Counter Culture

EAE Learning objectives for this lesson

Review the Conditional tenses. Practice using the conditionals. Comprehension. Discussion.

The culture an lifestyle of those people, especially among the young, who reject or oppose the dominant values and behaviour of society.

Activity One: - Ask and answer:

1. Do you consider yourself to be aware of counter culture, of new ideas, of new technology?
2. Do you take an interest in new inventions, in new ways of thinking, in alternatives?
3. Do you trust the major players in the food industry?
4. Is natural always best?

Activity Two: - Would you??? First Second and Third Conditionals in English...

First, Second, & Third Conditional by. Rob De Decker

Conditional Clause and Main Clause

First, Second, and Third Conditional

1. First conditional:	If I have enough money, I will go to England.
2. Second conditional:	If I had enough money, I would go to England.
3. Third conditional:	If I had had enough money, I would have gone to England.

Conditional clause	**Main clause**
1. If + Present Tense	will + inf / present tense / imperative
a If you help me with the dishes (if + pres), b I will help you with your homework. (will + inf) c If the sum of the digits of a number is divisible by three, d the number is divisible by three (Pres. tense) e If you see Mr Smith tonight, tell him I am ill. (imperative).	
2. If + Past Tense	would + inf
3. If + Past Perfect Tense	would have + past participle
We do not normally use <u>will</u> or <u>would</u> in the conditional clause, only in the main clause.	

Uses of the Conditional

1 First conditional

Nature: Open condition, what is said in the condition is possible.
Time: This condition refers either to present or to future time.
e.g. If he is late, we will have to go without him.
If my mother knows about this, we are in serious trouble.

If I have enough money, **conditional clause**	I will go to England. **main clause**
I will go to England, **main clause**	if I have enough money **conditional clause**

2 Second conditional

Nature: unreal (impossible) or improbable situations.
Time: present; the TENSE is past, but we are talking about the present, now.
e.g. If I knew her name, I would tell you.
If I were you, I would tell my father.
Compare: If I become president, I will change the social security system. (Said by a presidential candidate)
If I became president, I would change the social security system. (Said by a schoolboy: improbable)
If we win this match, we are qualified for the semifinals.
If I won a million pounds, I would stop teaching. (improbable)

3 Third conditional

Nature: unreal
Time: Past (so we are talking about a situation that was not so in the past.)
e.g. If you had warned me, I would not have told your father about that party.(But you didn't, and I have).

Remember!

1. The conditional construction does not normally use *will* or *would* in if-clauses.
EXCEPTION: If *will* or *would* express willingness, as in requests, they can be used in if-clauses.
e.g. If you will come this way, the manager will see you now.
I would be grateful if you would give me a little help.
(= ± please, come this way; please, give me...)
2. For the second conditional, *were* replaces *was:*
If I were a rich man...
3. After *if*, we can either use "some(-one, -where...)" or "any(-one, -where...).
If I have some spare time next weekend....or :
If I have any spare time...
4. Instead of *if not,* we can use *unless.*
e.g. I'll be back tomorrow unless there is a plane strike.
He'll accept the job unless the salary is too low.
5.There is a "mixed type" as well, for the present results of an unreal condition in the past:
If + Past Perfect - would + inf.
If you had warned me [then], I would not be in prison [now].

Activity Three:**Cheese without the cow! Read the article about a different type of culture... Reading comprehension:** Read the text paying attention to your intonation and stress.

Source: https://www.wired.com/2015/04/diy-biotech-vegan-cheese/

COW MILK WITHOUT THE COW IS COMING TO CHANGE FOOD FOREVER

DIY biotech aims to democratise DNA the way '70s hacker culture turned computers into tools for everyone.

A group of **bio-hackers** is working on creating 'Real Vegan Cheese' from an a replica of cow's milk. "The essential amino acid makeup of the synthetic milk is going to be identical to real milk," Jimenez-Flores says. "If it has the right caloric content, it's going to be nutritionally indistinguishable from cow's milk."

Uncertain Ethics

But just because this is possible, some critics believe, that doesn't mean we should do it. Many vegans, in particular, frown on genetically modified organisms, and biotech critics question the safety of fiddling with nature's alphabet. The issue becomes especially troubling for some when that science is being done in an unmonitored DIY lab beyond the bounds of traditional, more tightly controlled institutions.

The creators of Real Vegan Cheese say the GMO debate doesn't apply to their creation. The end product—the "cheese" itself—won't contain any genetically modified material, they point out. Yes, the yeast, which produces the milk, has been hacked. But the actual product isn't so different from food made using centuries-old techniques. Beer, yogurt, cheese itself: All depend upon processing organic matter through bacteria.

That assurance doesn't comfort Dana Perls of the environmental group Friends of the Earth. She's a vocal critic of synthetic biology—the catchall name given to biotech based on writing custom genes—and synthetic biology's potential uses in food-making in particular. "We need regulations specific to these new technologies, and we need safety assessments," she says.

