

# **OUR BIG, BIG EARTH (2 LEVELS)**

## Ages 4 to 7 (Level 1)

Description:	A project that teaches the learner about the world and its diversity	
	to help them develop tolerance to other cultures.	
Leading question:	How big and diverse is our planet earth?	
Age group:	4-7-year-old	
Subjects:	Social sciences, Global citizenship, and Mathematics	
Total time required:	~5 hours over 3 days	
Self-guided / Supervised activity:	High parent supervision required	
Resources required:	Paper, pencils, coloring pens, & glue	

Day	Time	Activity and Description	
1	5	Introduce that we are going to learn about our planet Earth. It is round, like	
	minutes	a ball stretched from the middle.	
		Earth topography (ETOPO2_fridacronin)  10 8 6 4 2 0 2 4 8 8 A A To	
		Source: https://www.asu.cas.cz/~bezdek/vyzkum/rotating_3d_globe/figures/elevation_2d_map_Earth_topography_ETOPO2_010arcmin_GMT_globe_px0650.png	
	30 minutes	World in numbers: continents and oceans, countries, and people.  Answer the World in numbers worksheet with the learners (it is preferred to have a hard copy of the worksheet).  - Answers: There are 195 countries in the world, and a total of 7.7 billion people of whom 1 in every 4 persons living on Earth is a child under the age of 14.	

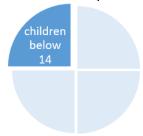


10 minutes To make it easier for us to deal with huge numbers like populations, mathematicians developed the idea of Percentage. Percentage is when you divide something into 100 equal parts, and then express any quantity as a number out of hundred.

Ex1: in the picture below, there is a really huge number of candies. One cannot tell how many green candies there are, however one can say that if we take 100 candies and arrange them as in the below picture, we will need 25 Yellow candies, 25 Green, 25 Orange and 25 Red. So, we say that 25 Percent of the candies are yellow. We write this as: 25% Yellow.



In the same manner, we say that 25% of the world population are children under the age of 14. It means in every 100 people, 25 of them are children. Which is one quarter of the whole population.



45 minutes A challenge to create a model of planet earth. If this was too difficult, learners can just draw a larger image of the world map from the one that is in the worksheet. For writing: learners may trace the letters, or parents can help in that.



Criteria: the model is 3-d, with the names of continents and oceans written clearly on it. (Or the map has the names of continents and oceans.) The model is durable to be used as a reference by the family. 15 Learners present to parents their model or map. minutes Parents observe and assess the product. 2 20 Activity: Looking at the picture below, this is the top of a very deep minutes container of apples. The shop owner organized them by putting Green apples on the left, red apples in the middle, and yellow apples on the right. Assuming these are 100 apples at the top, how many of the hundred would be red? How many are Green? How many are Yellow? Write your guesses as percentage: a number followed by this sign % Activity: Some mathematicians divided all the 7.7 billion people in the world into 100 groups, to represent Percentages of people living on each continent, they made this <u>Population distribution</u> drawing of the world map with 100 human characters. Activity: Use the Population distribution visual to count what percentage of people live on each continent. North America South America o Africa Europe Asia Australia Answers: North America 5% South America 9% o Africa 16% o Europe 10% o Asia 60% Australia (less than 1%)



#### **Questions:**

- Which continent has the most people living on?
- Which continent seems to be least populated?

Optional for Parent to explain: You know that there are around 25 Million people living in Australia. However, this number is less than 1% and that's why the visual showed nothing on Australia. Actually, one percent of the whole population is still a huge number.

## 20 minutes

Now that we know how big our planet is, and how many people live on it at the moment, let's try to see how interconnected our lives are. How 'global' is our family?

Activity: learners, with the help of parents, answer a set of questions to realize our global interconnectedness. (parents to choose only the relevant questions)

- Do we have family members living in other countries/ continents?
- Do we have friends from other countries or continents?
- Does any of us use or know a salutation/greeting in another language? Where did that language originate?
- Any family member who likes a dish from a different culture/country?
- Any family member who has travelled to another country?

To find out how global events affect our daily life. let's look into the COVID-19 pandemic:

## 15 minutes

- Do you know where did it actually start? (which city, in which country, in which continent)
- o Can you spot that on the map?
- How strange is it that someone catching a virus in a faraway city, led to a global pandemic and had such a major impact on everybody's lives?!

