



NB: This is not a word for word transcript

Alice: Hello, I'm Alice...

Finn: And I'm Finn...

Alice: And this is 6 Minute English! This week we're talking about **population** growth and the effects it might have on the world. At the moment it's estimated that there are about 7 **billion** people on the planet.

Finn: **It's estimated** – experts make an educated guess at the number of people based on research.

Alice: If **projections** are correct experts think there could be 9.5 billion people by the year 2075.

Finn: **Projections** – the **estimated** number of people calculated by looking at population changes over time.

Alice: Experts say there will be a population **explosion**.

Finn: That means a dramatic and very fast increase.

Alice: So before we find out more – I have a question for you Finn. How many zeros are there after the 1 in a **billion**?

a) 12 b) 9 c) 6

Finn: Let's guess. A thousand million. A million is 6 zeros so a thousand – 9, 9 zeros.

Alice: As usual, I won't tell you the answer now - but we'll find out at the end of the programme. So let's see how **population** growth is going to change the way

our planet works. The Institute of Mechanical Engineers recently published a report about how technology could help us manage larger **populations**. They say it's the **defining challenge** of the century.

Finn: That's the most important issue in the next 90 years.

Alice: Here's the BBC's environment analyst Roger Harrabin:

Insert 2: Roger Harrabin

One author of today's report described population growth as the defining challenge of the century - bigger even than climate change. The report says work needs to start now on technological solutions for a world of nine and a half billion people. Many of the practical ideas in the report have been welcomed by development groups.

Alice: Roger Harrabin says that **population** growth is even more important than climate change. The report says that engineers need to start work now to find **technological solutions** to provide enough food, water, energy and homes for nine and a half billion people.

Finn: **Technological solutions** – that's the use of technology to invent or improve something.

Alice: One of the authors of the report is Tim Fox, Head of Energy, Environment and Climate Change at the Institute of Mechanical Engineers. He says that engineers have already created **technologies** which can deal with the challenge of providing food, water, energy and homes for everyone in the world in 2075. But one area he says we can try and improve on is wasting less food:

Insert 2: Dr Tim Fox

The challenge of providing food, water, energy and homes internationally can be met through existing technologies that are available today. So something like 50% of food is wasted in newly developing countries between the field and the market place – now here in the highly industrialised countries we've solved that problem sustainably through the use of refrigeration and transportation mechanisms that are highly optimised and we waste all our food between the supermarket and our consumption.

Alice: What did Dr Tim Fox of the Institute of Mechanical Engineers say were the two **technological** improvements we could make to stop wasting so much food?

Finn: He said we could improve **refrigeration** and **transportation**

Alice: Dr Tim Fox said that something like 50% of food is wasted in newly developed countries between the field and the market place. This could be improved by having better **refrigeration** and transportation from the farm to markets and shops. What did he say about developed countries?

Finn: In developed countries the system of **refrigeration** and transportation has been **optimised**.

Alice: **optimised** – that means it has been developed so that it is extremely efficient and can't be improved upon. But he says that in highly industrialised countries – countries that are very developed economically – food is wasted between the supermarket and people's **consumption**.

Finn: That means that people might buy a lot of food at the supermarket but end up throwing it away – they don't consume it. Now, before we go let's find out the answer to the question I asked you at the beginning of the programme. How many zeros come after the 1 in a billion? a. 12, b.9, c.6

Finn: I guessed b. 9

Alice: You're right. And your prize, Finn, is to read out some of the words and phrases we've heard in today's programme.

Finn: What could be better? Here we go:

population

billion

it's estimated

projection

explosion

defining challenge

technological solutions

refrigeration

transportation

optimised

consumption

Alice: Thanks so much for that Finn. We hope you've had fun with us today on "6 Minute English" - and that you'll join us again next time.

Both: Bye.

Vocabulary and definitions

population	the total number of people living in a particular country or region
billion	a thousand million (in some parts of the world a million million)
it's estimated	experts have made approximate calculations of how much something is likely to be or cost
projection	an expected outcome
explosion	here, a large, sudden increase
defining challenge	a difficult or demanding task that will shape or characterise related events
technological solution	the use of technology to solve a problem or find an answer
refrigeration	keeping something at a constant, cold temperature
transportation	moving things or people from one place to another
optimised	to have made something become as best as it can be
consumption	here, eating or drinking something

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