When it comes to synthetic biology, Perls advocates the so-called precautionary principle, which would require scientists to prove that a given technique or product is safe before being allowed to forge ahead. Not surprisingly, she finds the spread of DIY labs particularly alarming. Traditional labs are hard enough to monitor, she argues. "Can we be reprogramming life in our garages and be sure nothing will go wrong?"

For Perls and other biotech critics, the biggest fear is that an organism built in a lab will escape into the wild and decimate vulnerable ecosystems. And unlike, say, an oil spill, a synthetic microbe in this worst-case scenario couldn't be cleaned up because it would keep reproducing. The Real Vegan Cheese team says it's sensitive to these concerns—though they say, like most synthetic biologists, that the biggest challenge isn't locking down their creations; it's ensuring they survive at all.

"The way we're planning on growing them, we'll have to work pretty hard to keep them alive," Rupert says. "If they escape from our vats, they're not going to make it very far."

New Food Future

Real Vegan Cheese isn't alone in trying to apply synthetic biology to food production. Indeed, for-profit ventures are hotly pursuing the possibilities. A San Francisco startup called Muufri ("moo-free") recently announced it had received $2 million to develop its own cow-less cow milk. And in Switzerland, a company called Evolva is using synthetic

biology to make flavours traditionally derived from hard-to-find plants, such as vanilla and saffron.

Unlike typical artificial vanillin, which is made from wood pulp or petrochemicals, says Evolva CEO Neil Goldsmith, his company's vanillin is chemically identical to the flavourful substance extracted from the vanilla bean but costs much less. "Really what we are doing is simply taking genes that already exist in the plant and putting them in something that already exists in the food chain," Goldsmith says, referring to the yeast cells Evolva is hacking to make its vanillin. "And that's really not a big deal."

Is human manipulation of DNA "unnatural"? To answer such a question, you have to ask whether technology itself is "natural." Humans have been consciously intervening in the natural environment—and screwing it up—since the first stone hammers were hoisted. And we started altering the evolution of other species the first time we planted seeds in the ground. Most of the food we eat comes from humans manipulating nature to make it work for us.

Still, plunging into the core of what makes life work forces us to re-examine assumptions about nature so ingrained that the English language hardly has the capacity to articulate them. Is cow's milk without the cow really cow's milk? If not, what do we call it? Is it a distinction without a difference? Or does our meddling in life's alphabet make all the difference?
Here's the thing: Little else in human culture comes freighted with as much baggage as food. The things we eat come loaded with taboos and value judgments, status signifiers and ethical anxieties. On the other hand, if Real Vegan Cheese melts all gooey and good on a ground beef patty grown in a petri dish and not in a pasture, we'll eat it.

Comprehension Questions:
5. Why are GMOs troubling for some people?
6. Why is the Real Vegan Cheese saying that their product is the exception
7. Which ingredient produces the milk?
8. What does Dana Perls want to do to make a difference?



Debating: With your partner decide who is FOR GMOs and Who is agains it.
Explain the benefits and consequences (pros and cons) for each side.
Be ready to preform your debate in front of the class.

Partner up to Practice : Practicing conditionals with your partner. Think of different foods that could use GMOs for your discussions. Be creative.

1. Imagine the things that you have eaten in the past with regret. (you may have to invent something)
Have you already eaten GMO products? Discuss using the unreal conditional.
Example: If I had known, I would have done something differently....

2. Imagine unlikely situations with your partner: what you would do if a big part of your food supply were MGO based.
Example: If my refrigerator had MGO cheese I would give it a try.

3. Talk about a likely event using MGOs.
Example: If I have fake cheese in my refrigerator I will give it to my dog.

Activity Four: Would you eat that? Read the article about Cultured meat, paying attention to your intonation and stress. Fill the gaps in the text.

Would you eat a panda burger or an elephant steak?

Lab-grown meat comes in many other names; cultured meat, in vitro meat, synthetic meat, and is made by growing muscle cells in a nutrient serum and encouraging them into muscle-like fibres. Simpler animal products, such as artificial milk or hen-free egg whites, can be created by yeast that has been genetically altered to produce the proteins found in milk or eggs, which are then extracted and blended in the right amounts.

In fact, using 'cellular agriculture', there's no reason why scientists ……. grow artificial meat with characteristics from a combination of animals, or enhance lab-grown meat with healthier fats, vitamins or vaccines. We ……. even taste the flesh of rare animals that nobody ……. dream of slaughtering for food. Panda burger, anyone?

For now, the race is on to make the first affordable cultured meat products. The need to find credible alternatives to traditional meat is urgent. Livestock farming takes up a huge amount of land and water per calorie of food compared to crops, and in terms of greenhouse emissions, is as bad as burning fossil fuels, according to the UN. Rising incomes in developing countries means that more people are eating meat than ever before, reducing the amount of land available for much-needed crops, and contributing to climate change. