

Earth is a globe



A project for early education

Introduction

Children are inquisitive and curious and have a tremendous need for new knowledge. A globe in a strategic place in the young learner's classroom can be a great help to an infinite amount of exciting projects and journeys for the children. A globe can help build the children's view of the world and the dawn of their comprehension of their own place in the world- and perhaps the universe.

Help promote the use of globes in teaching. Use a globe as kick-off for a trip around the world, learn about other countries, peoples, animals, plants, or travel into space to look down on earth from outside.

In this resource booklet you can find ideas on how to introduce the globe to the children. Play with the globe and find out how this can be used together with other ASE activities.

There are many ways to use a globe. One way can be to use a «proper» globe in assemblies and planned activities, but also using some inflatable globes to allow the children to play with and explore on their own.

This booklet is one in a series of booklets about space. All themes and topics are created in order to assist teachers of young learners. They can be used individually or together with others to create a larger project about space in the classroom. Allow the children to decide where to go. Choose from the topics to create a thread between the activities. Remember to document what you do to allow others to see what great work you have done!

Curriculum (Norwegian Rammeplan for early education)

The primary goal of the kindergarten is to promote learning. In the kindergarten, the children will experience a stimulating environment that supports their desire to play, explore, learn and master (...).

The children's curiosity, creativity and desire for knowledge should be recognized, stimulated, and create a foundation for their learning processes.

The children should examine, discover, and understand relationships, expand their perspectives, and gain new insights.

The children will	The staff will
<ul style="list-style-type: none"> • Experience, explore and experiment with natural phenomena and physical laws • Construct from different materials and explore the possibilities of tools and technology • Discover and wonder about mathematical relationships • Develops an understanding of basic mathematical concepts • Experiences sizes in their surroundings and compares them • Uses the body and senses to develop spatial awareness • Researches and gains experience in solving mathematical problems and experiences the joy of mathematics • Explores and wonders about existential, ethical, and philosophical questions 	<ul style="list-style-type: none"> • Observe, analyze, support, participate and enrich the game on the children's premises • Be aware and evaluate their own role and participation in children's play • Visualize natural phenomena and reflect together with the children about relationships in nature • Explore and experiment with technology and natural phenomena together with the children • Use mathematical concepts reflectively and actively in everyday life • Strengthen the children's curiosity, enjoyment of mathematics and interest in mathematical relationships based on the children's forms of expression • Facilitating mathematical experiences by enriching children's play and everyday life with mathematical ideas and in-depth conversations • Stimulate and support the children's ability and perseverance in problem solving

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Teachers guide

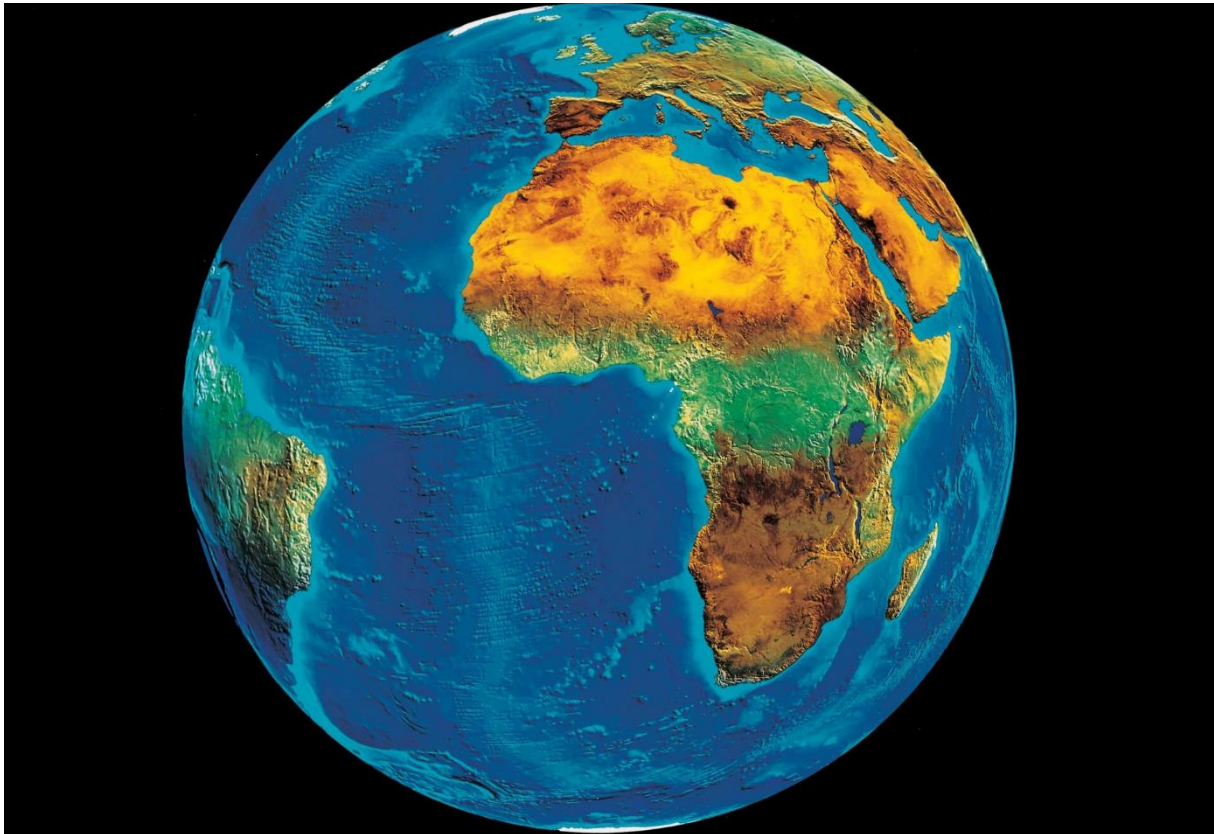
The globe can be a useful and fun tool for learning. It can create a backdrop for exciting conversations with the children, and it can lead to wondering and a need to find out more.