## Parent supported research

45 minutes The parents search for answers of the following questions and explain to the learners about the origin of these goods by locating on the Earth model they made yesterday. Answers can be found either by reading labels on the



products, asking the salesperson at the market where we buy them, asking relatives and friends, or from newspapers. Where do we get the necessities of our life (whether locally produced or imported from other countries). Choose any four of the below categories, and mark on the map the location of where you import them. Rice, wheat for bread, lentils. Fruits and Vegetables The fuel that operates our electricity power plants and transportation vehicles The manufacturing material and process of our phones or computers The cotton in our clothes Where are our electric appliances made? Where is the origin of the raw materials used in their manufacturing? What is it that our country exports to other parts of the world? Learners are asked reflection questions: What do you think of all the things we have at home: how many people you think worked on them until they reached our house? (starting from extraction of raw material, to manufacturing, to transport.) 10 minutes 3 30 Tolerance: there are many similarities amongst all humans, but there are minutes also differences. The differences are very interesting, because it would be boring if we were all similar! Let each of us fill this ID table, and then we discuss it. (Parents to help children who cannot read/write all guestions/answers yet) Things that I did not Things I chose for myself! choose Name My favorite dish My super hero Nationality Religion Favorite story Favorite game Eye-color 45 minutes



	Discussion around the Identity card, around the theme of perceiving		
		differences and building barriers between peoples based on things they	
		have not chosen.	
		What is similar for all of us in the family?	
		What are our differences?	
		Do you think there are other learners from around the world who share	
		similarities with you?	
		Would you prefer playing your favorite game with your parent or with a	
		learner from another country? Why?	
	15		
	minutes		
		Reflection questions:	
		What do you think if you see a kid who has a different skin color? Do you	
		think they may share similarities with you?	
		If you have a friend from a different religion, what gift would you give	
		them?	
	ı	- Observation of engagement while working on tasks	
Asses	sment	- Interactions and answers to the questions	
Criter	ria:	'	
Learn	ning	- World Geography and demographics: List the continents and oceans, number of	
outcomes:		countries and world population	
		- Realize the importance of the enriching diversity of our Earth	
		- Develop tolerance and appreciation to other cultures of the world	
		- Data visualization and percentages (basics)	
Pogui	irad	Diagnet Farth, the concept of countries and peoples, and counting up to 100	

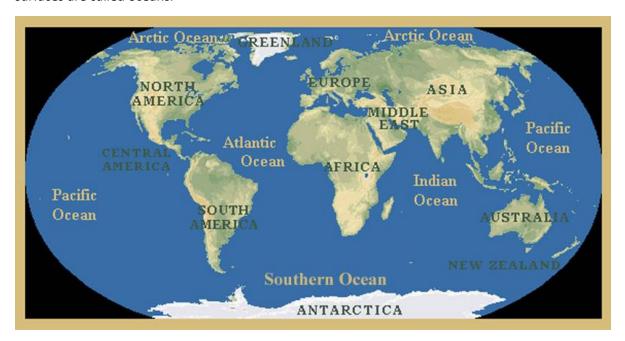
Learning outcomes:	- World Geography and demographics: List the continents and oceans, number of countries and world population		
outcomes.	- Realize the importance of the enriching diversity of our Earth		
	- Develop tolerance and appreciation to other cultures of the world		
	- Data visualization and percentages (basics)		
Required	Planet Earth, the concept of countries and peoples, and counting up to 100.		
previous			
learning:			
Inspiration:	Questions around tolerance and empathy are inspired from iEARN-Qatar workshop activities.		
Additional	You can ask your learner to draw a map of the world with nothing written on it,		
enrichment	and then play a game with family members to answer all questions that on World		
activities:	<u>in numbers worksheet</u>		
Modifications to simplify:	A simpler version of this project would be to do the activities of Day 1 and 3 only.		



## World in numbers worksheet

The earth is like a ball

On its surface there are land and water. Large pieces of land are called continents, and large water surfaces are called oceans.



Source: http://www.myschoolhouse.com/courses/O/1/76.asp

- How many continents are there in the world? Please name them.
- How many oceans? Please name them.
- In which continent do we live?
- If we want to travel to North America, what oceans and continents, do we have to cross?

#### Harder questions:

- How many countries are there in the world? (make a guess)
- How many people are there living around the whole world? (make a guess)
- What proportion of the worlds' population are children (under age 14)?



## Population distribution

What percentage of people live in each continent?



