interest, an understanding of fundamental natural science, mathematics or technical relationships can develop.

By means of independent inquiry, children experience a feeling of "I can do this!", thus strengthening self-confidence.

When children closely observe, examine and compare phenomena, as well as ponder the methods by which they would like to discover something, they bolster their capacity to solve problems. They learn which methods and procedures are best suited to answer their exploration questions and then learn to apply them. Your child's linguistic skills are also developed when they exchange experiences with you, other children, or professional and educational staff.



EXPLORATION IN EVERYDAY LIFE

SAND TUNNEL CONSTRUCTION IN THE PLAYGROUND

Imagine the following situation and try this yourself with your child: You are in the playground and your child is attempting to build a tunnel in the sand, and tells you that the tunnel should look like the one through which you recently drove. However, the walls of the sand tunnel continually collapse.

Children learn through interacting with you

Ask your child what other ideas they have for constructing the sand tunnel. Perhaps your child is aware of animals that tunnel? For example, how does a mole or an ant build a tunnel? Or remind your child of the cakes you baked together. What did you use for the cake? Perhaps your child poured water into the flour? What happened?

Common trial and error

You can discuss with your child how the tunnel should be built. How long and deep should the tunnel be? What materials do you need? What tools could be used, and how? How wet can the sand be? Experiment with different possibilities and discuss with your child which ideas could be best implemented. Why does your child think this method worked better than another? What could cause the difference? Extend the tunnel with your child so that toy cars can be driven through it. Does the tunnel need to be supported by braces? Find out together! Or build a sand castle beside the tunnel that can be decorated with fantasy figures.

Take pictures of the sand tunnel you built together as a memento.

What has my child learned?

While building the sand tunnel, your child was able to expand upon technical skills such as encountering structural analysis during the construction of the tunnel. If, for example, you invented and built a tunnel boring machine, your child was able to experience the phenomenon of propulsion and. would probably also have discovered that the sand dredged up from the depths is moister than the sand at the surface. Your child would recognize that, although sand is solid, it also behaves somewhat like a liquid. To demonstrate this phenomenon and make it more memorable, let your child experience the sensation of sand running through the fingers, and allow your child to pour water over the sand. Where does the water go? Can the water be stopped? How is this phenomenon possible?

YOU CAN CONTINUE EXPLORING WITH YOUR CHILD

Use the following exploration questions for voyages of discovery with your child. Allow ideas and exploration questions from your child's daycare center, nursery or primary school to inspire your inquiries. Determine whether you discovered something different with your child at home from what your child discovered at the daycare facility or school.

The results and paths taken to reach the results can, for example, be presented together in a "discovery day" with all parents. Through this activity, your child learns that both you and the staff and educators in the facility find enjoyment in exploring. By providing materials for inquiry-based science activities, assisting during these exercises in your daycare center, nursery or primary school, or accompanying children on excursions, you are contributing to the quality of the natural science instruction within your child's educational facility.

Have you and your child ever asked yourselves:

- Which toy cars roll the fastest? Do cars roll faster or slower on carpet or on wood floors?
- Does it make a difference whether you go down the slide in pants or shorts? Or in waterproof pants or jeans?
- How many leaves are there on the tree in the front yard?
- How can you make dirty water clean again?
- If we make an hourglass out of different-sized plastic bottles, do we need the same amount of sand for an hour in each?

AND WHAT ARE YOU EXPLORING WITH YOUR CHILD RIGHT NOW?