BBC Learning English
6 Minute English
An Ingenious Invention

NB: This is not a word for word transcript

Rob: Hello, I'm Rob…

Cath: And I'm Cath.

Rob: And this is 6 Minute English from BBC Learning English. Today we're talking about an **ingenious** invention.

Cath: So you mean an invention that uses skill and imagination?

Rob: I do. It's a clever idea that's now helping with a difficult problem in the **slums** of Manila.

Cath: 20 million people live in slums in the Philippines, a tenth of them in the capital Manila.

Rob: Well, now some people who live in the slums are using their creativity to get around a serious **obstacle** – or problem.

Cath: So are you going to tell me what it is, Rob?

Rob: Not until I've asked you this week's question.

Cath: Oh no!

Rob: Cath, do you know how many islands make up the Philippines? Is it:

a) 107

b) 707

c) 7107

Cath: I am going to go for the middle one – 707.

Rob: OK, well, we'll see if you're right at the end of the programme. Now let's get back to the story about this ingenious invention.

Cath: Yes, so what has been invented to help the people living in the slums of Manila?

Rob: It's a new kind of light. It might sound **insignificant** but because electricity prices are so high in the Philippines many people in the slums can't afford to switch on a light.

Cath: And of course a lot of houses don't have windows, they are very close together. So it's dark a lot of the time.

Rob: The BBC's Kate McGeown can tell us more about this. Listen out for the phrase she uses to describe being in the dark:

Kate McGeown, BBC

It's 11 am and the Menayis family home is virtually pitch black – it's the same for them almost all day every day and that's because even though they've got electricity they can't afford to use it to light up their home. It's the same story for almost everybody living in this slum. And that's because electricity prices here in the Philippines are the most expensive in Asia.

Cath: So Kate McGeown says that even at 11 o'clock in the morning, the Menayis family home is **virtually** pitch black.

Rob: Yes, virtually – or almost completely – dark. And they're not the only ones.

Cath: No. Most people can't afford to pay for electricity because it's the most expensive in Asia. And even though there is electricity in the slums, they can't afford to light up their homes by switching on an electric bulb.

Rob: But this is a good example of using the phrase *necessity is the mother of invention.*

Cath: *Necessity is the mother of invention.* Why don't you explain what that means Rob.

Rob: Well, when it's necessary – or there is a **necessity** – to find a solution to a problem it makes you think of one.

Cath: So this desperate situation has forced the people in the slum to come up with a new idea – with this new light!

Rob: Yes. This new light is made from something that there is a lot of in the slums.

Cath: I know a lot of the city's rubbish gets dumped there so, I'm guessing, plastic bottles.

Rob: It is plastic bottles - and they're used in a special way to make light without using electricity. Let's hear more about it from the BBC's Kate McGeown. Listen out for the word she uses that describes how sunlight is spread around the room:

Kate McGeown , BBC

Essentially it's just an old plastic bottle filled with water. Each light costs about a dollar to make. Firstly the empty bottle is pushed through a small piece of metal then it's filled with water and a little bit of bleach to prevent algae…and that's it. The effect is instant. The sunlight is refracted by the water and spreads out around the room.

Rob: So she says **essentially** the light is an old plastic bottle filled with water.

Cath: Essentially in this context means, it's simply or it's just a bottle filled with water. She described how the light was made and how the bottle was pushed through a small piece of metal.

Rob: That is to make sure no water or rain come through the hole that is made for it in the roof.

Cath: She also mentioned how a bit of bleach is added to the water.

Rob: That's because if you leave water untreated it becomes stagnant and little organisms grow in the water, called **algae.**

Cath: And once the sun shines through the bottle, the effect of the water means it is **refracted** – or spread out – across the room. She said the effect was instant.

Rob: Yes, just like switching on an electric light bulb but more **economical** – it's cheaper!

Cath: But does it produce as much light as a light bulb?

Rob: Apparently it produces 50 to 60 **watts** of power which is more than some electric light bulbs.

Cath: That's really impressive. It really is a good example of necessity being the mother of all inventions! Although I suppose to make it work you need one important ingredient.

Rob: What's that?

Cath: Sunlight!

Rob: Ah yes of course but there's plenty of that in the Philippines and there are plenty of islands too – which brings me back to today's question.

Cath: Oh yes!

Rob: Earlier I asked you how many islands make up the Philippines? Is it:

a) 107

b) 707

c) 7107

Cath: And I said 707.

Rob: And that's wrong. The actual answer is 7107. The Philippines is an archipelago of 7107 islands. OK, well we're almost at the end of the programme, so Cath

could you please remind us of some of the vocabulary we've heard in today's programme?

Cath: Of course! We had:

ingenious

slums

obstacle

insignificant

virtually

necessity

essentially

algae

refracted

economical

watts

Rob: Thanks Cath. We hope you've enjoyed today's programme. It's time to go now but we'll see you next time!

Both: Bye!

Vocabulary and definitions

ingenious	very clever
slums	areas of a city where living conditions are very bad
obstacle	something which makes it difficult to go forward or do something
insignificant	not important
virtually	almost entirely, nearly
necessity	the need to do something
essentially	in a fundamental or basic way
algae	plant-like organism living mainly in water
refracted	here, a ray of sunlight which changed its path where it entered water
economical	does not require a lot of money to operate
watts	units of measurement of electrical power

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