Name(s)_____

Task 1 (GNI and CO2)

Refer to the World Population and Environment Fact Sheet.

1. Rank the countries according to the 2010 average annual personal income (US$), from poorest to richest.
2. Then add the CO2 Emissions from these countries.
3. What conclusion(s) did you arrive at?

_____

_____

Country	2017 GNI Annual Income per capita (US$)	2017 CO2 Emissions (millions) metric tons

Task 2 (What can be done about emissions?)

Scientist say CO2 emissions are a major cause of the greenhouse effect and climate change. What are three things that countries producing large measurements of CO2 emissions can do to help lower the numbers. It is okay to use research tools to find answers.

1. _____
2. _____
3. _____

Task 3 (What are effects of decreasing or increasing population?)

1. For each country calculate the projected percentage increase or decrease in population (to the nearest tenth of a percent) between 2019 and 2035.
2. Then rank those countries from most rapidly growing to most slowly growing.
   EXAMPLE 1: A country had a population of 96.5 million in 2019 and a projected population of 120.1 million in 2035. 100 x (120.1 – 96.5) ÷ 96.5 = 24.5% increase.
   EXAMPLE 2:
   A country had a population of 25 million in 2019 and a projected population of 23 million in 2035. 100 x (23-25) ÷ 25 = 8% decrease
3. If a country has a decreasing population, how can this affect a country?

_____

_____

4. If a country has an increasing population, how can this affect a country?

_____

_____

Country	Projected percentage increase or decrease in population 2019 to 2035	Rank

Task 4 (A look at health)

List 4 countries that rank towards the bottom in having clean water, good sanitation and electricity available. _____
What are two ways not having these things would impact a person's life?

_____

_____

Answer Key

Task 1 (GNI and CO2)

Refer to the World Population and Environment Fact Sheet.

4. Rank the countries according to the 2010 average annual personal income (US$), from poorest to richest.
5. Then add the CO2 Emissions from these countries.
6. What conclusion(s) did you arrive at? Possible Answers: With the exception of India, most of the countries with low GNI were not producing as much CO2 emissions. This means they don't have as many factories and cars that are producing the emissions. Industrialized nations need cleaner energy sources or more regulation. Germany uses cleaner energy sources than India, U.S., Russia, and Japan. Etc.

Country	2017 GNI Annual Income per capita (US$)	2017 CO2 Emissions (millions) metric tons
Haiti	1,870	4
Bangladesh	4,560	80
Nigeria	5,700	104
Pakistan	5,840	180
India	7,680	2,383
Egypt	12,080	233
Indonesia	12,650	541
Brazil	15,820	11,670
China	18,140	11,670
Russia	26,470	1,847
Japan	45,000	1,268
Germany	55,800	848
U.S.	63,390	5,242

Task 2 (What can be done about emissions?)

Scientist say CO2 emissions are a major cause of the greenhouse effect and climate change. What are three things that countries producing large measurements of CO2 emissions can do to help lower the numbers. It is okay to use research tools to find answers.

Possible Answer: switch to cleaner energy sources such as solar energy, use mass transit instead of private vehicles, stop wasting electricity, greater penalties for disregarding air quality regulations, focus on preserving the environment instead of stockholders, eliminating the use of fossil fuels, eat less red meat, recycle and reuse items, use energy efficient appliances, walk or bike, work at home, buy local produce, etc.

Task 3 (What are effects of decreasing or increasing population?)

3. For each country calculate the projected percentage increase or decrease in population (to the nearest tenth of a percent) between 2019 and 2035.
4. Then rank those countries from most rapidly growing to most slowly growing.
   EXAMPLE 1: A country had a population of 96.5 million in 2019 and a projected population of 120.1 million in 2035. 100 x (120.1 – 96.5) ÷ 96.5 = 24.5% increase.
   EXAMPLE 2:
   A country had a population of 25 million in 2019 and a projected population of 23 million in 2035. 100 x (23-25) ÷ 25 = 8% decrease
4. If a country has a decreasing population, how can this affect a country?

Possible Answers: Fewer jobs, too few younger people to work and contribute to retirement plans that are supporting the elders of the country, health insurance costs will rise because generally younger people are healthier, fewer schools and educators needed, could suffer from loss of innovation from fresh, creative minds, no one to do the hard labor tasks, work forces being hired from out of the country, loss of language and culture, more elderly care facilities, etc.

5. If a country has an increasing population, how can this affect a country?

Possible Answers: More health care and childcare facilities for young people, more educators and schools, more parks and amusement areas, new homes, increased infrastructure (roads, bridges, airports), increased mass transit systems, more energy production systems, increasing job opportunities, more marketing opportunities, etc.

Country	Projected percentage increase or decrease in population 2019 to 2035	Rank by Pop Increase
Bangladesh	13.1	7
Brazil	9.5	9
China	1.9	10
Egypt	29.8	3
Germany	-1.1	11
Haiti	17.7	4
India	13.7	6
Indonesia	15.4	5
Japan	-2.1	13
Nigeria	46.8	1
Pakistan	35.7	2
Russia	-1.8	12
U.S.	10.4	8

Task 4 (A look at health)

List 4 countries that rank towards the bottom in having clean water, good sanitation and electricity available. Bangladesh, Haiti, Indonesia, Nigeria, India, China, India, Russia

What are two ways not having these things would impact a person's life? Possible Answers: disease can spread without good sanitation and improved water, without electricity fewer jobs, lower literacy rates, higher death rates, lower life expectancy, higher infant mortality rates, poor hygiene, food contamination/spoilage, poor health care facilities, etc.