

1. These are some statistics found in the video. Pick the correct answer below:

I. Each year how many animals do humans slaughter?

- a) 7.5 million **b) 75 million** c) 75 billion

II. How many chickens are on the planet?

- a) 230 million b) 2.3 billion **c) 23 billion**



2. Fill in the gaps with the words from the box.

Tainted Influx Indescribable Craving Demand Anomaly
Unsustainable Marvel Quadrupled Unimaginable

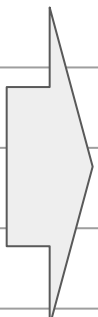
1. Humans farm animals at a speed and efficiency previously unimaginable.
2. The amount of meat the world produced has quadrupled , or increased by four times.
3. Raising this many animals is a marvel of modern technology.
4. Land, water and greenhouse gas emissions involved in meat production is unsustainable
5. Human consumption of meat is a historical anomaly.
6. The global demand for meat is expected to be over 450 tons by 2050.
7. My brother always has a strong craving for meat.
8. Researchers can't explain the sensation we get from eating meat because it's indescribable.
9. The influx of protein and nutrients from animal meat is a possible reason why human bodies changed after eating more meat.
10. An outbreak of deadly food poisoning came from tainted meat.

3. Place the following word pairs with the correct sentence choice.

Tainted-clean Influx-Outflow Craving-Disgusted
Sustainable-Unsustainable Marvel-flop

1. Wind and water energy are sustainable resources whereas the demand for oil and fossil fuels is unsustainable.
2. During the influx of people arriving in Canada in the 1990s, a huge outflow of currency from Asia caused financial analysts to wonder what was going to happen.
3. During her pregnancy, she had a craving for chocolate but felt disgusted towards fruits.
4. Government officials purified the tainted water supply by adding a clean filtration system.
5. The invention of the television was a marvel but soon after, the development of 3D TV became a big flop.

4. Fill-in the domesticated name of these wild animals:

Animal Name		Equivalent name today
Boar		<u>Pork, Pig</u>
Oxen		<u>Beef, Cow</u>
Red Junglefowls		<u>Poultry, Chicken</u>

5. Research the differences between an omnivore, carnivore, and a herbivore.

What do they eat?	Omnivores eat <u>plants and meats</u> .	Carnivores eat <u>meat</u> .	Herbivores eat <u>plants</u> .
List examples of different animal species:	<u>Eg. deer, rabbits, cows, sheep, elephants, etc.</u>	<u>Eg. lions, tigers, snakes, sharks, etc.</u>	<u>Eg. bears, racoons, skunks, rats, etc.</u>

Explained: The Future of Meat (Netflix Series)

1. Find out more about these nutritional facts from the video:

A. What's special about vitamin B12 and where can you find it?

Vitamin B12, also known as cobalamin, is a water-soluble vitamin involved in the metabolism of every cell of the human body. Vitamin B12 is hard to find in nature outside of animal products.



B. Why is iron important to humans and what is heme iron?

It is important for the health of red blood cells. It is bound with a compound called heme iron which is found in animal blood and muscle.

2. The hunting of animals by early civilizations led to the development of tools, languages, and social structures. Provide an example or hypothesis of how meat hunting could have led to the development of each of the following: (There is no right or wrong answer)

1. Tool: Tools helped humans prepare and cook meat. During the days of hunter-gatherer societies, humans may have had to alter natural resources such as sticks and stones and change them into sharp tools to break down the meat and then store it properly to get through harsh winters.
2. Language: Humans may have had to develop elaborate symbols to cooperate and strategize while hunting. Symbols enabled an exchange of intricate details on what, when, where, and how groups should catch animals and ensured that they met their hunting goals.
3. Social Structure: In historic times, humans often had to physically fight other groups to gain access to food resources during harsh weather conditions. In these situations, war meant that certain tribes became winners while other tribes were deemed losers. This may have created a social structure based on physical strength and the sheer quantity of resources.

3. Provide reasons for or against the following statements. Please explain in 3 - 4 sentences.

1. “We have reached the biological limits of what we can do with whole animals.”

In the poultry industry, chickens spend their entire lives in filthy sheds with hundreds of thousands of other birds. Intense crowding and confinement lead to disease outbreaks. They're bred and drugged to grow so large so quickly that their legs and organs can't keep up, leading to organ failure. Many become crippled under their weight. The current state of the industry forces humans to reconsider current steps to ethically and safely grow food for future generations.

2. “Animal agribusiness makes it easy to distance ourselves from the reality of what we're eating.”

Humans have become distant to the realities of eating meat in two ways. Through marketing and branding, meat product is now packaged in a way so that it no longer resembles the animal it originally came from. By calling chicken “poultry” and cow “beef”, humans feel less interpolated to understand the effects of consuming animals.

3. “While meat consumption remains the same in wealthy countries, it's exploding in emerging economies.”

In first world countries, meat consumption has not changed much in the past one to two decades. Meat consumption continues to be strong but growing at a steady pace. However, for countries that are growing in wealth and have better access to resources, meat consumption is growing exponentially.

4. Watch the video segment from 13:40 - 10:00 and answer the following questions. Explain in 1-2 sentences.

1. In the creation of the Impossible Burger and the Beyond Burger, what characteristics of plant-based patties have researchers focused on to make people like them?

Innovation in burgers means making the meat delicious. It must deliver as much or better protein and iron and nutrients in meat. Finally, it must perform in kitchens like meat and is accessible and affordable to most people.

2. Why did Tofurky and Quorn burgers fail to gain popularity?

They were positioned as alternatives to meats but the companies selling them could not describe or advertise their taste.

3. What makes meat delicious?

The main component that gives the meat a distinct smell and taste is Heme iron.

5. Some sentences below are used in the video. Decide what the phrases in bold mean.

- A. We have been so **deeply habituated to** eating animal foods.

Be accustomed to something OR Be addicted to something

- B. Researchers are experimenting with **different techniques** to make cultured meats.

Various ways and styles OR various principles to guide us

- C. Lab-grown meat does not **sound appealing** in any way.

Ethical and Moral OR Attractive and likable

- D. Liking or Hating certain types of food is very cultural. It's not **innate**.

a skill you acquire from your environment OR A skill you are born with

- E. New names help to **camouflage** the origin or source of food products.

Hide the true meaning OR Change the meaning

- F. We have **conquered** many problems in the modern world.

Overcome OR Conceal

6. Essay/ Discussion Questions

1. "Countries are fighting back that bans food products being sold under the name of meat, unless came from slaughtered animals." Do you believe that this is a legitimate legal decision?
2. Is meat part of our identity, culture, and our life stories?
3. Is the use of animal products threatening the health of human beings? I.e. how is it intensifying epidemics and viruses and threatening the effectiveness of antibiotics.
4. Meat-alternative and cell-based meat startups are facing different but significant challenges in getting consumers to adopt their palates to innovations. Compare these challenges and opportunities.
5. Why is there a huge movement towards meat-alternatives and what problems can widespread adoption of meat-alternatives solve.