Population of India
From the Esri India Geo-Inquiries™

Target Audience: Class 9 Geography Students   **Time required : 1 hour and 10 minutes**

Indicators   *Understand the world population estimation, Population growth rate Countries wise, Population Growth Rate Of India, census of population, population density, sex ratio and population employment.*

Learning Outcomes

Students will analyse Population of India in the world using web-based mapping tools to:

- *Examine a map of* Countries *Population estimate and understand the growth in population year wise till 2015 and it will learn which country have high dense population.*
- *Examine a map of state wise population and understand what is the population of every states and how many people's lives in the states, Which states has the highest population in India.*
- *Examine a map of Predominant category for males and females and understand total females and males in a state and the strength predominance for males and females.*
- *Examine a map of ratio of females to males and a map of ratio of males to females and understand the sex ratio in India, tells that which states have high female population and which state have high male population and understand the what is the level of population of males and females from low to high with colours indication.*
- *Examine a map female's employment and understand the employed females in a state comparison with total females of this state. And tells common category of employed females in different states*

Map URL: https://arcg.is/1vKf0z

Can you better understand the reason of high population in India compare to the World?

Can you better understand the growth rate of population in India?

Can you better understand the population estimation in Countries around the world?

📰 Teacher Notes

This is a discovery type of investigation. Students use live web mapping services in an online Geographic Information System (GIS) and use real data about the World population and India population.

Students will investigate these themes of geography in this task

1. Countries *Population estimate.*
2. Population Growth Rate Countries wise.
3. Population in India State wise.
4. Growth rate of population in India according to census of 2011 and Estimation of 2018.
5. Predominant category for males and female in India.
6. Relation between Sex Ratio of females to males and Sex ratio of males to females.
7. Employed females in India State wise.

Students will use several different scales for their analysis—global, regional, and local.

Requirements:

1. Laptop or tablet computer, a web browser, and access to the Internet.

2. Ideally, each student works on his or her own computer with a web browser.

3. Alternatively, the students could work in teams of two.

4. Alternatively, but less ideally, the instructor uses 1 computer with a projector and engages the students in questions and Dialogue as the lesion is being taught.
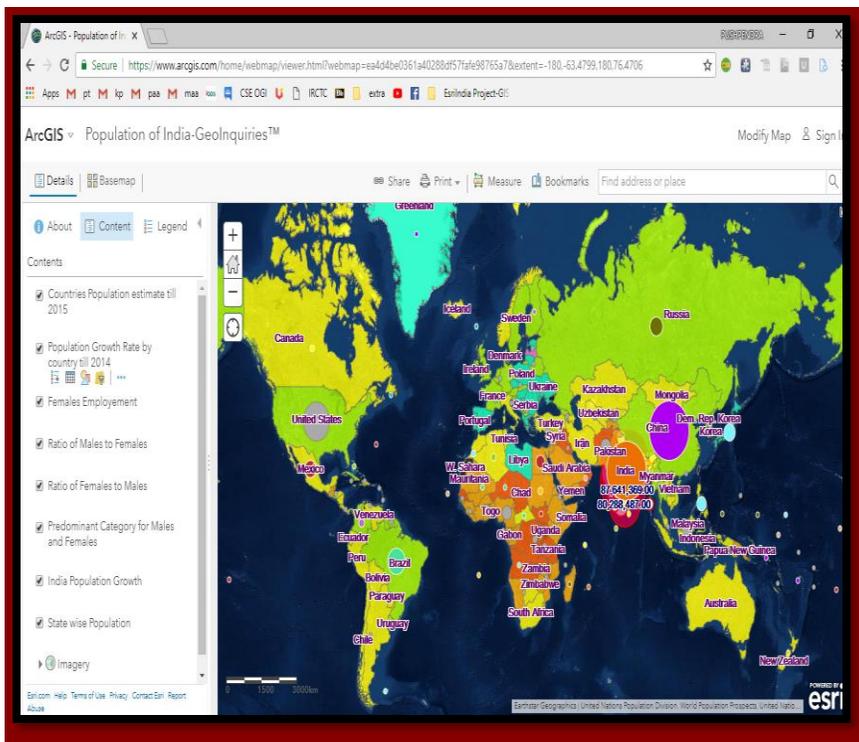
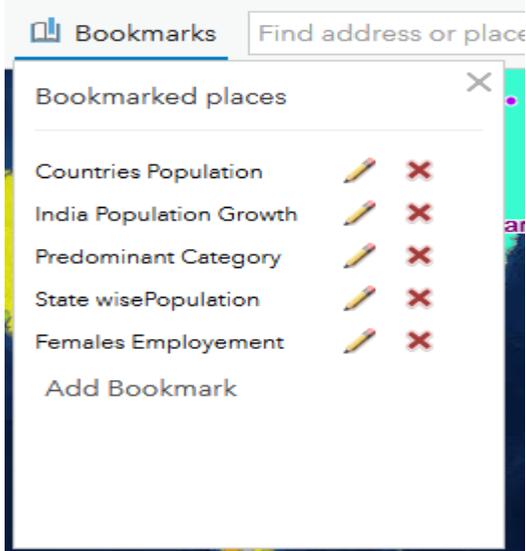## Investigating the Population of India in the World