Get a globe, and perhaps some inflatable ones too, to allow the children to explore and play on their own.

Activity 1 Introducing the globe

Get to know the globe and our planet. Talk about astronomical size and scales. These can be difficult terms to fully comprehend but let us try. In activity 3 there are some suggestions on how to explain scales and sizes.

Let the children look at earth. Ask questions about the colours. Why are there different colours in the different areas? What does it mean that some areas are blue? What is the green? Or the brown? Explain that we can see oceans, lakes, land and mountains. The globe is just a miniature of our Planet Earth.



Picture 1 Credit: EUMETSAT/DLR

Show how Earth spins around its axes and at the same time travels around the sun. Perhaps the children can join in on dramatizing the rotation and the orbit. When we model the rotation, we do it quite slowly, but in reality Earth rotates very quickly. Actually, Earth rotates about twice the speed of an airplane; 1670 km/h. And Earth orbits the sun in an amazing 107 200km/h. These numbers might not mean much to the children, but some of them might have travelled in an airplane? How fast does an airplane move? (about 800km/h)

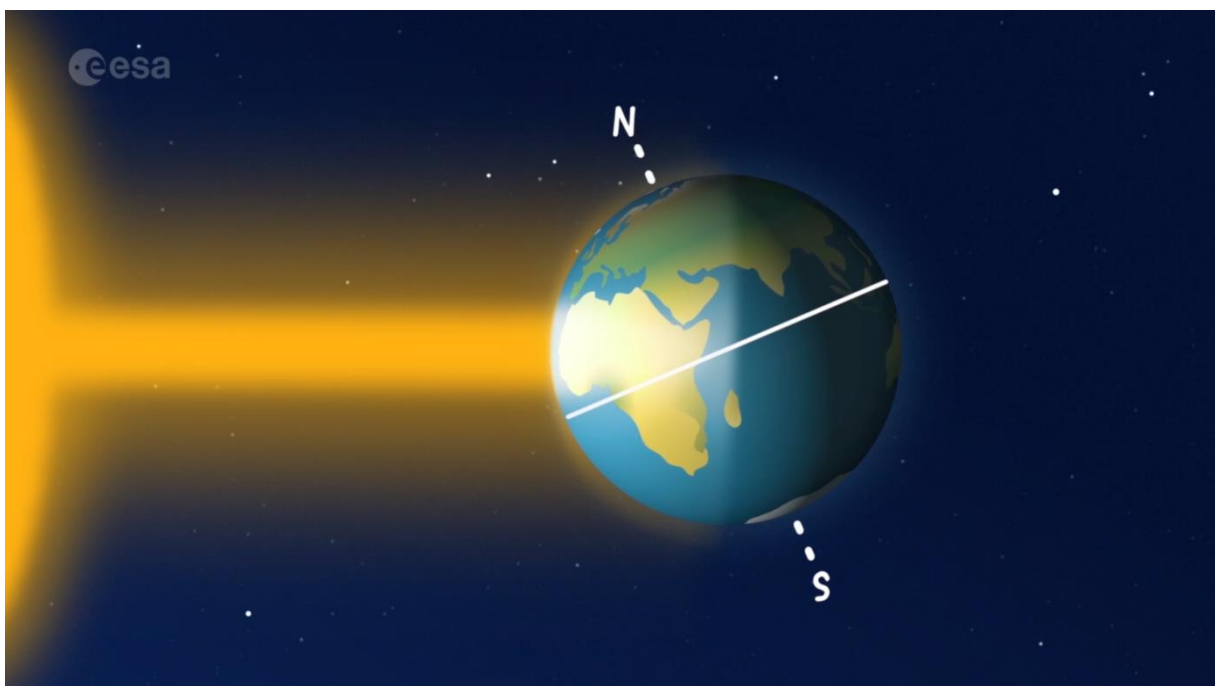
Activity 2 Light and shadow, day and night

Why is it light in the day and dark at night? Where does the sun go at night? Ask inquisitive questions about the sun and Earth. What do the children know already? What do they think? In a conversation like this, there can be a lot of interesting comments, so be prepared to continue the conversation on their premises.

