Script - Playing God? - 60mn

**Slide 1** (4 min)

**T** Hello everyone.

Remember what we talked about last time?

**S answer(s)**

**T** Good, we will keep talking about the subject of health in our century.

Watch this.

**Click for title and picture.**

**T** What does this picture represent?

**S answer(s)**

*The double helix of DNA.*

**T** Very good. Now do you know the names and nationalities of the scientists who discovered DNA?

**S answer(s)**

**T** Francis Crick (UK) and James Watson (USA).


**S answer(s)**

**T** OK, if you want to know more I suggest you go and check on the internet.

**T** What does the phrase DNA make you think of nowadays?

**S answer(s)**

**T** What if I show you this subtitle?

**Click for subtitle**

**S answer(s)**

**T** Right, it seems as if man can now create life and maybe worse... transform it.

**Click to next blank slide**

**Slide 2 Spitting image** (5 min)

**T** Do you understand the following phrase?

Maybe you have an equivalent in your native language...

**Click for title.**

**S answer(s)**

**T** If you don't know, all you have to do is look at this picture, and then you will guess.

**Click for picture of flowers.**

**S answer(s)**

*It means that something looks exactly like something else, so much so that you can't tell which is which.*

**T** Well, matter of fact, that's exactly what happens with most plants and flowers. Here each flower looks like a replica of the other. Is that what you call a clone?

**S answer(s)**
Not exactly because these two flowers grow on the same vine. And they're a natural product of nature.

T So what's a clone?
Click for question.
S answer(s)

T Here's a definition, tell me if what you see in the second picture fits the definition.
And why did I choose sheep?
Click for definition and second picture.
S answer(s)

T OK, maybe the next slide will give us a clue.

Click to next slide and title

Slide 3 Spitting image (4 min)
Click for picture of sheep.

T Do you recognise this sheep? Does its name ring a bell?
S answer(s)

T What do you know about its origin and its life?
S answer(s)

First sheep that was successfully cloned and lived.

T What do you understand (and maybe learn) if I show you this information?
Click for first box.
S answer(s)

T Isn't this incredible? Do you know how it was achieved?
S answer(s)

Click for drawing of genetic engineering.

T What feeling does this inspire you with? Hope, fear? Can you say why?
Look at the second box and compare the information it contains with that of the first box. What is your conclusion?

Click for second box
S answer(s)

T Do you think such manipulations should be allowed or forbidden? Why?
S answer(s)

Click to next slide and title.
Now in most religions, Gods are said to have encouraged men to multiply. Is this what they meant?

*Click for picture of clones.*

Can you describe this picture and explain what idea is being illustrated here?

How do you feel about this? How would you like to meet thousands of "yous" in the street?

If this is possible for mammals, don't you think some scientists might be tempted to clone humans? Do you think some people already do that in secret labs?

A famous British writer imagined such a world in the early 1930s. Do you know his name? Have you read his book?

*Click for picture of Aldous Huxley.*

(If you haven't you should!) If you have, can you explain what sort of society has been created? Or can you imagine what he describes considering what we are talking about?

How does that make you feel?

Bearing in mind the fact that DNA was only discovered in 1953, wouldn't you call this writer a visionary? And would you call his book a solemn warning? Why?

OK, on to what follows.

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Do you know what a nightmare is?

What is your worst nightmare? I'm not referring to your math class, relax, just to some bad dream that might be recurrent. Do you mind telling us about it?

What about the concept of nightmare in the context of genetic engineering? It seems many fiction writers have come up with some dreadful stories. Do you know of any? Can you tell us about it/them?

*Click to picture of HG Wells.*

Do you recognise this person? He's another famous visionary.
Does that name ring a bell now?

OK, let's test your knowledge. Which of the following most famous books written by H.G. Wells deals with today's topic?

Yes, the book in question is The Island of Dr Moreau. Have you read it or seen one of the films that were made from it? Can you tell us about it?

They know or you tell them: the story deals with a shipwrecked man that finds himself on an unknown island run by a scientist by the name of Moreau who conducts atrocious cross-breeding experiments between humans and animals. He generally uses those humans who end up on his island as guinea pigs for his awful deeds.

Do you know why the book was a success at the time? Remember that DNA was unknown yet.