Student Name		Class	

Students have 2 completed class periods to complete the following investigation. **The investigation is to be individually**	

Open a web browser. Click on the Map URL given as above. The map you will open is a India map with world map entitled, and should look similar to the following: 	

You will use this live web map that is created with a Geographic Information System (GIS). A GIS provides an excellent way to explore the world and to learn geography at the same time. This map is served via a web based GIS called ArcGIS Online. Use your mouse to move the map by clicking on the map and moving the mouse. Zoom in and out on the map using the slider bar on the left side of the map. You can also zoom in by pressing the Shift key while dragging a box across the map with the mouse, and letting go with the mouse. Use the Bookmarks to zoom to the different oceans identified there, as follows: 	

When you are done interacting with the map, use the bookmark

Titled "Countries Population" to zoom back to the whole world.

Introduction

Perhaps you have aware or observed about Population across the world or in India. It is difficult to underestimate the importance of Population to the world's history and geography.

In demographics, the world population is the total number of humans currently living, and was estimated to have reached 7.6 billion people as of May 2018.

Population refers to a collection of humans. Demography is a social science which entails the statistical study of human populations. Population in simpler terms is the number of people in a city or town, region, country or world; population is usually determined by a process called census (a process of collecting, analysing, compiling and publishing data)

India is the second most populated country in the world with nearly a fifth of the world's population. According to the 2017 revision of the World Population Prospects, the population stood at 1,324,171,354.

During 1975–2010 the population doubled to 1.2 billion. The Indian population reached the billion mark in 1998. India is projected to be the world's most populous country by 2024, surpassing the population of China.

Population density is the average number of people in a place. Urban areas such as big cities have a high population density. People there live close to each other. In areas with a low population density, people usually live far away from each other, such as in areas out in the countryside.

A population is all the organisms of the same group or species, which live in a particular geographical area. They are of huge geographic importance. And because of this, they can be studied through the use of web maps in a Geographic Information Systems (GIS) environment.

Let's start your investigation by examining Population estimation and Population growth in India as well as around the world.

Elaborate

1. Based on your tour of the bookmarks on your map, and examining the whole world at once as you are doing now, what would you say about the world Population Growth rate?	

2. As you seen the Countries population estimation layer, which country is most populated all over the world?	

3. Based on your tour of the bookmarks on your map, and examining the whole world at once as you are doing now, what would you say about the colour is showing low to high transparency in legends under the Predominant Category of males and females?	

4. What do you understand the India population growth rate based on population census of 2011 and the population estimation 2018?	

5. Which Three states are High Populated in India? And what are population for these states?	

6. Which State has Highest and lowest density in India and What is population of it?	

7. What do you understand by the sex ratio of India and what is the ratio for that?	

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8. Which States have highest ratio females to males & what are the value of the ratio?	

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9. What do the two colours Indicates in Legends under the predominant category for males and females layer in the map?	

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10. In the layer of female's employment there are 5 shape of circles, what do they represent.	

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11. Which states have more than 16 million in India?	

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12. In which states how many females' unemployed? & where population of females employed more than 4 million and less than 8 million?	

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13. In which states how many females' unemployed? & where population of females employed more than 4 million?	

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☑ Evaluate

1. Based on your tour of the bookmarks on your map, and examining the whole world at once as you are doing now, what would you say about the world Population Growth rate?

   The "population growth rate" is the rate at which the number of individuals in a population increases in a given time period, expressed as a fraction of the initial population. Global human population growth amounts to around 83 million annually or 1.1% per year.

2. As you seen the Countries population estimation layer, which country is most populated all over the world?

   China is the most populous country with more than 1.4 billion residents. Since India's population is close behind China at 1.3 billion, there could be a time when India surpasses its neighbour country in population.

3. Based on your tour of the bookmarks on your map, and examining the whole world at once as you are doing now, what would you say about the colour is showing low to high transparency in legends under the Predominant Category of males and females?

   In the layer predominant category of the map the low and high transparency represent the lowest and Highest population of males in states of India. Means that where blue colour is high there lives large no of Males than females. And where blue colour is low there lives large no of females than males

4. What do you understand the India population growth rate based on population census of 2011 and the population estimation 2018?

