

ملخص دروس Module: Human and Earth activity منهج انسابير



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف الثامن ← علوم ← الفصل الثالث ← ملفات متنوعة ← الملف

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ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي | للمدرس

المزيد من مادة
علوم:

إعداد: Emam-El Aya

التواصل الاجتماعي حسب الصف الثامن



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف الثامن والمادة علوم في الفصل الثالث

ملخص دروس Module: Technology Information منهج انسابير

1

مراجعة الدرس الأول الأحافير من الوحدة العاشرة أدلة على ماضي كوكب الأرض

2

أسئلة مراجعة شاملة منهج انسابير بدون الحل

3

أسئلة مراجعة درس الزلازل اختيار من متعدد

4

حل أسئلة الامتحان النهائي القسم الالكتروني منهج بريدج

5



Module: Earth and Human activity

Lesson1: Human population growth

How fast is the population growing?

A population is all the members of a species living in a given area.

Human Population

When the first American towns were settled, most had low populations. Today, some of those towns are large cities, crowded with people.

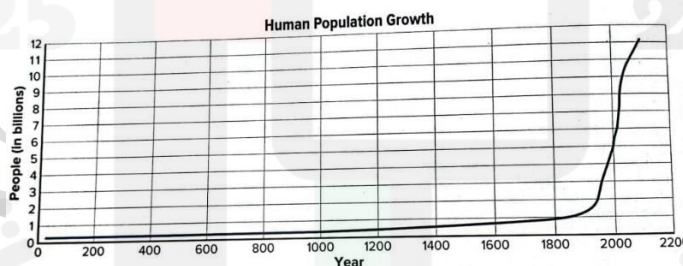
In a similar way, Earth was once home to relatively few humans. Scientists estimate that there were about 300 million humans on Earth a thousand years ago.

Improved health care, clean water, and other technological advancements mean that more people are living longer and reproducing.

the greatest increase in human population occurred during the last few centuries. Today there are more than 7 billion humans on Earth. By 2050 there could be over 9 billion.

Here We Grow Again

Analyze the information presented in the graph.



Population Structure

Populations have a tendency to increase in size. However, many factors influence the rate at which a population can grow.

- 1- the rate of increase is determined by subtracting the number of individuals leaving a population from the number entering the population.

Individuals leave a population either by death or **emigration**, (which is when people leave an area to settle somewhere else) → they enter the population by birth or **immigration** (which is when people enter an area to live there)

- 2- Another important characteristic of any population is its age structure.



Age Structure

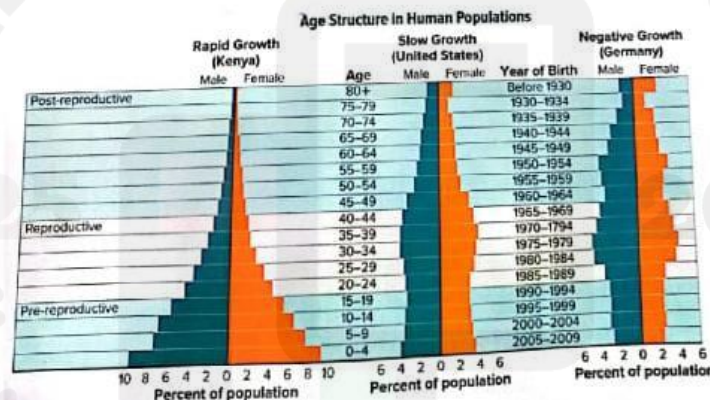
A population's age structure is the number of males and females in each of three age groups: pre-reproductive state, reproductive state, and post-reproductive state.

- 1- A nongrowing population looks like a rectangle.
- 2- A slow-growing population looks like a rectangle with a bulge in the middle.
- 3- A rapidly growing population looks like a triangle with its base at the bottom. **Kenya** has a large portion of pre-reproductive and reproductive individuals → **The United States** has a smaller proportion of these two groups, and **Germany** has an even smaller portion.

Increasing and Decreasing Populations

The diagram below shows the relative numbers of individuals in:

- 1- Pre reproductive.
- 2- reproductive.
- 3- post-reproductive years (for three countries): Kenya, the United States, and Germany.



Birth rate and death rate change the size of a population. In the 1700s the death rate of sea otters in central California was extremely high because many people hunted them.

By the 1930s only about 50 sea otters remained. Today, the Marine Mammal Protection Act protects sea otters from being hunted.





How does human population growth affect natural resources?

Every human being needs certain things, such as food, clean water, and shelter, to survive. People also need clothes, transportation, and other items. All the items used by people come from resources found on Earth.

A natural resource is a part of the environment that supplies material useful or necessary for the survival of living things.

Population Limits

As the human population grows larger and larger, cities become crowded with people, using space and depleting resources. Earth has limited resources. It cannot support a population of any species in a given environment beyond its carrying capacity.



Carrying capacity is the largest number of individuals of a given species that Earth's resources can support and maintain for a long period of time.