Source: Knovva Academy <a href="https://www.youtube.com/channel/UCwkpual46XUopl9tNGli4fw">https://www.youtube.com/channel/UCwkpual46XUopl9tNGli4fw</a>



## Ages 8 to 10 (Level 2)

<b>Description:</b> A project that teaches the learner about the world and its dive to help them develop tolerance to other cultures.		
Leading question: How big and diverse is our planet Earth?		
Age group:	8-10-year-old	
Subjects:	Social sciences, Global citizenship, and Mathematics	
Total time required:	~ 5 hours over 3 days	
Self-guided / Supervised activity:	Medium parent supervision required	
Resources required:	Paper, pencils, coloring pens, & glue	

Day	Time	Activity and Description		
1	5	Introduction that we are going to learn about our planet Earth. It is round,		
	minutes	like a ball stretched from the middle.		
	Earth topography (ETOPO2_010flarunin)  10 8 6 4 2 0 2 4 -6 8 m 10			
		Source: <a href="https://www.asu.cas.cz/~bezdek/vyzkum/rotating">https://www.asu.cas.cz/~bezdek/vyzkum/rotating</a> 3d globe/figures/elevation 2d map Earth topography ETOPO2 010arcmin G  MT globe px0650.png		
	30 minutes	<ul> <li>World in numbers: continents and oceans, countries, and people.</li> <li>Answer the World in numbers worksheet with the learners (it is preferred to have a hard copy of the worksheet).</li> <li>Answers: There are 195 countries in the world, and a total of 7.7 billion people.</li> </ul>		
	45 minutes	A challenge to create a 3D model of planet earth.  Hint: some easy ways that learners can use to construct the globe is using paper bowls, layers on used paper and then drawing on the outer layer or using wrapping a ball they have with paper.		



Assessment Criteria: the model is 3D, with the names of continents and oceans written clearly on it.

(Or the map has the names of continents and oceans.)

The model is durable to be used as a reference by the family.

How impressive is the creativity that learners have put into making it?

15 minutes Learners present to parents their model: how they made Parents observe and assess the product.

2 20 minutes

We have seen yesterday that 7.7 Billion people live on earth. This is a huge number.

Activity: Looking at the picture below, this is the top of a very deep container of apples. The shop owner organized them by putting Green apples on the left, red apples in the middle, and yellow apples on the right. Assuming there are 100 apples on the top, how many of the hundred would be red? How many are Green? How many are Yellow? Write your guesses as percentage: a number followed by this sign %



Activity: Some mathematicians divided all the 7.7 billion people in the world into 100 groups, to represent Percentages of people living on each continent, they made this <a href="Population distribution">Population distribution</a> drawing of the world map with 100 human characters.

Activity: Use the <u>Population distribution</u> visual to count what percentage of people live on each continent.

- North America
- South America
- o Africa
- o Europe
- Asia
- Australia

#### Answers:

- North America 5%
- South America 9%
- o Africa 16%



- o Europe 10%
- Asia 60%
- Australia (less than 1%)

#### Questions:

- Which continent has the most people living on?
- Which continent seems to be least populated?

Optional for Parent to explain: You know that there are around 25 Million people living in Australia. However, this number is less than 1% and that's why the visual showed nothing on Australia. Actually one percent of the whole population is still a huge number.

## Optional activity

# 30 minutes

We learned that 7.7 Billion people are living on planet earth. How big is this 7.7 Billion as a number?

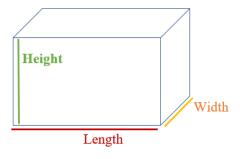
Let's try to visualize 7.7 Billion as a number:

A Million is a Thousand Thousands, and a Billion is a Thousand Millions!

Let's try to imagine a room full of rice. How many rice grains can fit in your room?

First we need to measure the amount of 'space' in the room. This is called Volume. As you are familiar with Area as the measure of surfaces, Volume is the measure of space that an object occupies. The Volume of a cuboid is calculated by multiplying the length (in metres) by width by height: V = Length x width x height

Choose one room of the house that is a cuboid (which has a rectangular floor).





Either measure its dimensions or ask the help of your parents to estimate the dimensions of your room in metres, then calculate the Volume.

- 2. Then, fill a teaspoon with rice grains, and count them. This number is N.
- 3. A teaspoon is about 5 ml, so to reach 1 Liter we must multiply by 200. Therefore, multiply Nx200 = approximately number of rice grains in 1 Litre of space
- 4. 1 Cubic Metre, or the space within a cube of 1 metre dimension, is equivalent to 1000 Litres. So now, we need to multiply the previous answer by 1000: (Nx200)x1000 = approximately the number of rice grains in 1 cubic metre.
- 5. Finally, to estimate the number of rice grains that fit in your room, multiply the previous answer by V:

[(Nx200)x1000]xV = approximately the number of rice grains that fit in your room.