Well, the end of the 19th century was marked by concerns of race degeneration and eugenics, which not so long afterwards led to the apocalyptic racial theories that we know.

And don't forget that the (fictitious) experiments conducted by Dr Moreau in the book were done by "natural" means, if you see what I mean. Imagine what it would be like if the man had been able to use today’s genetics. If you think I'm exaggerating take a few minutes to read this short quotation.

Can you sum up this short quotation?

Do you agree with the use of the word "ominous"? Can you explain why?

Not only do these scientists propose incredibly frightening things, but it seems they have the brains and knowledge to do it, and also, what may be worse, they have the funds to conduct their crazy experiments.

Quite right, and when you think that this was written 20 years before Dolly... you realise what sort of hybrids they could come up with nowadays. How do you feel when you read about the retailoring of the human body and the hybridization part?
T Don't you think that what these researchers are proposing has already been achieved?
S answer(s)
T If you don't understand what I mean just look at this and tell me how you interpret the picture.
Click for picture of hybrid men.
S answer(s)
T Yes, it seems we've already been outfoxed, doesn't it?
S answer(s)
Click for wordbox.
T And you know what? These new creatures may already have used much older ones like some we have already seen in a different context … to seduce us and satisfy their appetite… What do you say?
Click for picture of mermaids, text and smiley.
S answer(s)

Click to next slide

Slide 7 Mythical beasts (7 min)
Click for title.
T What does this title evoke to you? Can you name a few mythical beasts that show that men have for a long time thought about hybrid creatures or strange beings?
S answer(s)
Click for picture 1 and #.
T What's strange about this picture? Do you know what it represents?
S answer(s)
In Greek mythology Cerberus was a huge three-headed dog whose job was to guard the doors of hell.
T Yes. Some time ago such a creature might have been thought a figment of a mad man's imagination. Today you never know what mad scientists might come up with. What about this other anthropomorphic creatures? What do you call them?
Click for painting of centaurs and #2.
S answer(s)
T OK, what do you know about them? Can you describe what makes them so unique?
S answer(s)
T They were both male and female the legends say, but also rather violent creatures that's why one of Heracles's jobs was to do away with them. It seems the Ancients knew better than to interfere with nature and knew what to do when someone did… even the gods themselves…
Click to picture 3 and #
T And now for another monster…
Click for picture 4 and #.
Do you recognise this creature? Can you describe it? And tell us about its story?

S answer(s)
The minotaur was a human with a bull's head. The monster was kept prisoner in the labyrinth which he couldn't get out of. It was also killed by a famous Greek Mythology hero: Theseus.

Good, onto the last one. Click for picture 5 and #.

What is this creature apparently paying its respects to the lady?

S answer(s)
Satyrs are generally (but not always) represented as half-men, half-rams and are said to be good-for-nothings. They are often seen in the company of Bacchus, the God of wine. No comment!

Click for box

That such creatures be good for nothing will surprise no one, I suppose… So what do these various mythological creatures have in common with what genetic engineers might produce?

S answer(s)
They share the fact that they are monsters.

What lesson do you think we should learn from this?

S answer(s)
We should maybe leave nature alone. And stop playing God, for even in the mythology these monsters were created by the gods…

You mean we should give up on science altogether?

Click to next slide and title

Slide 8 Science and health (5 min)

It seems we have been saying lots of bad things about scientists. But where would we be without their medical research?

S answer(s)
Probably back to the age of cavemen.

Agreed. Now let’s look again at something you will probably identify easily. Click for picture of chromosome and #1.

Can you describe what you can see?

S answer(s)
Standard chromosome with double helix of DNA.

Good. Now we all know that the entire human genome has been or will soon be decoded. Do you recognize this?

Click for picture 2 and #.

Click for arrow and answer.

Why are these discoveries and research important?
What do you know about the normal human karyotype?

So if I say it is now possible to choose one's children's sex, hair or eye colour, would you agree with me?

And why is the word "normal" underlined in the box?

That may explain what the lady in the third picture is doing, don't you think?

She is showing (on a much larger scale) what can be done to change, transform or repair a particular cell. That's why it's so important to identify each of these little blue beads and understand the role they play.

How so?

It works like any faulty part in a machine. If you know what's wrong with it you can repair it and solve the problem.

Are you saying this might help cure some specific disease?