Approaching Carrying Capacity

Each person uses space and resources. Population size depends on the amount of available resources and how members of the population use them.

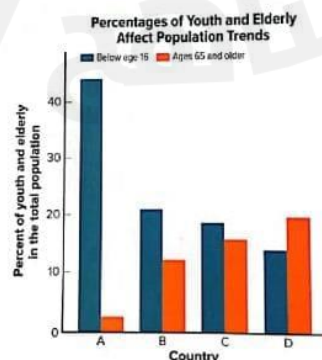
(When population density is low → resources are abundant, and population increases).

If resources become scarce or if the environment is damaged, members of the population can suffer and population size can decrease

(If the human population continues to grow beyond Earth's carrying capacity → eventually Earth will not have enough resources to support humans).

Is human population growth equal around the world?

In approximately one hour, 15,000 babies are born worldwide. Technological advances have resulted in a rapid growth in human population.





MATH Connection Now, calculate the population growth rate (PGR) for each of these countries. Record this information in the table below. Use the following equation.

$$PGR(\%) = \frac{\text{birth rate} - \text{death rate} + \text{net migration rate}}{10}$$

Population Growth Rates					
Country	Population 2015 (millions)	Birth rate	Death Rate	Net Migration Rate	PGR (%)
*United States	321.2	13	8	3	0.8 %
*Germany	81.1	8	11	5	0.2 %
Brazil	204.5	15	6	0
Indonesia	255.7	21	6	-1
Nigeria	181.8	39	14	0
India	1,314.1	21	7	-1

Growing Populations and Resource Use

Another important factor in keeping the human population at or below the carrying capacity is the amount of resources from the biosphere that are used by each person.

Currently, individuals in industrially developed countries (الدول المتقدمة) use far more resources than those individuals in developing countries. (الدول النامية)

Countries such as India are becoming more industrialized, and they have a relatively high growth rate.

These countries are adding more people and are increasing their use of resources.



Lesson2: People and the environment

Why cut down trees?

Many experts are concerned about the loss of forest cover worldwide. The removal of large areas of forests for human purposes is called **deforestation**.

Urbanization

increases in the size of the human population cause increases in the consumption of natural resources:

- 1- Trees are cut down for fuel, paper products, and wood products.
- 2- People also clear forests for urban development. **Urbanization**-the development of towns and cities on previously natural areas.

Agriculture

Exploding population growth on our planet and the amount of land available to produce food for that population are not keeping pace with each other.

Forest clearing for agriculture helps answer the question of how the world's growing human population can be fed.

Brazil's Cerrado represents one of the world's last opportunities to open a large area of new, highly productive cropland.

The Cerrado, 2 million hectares of grassland and tropical forest, is the site of the world's fastest-growing soybean production.



Rapid growth of soy production in Brazil has both positive and negative aspects

On one hand, more food is now available to feed the world.

On the other hand, the rapid expansion of agriculture worldwide-at the expense of forests-has environmental effects on Earth's systems.



How does deforestation impact Earth's systems?

Nearly half of the world's tropical deforestation occurs in the "arc of deforestation between the Cerrado and the Amazon rain forest.



Changes in Earth's Systems

The consumption of natural resources, like trees and land, has environmental effects of global importance.

- 1- Forest clearing for cropland and pasture diminishes habitat. Habitat loss is often the greatest extinction threat for the biosphere.
- 2- Clearing forests can also affect the geosphere and hydrosphere.
- 3- Plant roots hold soil in place. Without these natural anchors, soil erodes away.
- 4- Drought can also follow deforestation. Cleared land dries rapidly and stores little moisture.
- 5- And finally, deforestation also impacts the atmosphere. Trees remove carbon dioxide from the atmosphere during photosynthesis → Rates of photosynthesis decrease when large areas of trees are cut down, and more carbon dioxide remains in the atmosphere.



What can be done?

For resource use to be sustainable, we cannot consume resources faster than nature can replenish them. Therefore, scientists, governments, and concerned citizens around the world are working to identify environmental problems, educate the public about them, and help find solutions.

Personal Choices

The concept of an ecological footprint has been developed to help individuals measure their environmental impact on Earth.

Your **ecological footprint** is defined as the area of Earth's productive land and water required to supply the resources that an individual demands as well as to absorb the wastes that the individual produces.

Sustainable Resource Use

Technological change sometimes can reduce our ecological footprint. For example, world food production has increased about fourfold since 1950,

- 1- mainly through advances in irrigation
- 2- fertilizer use,
- 3- and higher-yielding crop varieties,
- 4- rather than through increased croplands.
- 5- Similarly, switching to renewable energy sources such as wind and solar power can greatly reduce our ecological footprint.

In Germany, which has invested heavily in wind, solar, small-scale hydropower, and public transportation, the ecological footprint is only 4.6 global hectares (gha) per person.

In comparison, the average resident of the **United States** lives at a consumption level that requires 7.2 gha of biologically productive land.