You will need

A globe or inflatable globe
 a flashlight or other light source
 a relatively dark room

Place the globe in a dark room and allow the children to sit in a circle around it. Turn the flashlight towards the planet, this resembles the sun. What parts of the planet are light and what parts are in shadow? Where is it daytime? And where is it night-time? Rotate the planet and observe how the light disappears from one area but covers another. Make sure to comment on how you are moving the planet, while the sun remains still.



Picture 2 Credit: ESA

Activity 3 Size and distance

What is biggest, the sun or Earth? How far is it to the sun? start a conversation with the children and ask questions about what is biggest, the sun or Earth. Many children look up at the sky and concludes that the sun must be smaller than Earth. That is what they observe.

To explain size and scale to children we will have to show them something that is scaled down or use pictures or images of something that is familiar to them. Here you can use a picture of the school or pictures of the children themselves.

Look at the pictures of the children. Perhaps they can stand holding their own pictures. Compare the size of the child and the picture. Ask questions to make them wonder about the difference and why the image is much smaller. Would the child fit in the picture if it was full size? Look at the picture of the school and ask the same questions.

Imagine we shrink planet Earth the same way. Point to the globe. This is our planet. Someone created a small model of it so that we can explore and learn about Earth.

Our sun is in the middle of our solar system and our planet orbits around the sun. If Earth was as big as this globe, the sun would be as big as a 10-story building. Inside the sun we can fit 1300 000 earths.

Imagine we shrink earth even more, to the size of a marble. Then the sun would be the size of a large beach ball (or one of the smallest children).

Use a large field or open area. A football field or a big lawn is perfect. Place the sun- the beach ball- in one end. Walk 25 meters and place the marble. If the sun and Earth was shrunk, this would be the distance between them. Imagine how far this distance would be in reality. The sun is actually 150 million km away from Earth. If we could travel that distance with an airplane it would take us 19 years to get there. All the children would be grown up by the time we got there.

Activity 4: Make your own globe

A home-made globe can be a nice decoration for the window. Let the children make their own Earth- or any of the other planets.

You need:

- Balloons
- Newspapers
- Glue mixture: 2 dl water and 1 dl flour (for one globe)
- Paint

NB! This activity can lead to a lot of mess, so we recommend using wax or plastic underlays and plastic aprons on the children. The glue mixture is easily washed off if you get it on your clothes.

Inflate the balloon to the desired size. It may be a good idea to limit the dimensions a bit. Tear or cut newspaper into strips or pieces. Dip the newspaper into the glue mixture and place it flat on the balloon. Continue this until the balloon is covered with newspaper. Leave a small hole at the top.

Let the globe dry for 1-2 days. When it is dry, pierce the balloon and remove it. Then cover the hole at the top with more newspaper. If you want a globe with a more substantial crust, repeat with another layer of newspaper. Allow the globe to dry completely.

Paint the globe in the desired color. The earth is blue, green, and brown, but you can create other planets or the sun if you want. Attach a thread to the planet and hang them from the ceiling or windows.

Where do we go now?

Space is a topic that interests most children, and hopefully this activity has triggered their curiosity to explore further.

Allow the interests of the children to decide how to continue the project.

- Will you travel through the solar system? To the sun or the other planets?
- Or will you travel to an entirely different galaxy?
- Can we go to the end of space? How big is space?
- Are you looking for life other places in space?
- Are you space scientists?
- Or space explorers?

Only the imagination sets the limits. Look at the set of resources from Andøya Space Education and create your own project about space.

Gathering time is a great way to allow the children to share their experiences. Make up stories or songs and pull space into the kindergarten. Create a nook where the children can sit and look at books or pictures about space. Maybe you can invite parents and families to an exhibition to see what you are working on?

Such a project is the perfect arena for using educational documentation in the kindergarten. Use assemblies or other gatherings to reflect and discuss what you have learned and what you want to do now.

[Teddynaut](#) has his own page where he answers questions about space related topics from children. Check him out.



Sources

- This resource is created by Andøya Space Education for ESERO Norway.