Yes, such as diabetes, or other serious problems.

Good! Then let's play God!

Let's!

Would you be interested in such scientific studies? Why/not? Do you know people who are involved in them? Do you think they get the money they need to conduct their research? Are you ready to donate some money to help?

Click to next slide

Now, in your opinion, what are today's most important diseases we should fight?

What do these symbols or pictures make you think of?

How can this be avoided?

Click for picture 2 & #.

What mistake is this young lady making? Why? Why is she doing it?
This picture shows one of the most common diseases women suffer from. It is often hereditary.

This one concerns the part of the body in red. What's it called? What can cause cancer there?

And what about this symbol? Do you wear it? What disease does it represent? What is it caused by? Do you know how to avoid contracting it?

Good! I'm going to show you pictures, you got that right. But that was only the easy part. Now, I want you to tell me what each picture is supposed to prevent or what disease it might cause you to contract.

Good, that was an easy one. Everyone knows that smoking causes many sorts of diseases among which lung and throat cancer, and cardio-vascular problems and accounts for over 55,000 deaths a year in the UK or in France. Doesn't that incite you to take some serious resolutions?...

Now, these two pictures are aimed at a specific section of the population. Which one? Why? Do you feel concerned? How so? What is the message conveyed in these two pictures? What disease do these things create? What do you personally do to avoid it?

Maybe even more serious now. What kind of prevention is being suggested here? Why is this gesture important? What is this person checking?
Do you know how much progress has been made in curing this disease?
S answer(s)

*Click for picture 5 and #.*

T Well, this looks like a friendly meeting is being in the offing. But what advice would you give people regarding alcohol consumption?
S answer(s)

What kind of disease(s) does alcohol abuse induce?
Are you aware of this? What do you do about it?
S answer(s)

T OK, let’s sum up the problems.

*Click for word box and help the students pronounce the words*

*Click to next slide and title.*

**Slide 11 Science and health**

(5 min)

T What does the title suggest?
S answer(s)

T Well, in fact the pictures will show you that, thanks to science, all hope is not lost…

*Click for picture 1 and #.*

T Can you identify these things? What are they for?

How stringent can this sort of treatment be?

Do you know people who have to go through this every day?
S answer(s)

*Click for picture 2 and #.*

T What is this person doing?

How will he know whether his treatment is working?
S answer(s)

*Click for picture 3 and #.

T What’s happening here?

What might be the cause for this treatment?

What kinds of disease can be solved by replacing someone’s blood completely?

Is this practice without risk? Explain.
S answer(s)

*Click for picture 4 and #.

T If you think that we are back to the subject of space travel, you’ve got it all wrong. Can you describe what this picture shows?
S answer(s)

*This is an artist rendition of what cannot really be filmed because the objects are so tiny… The little transparent capsule is in fact a nanorobot programmed to travel through the body to specific parts of it and destroy cancerous cells.*

T What is the advantage of this technique compared to regular chemical or radiation treatments?
How are these little machines inserted into your body? Can you believe that they can just be swallowed like any tablets?

S answer(s)

Click to show word box

T Good, so there IS hope, isn't there, that one day we will be able to beat the "crab" as some doctors refer to it.

Click to next slide

Slide 12 Solidarity and wisdom

T What does this title suggest to you in today's context?

S answer(s)

Click for picture 1 and #.

T On what occasion do you think you can see this drawing? What does it invite people to do?

S answer(s)

Click for picture 2 and #.

T How has this person reacted?
Have you done this before?
Do you intend to do it? Why/not?
Don't you think more people should give blood?
Do you think they should be paid for that?
If donors were paid do you think more people would give blood?
Is there a moral problem here? Which one?

S answer(s)

Click for picture 3 and #.

T What is this the symbol for?
Do you recognise the organs shown?
How many of these do we need to live normally?
Have you heard of (famous) people who gave one of their kidneys to save a member of their family?

S answer(s)

What do you think of organ transplants in general, I hear a number of people are against for a variety of reasons?
Do you think people should make provisions for their organs to be used to save other people's lives?
Are you ready to do so?

S answer(s)

Click for picture 4, #4 and click again to show the box

T And now to finish on this topic of health, which of these four pictures would you associate with the idea of solidarity and which with the concept of wisdom? Why?

S answer(s)