   As of 1 January 2018, the population of India was estimated to be 1,353,014,094 people. This is an increase of 1.26 % (16,822,650 people) compared to population of 1,336,191,444 the year before. As you seen the layer India Population Growth, In Legend the colour low to high indicates overall minimum and maximum population of every states according to census of 2011, and after that shows what increased in population of states in 2018 after census of 2011 that is 2018 estimation.

5. Which Three states are High Populated in India? And what are population for these states?

   Uttar Pradesh is the most populous state in the country with more than 199 million people living here, Which is approximately equal to the population of Pakistan, the fifth most populous country in the world. Uttar Pradesh accounts for 16.50% of the total country population 1,210,854,977. Maharashtra is the second Most populous state with 112,374,333 people. Bihar is at third place with the more than 103 million people. Population of Maharashtra and Bihar is equal to Mexico and Philippines, respectively, 11th and 12th most Populated country of the world.

6. Which State has Highest and lowest density in India and What is population of it?

   According to the State Census 2011, the most populated state in India is Uttar Pradesh with a population Of 19.96 crores. The least populated state in the country is Sikkim with a population of 60, 7688.

7. What do you understand by the sex ratio of India and what is the ratio for that?

   Sex ratio is used to describe the number of females per 1000 of males. Sex ratio is a valuable source for finding the population of women in India and what is the ratio of women to that of men in India. In the Population Census of 2011 it was revealed that the population ratio in India 2011 is 940 females per 1000 of males.as you seen in the map the sex ratio in India for males to females is 0.97to 1.19, and for females to males is 0.86 to 1.008

8. Which States have highest ratio females to males & what are the value of the ratio?
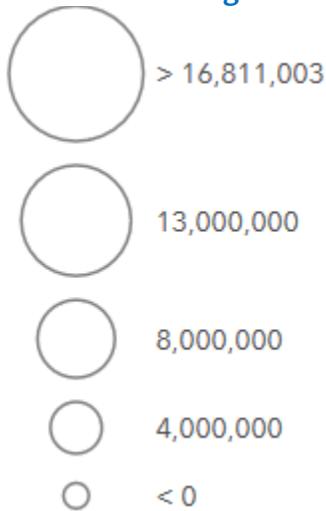
   As you visited the map, Kerala state is the high populated for females with a population of 17 million and Ratio of more than 1.008 as comparison with males

9. What do the two colours Indicates in Legends under the predominant category for males and females layer in the map?

   As you seen, there are two colours in this layer first one is Blue which indicates the total population of males In India state wise, and second one is Maroon colour which indicates the total population of females in India State wise with the respect of predominant category.

10. In the layer of female's employment there are 5 shape of circles, what do they represent.

In this layer, every shape of circle represent to the states according to their employed females population. Means that which layer has big size that is it have highest employed females, and which layer has small size that is, it have lowest employed females. For all shape of circles consist of employed females between greater than 0 and less than 16,811,003.

> 16,811,003

13,000,000

8,000,000

4,000,000

< 0

11. Which states have more than 16 million females employed in India?

There are three states with this category in the maps are Uttar Pradesh, Maharashtra, and Andhra Pradesh.

12. In which states, how many females are unemployed, where many females are employed & where population of females employed more than 4 million and less than 8 million?

There are there states, which have many females are employed. For the unemployed females of the states are Uttar Pradesh with a population of 79,363,878 females, Maharashtra with a population of 37,320,274 females, and Andhra 26,901,320 females.
There are some states which have females employed more than 4 million i.e. Gujarat, Orissa, Chhattisgarh, Jharkhand.

13. What is the most significant thing that you have learned from this lesson?

The students are asked to reflect upon their learning, but look for thoughtful reflections related to maps, India population, and population growth rate of India as well as all over the world, Employed females, Predominant category, and sex ratio.

ZOOM TO A BOOKMARK	TURN A MAP LAYER ON AND OFF
• **Click the button, Bookmarks.** • **Select a bookmark name to zoom to its map location and scale.**	• **Make sure that the Details pane is selected, and click the button, Show Contents of Map.** • **To show individual map layers, click the check boxes next to the layer names.**

Next Steps

DID YOU KNOW? ArcGIS Online is a mapping platform freely available to public, private, and home schools. A school subscription provides additional security, privacy, and content features. Learn more about ArcGIS Online and how to get a school subscription at http://www.esri.com/schools.

TEXT REFERENCES This GIS map has been cross-referenced to material in sections of chapters from given text.

1. TEXTBOOK IN GEOGRAPHY FOR CLASS IX, NCERT-Social Science CONTEMPORARY INDIA-I, CHAPTER 6 Population