6. Compare the answer to 7.7 Billion. What do you think of this number now, do you see how big it is?

## 20 minutes

Now that we know how big our planet is, and how many people live on it at the moment, let's try to see how interconnected our lives are.

How 'global' is our family?

Activity: learners, with the help of parents, answer a set of questions to realize our global interconnectedness. (parents to choose only the relevant questions)

- Do we have family members living in other countries/ continents?
- Do we have friends from other countries or continents?
- Does any of us use or know a salutation/greeting in another language?
   Where did that language originate from?
- Any family member who likes a dish from a different culture/country?
- Any family member who has travelled to another country?

10 minutes

To find out how global events affect our life, let's look into the COVID-19 pandemic:



		<ul> <li>Do you know where did it actually start? (which city, in which country, in which continent)</li> <li>Can you spot that on the map?</li> <li>How strange is that someone catching a virus in a faraway city, led to a global pandemic and had such a major impact on everybody's lives?!</li> </ul>		
	30 minutes	Parent assisted research: Where do the goods we consume originate from? The parents search answers for the following questions and explain to the learners about the origin of these goods by locating on the Earth model they made yesterday. Answers can be found either by reading labels on the products, asking the salesperson at the market where we buy them, asking relatives and friends, or from newspapers.		
		Where do we get the necessities of our life (whether locally produced or imported from other countries). Choose any four of the below categories, and mark on the map the location of where you import them.		
		<ul> <li>Rice, wheat for bread, lentils.</li> <li>Fruits and Vegetables</li> <li>The fuel that operates our electricity power plants and transportation vehicles</li> <li>The manufacturing material and process of our phones or computers</li> <li>The cotton in our clothes</li> <li>Where are our electric appliances made? Where is the origin of the raw materials used in their manufacturing?</li> <li>Why is it that our country exports to other parts of the world?</li> </ul>		
	10	Learners are asked to reflect:		
	minutes	What do you think of all the things we have at home: how many people you think worked on them until they reached our house? (starting from extraction of raw material, to manufacturing, to transport.)		
3	30 minutes	There are many similarities amongst all humans, but there are also differences.  Let's look into our family first and see.  Activity: Let each of us fill this ID table, and then we discuss it.		
		Things that I did not choose Things I chose for myself!		



		Name	My favorite dish	
		Nationality	My super hero	
		Religion	Favorite story	
			•	
	45 minutes	Discussion around the Identity card, with the theme of perceived different perceived d		in things they may have not and the world who share ith your parent or with a les, or you wish that we were I similar?
	15 Reflection questions: What would you think of a kid who has a different skin color? Do you thi they may share similarities with you? If you have a friend from a country that speaks a different language, who would you give them?  - Observation of engagement while working on tasks - Interactions and answers to the questions		a different language, what gift	
Criteria:				
				. ,
Learn	_	- World Geography and demographics: List the continents and oceans, number of		
outcomes:		countries and world population - Realize the importance of the enriching diversity of our Earth		
		- Develop tolerance and appreciation to other cultures of the world		
			und estimation and visualiz	
Requi	ired	Planet Earth, and the concept of countries and peoples.		

previous learning:



Inspiration:	Questions around tolerance and empathy re inspired from iEARN-Qatar workshop activities.
Additional enrichment activities:	<ul> <li>You can ask your learner to draw a map of the world with nothing written on it, and then play a game with family members to answer all questions that on World in numbers worksheet</li> <li>You can ask your learner to make a puzzle out of the world map, by drawing it and then cutting it into square pieces, to challenge family members to put it together.</li> </ul>
Modifications to simplify:	A simpler version of this project would be to do the activities of Day 1 and 3 only.



## World in numbers worksheet

The earth is like a ball

On its surface there are land and water. Large pieces of land are called continents, and large water surfaces are called oceans.



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- How many continents are there in the world? Please name them.
- How many oceans? Please name them.
- In which continent do we live?
- If we want to travel to North America, what oceans and continents, do we have to cross?

#### Guesstimate?

- How many countries are there in the world? (make a guess first, then try to find out by searching or asking your parents, teachers or friends).
- How many people are there living around the whole world? (make a guess first, then try to find out by searching or asking your parents, teachers or friends).
- O How many children are there in the world?



# Population distribution

What percentage of people live in each continent?



Source: Knovva Academy <a href="https://www.youtube.com/channel/UCwkpual46XUopl9tNGli4fw">https://www.youtube.com/channel/UCwkpual46XUopl9tNGli4fw</a>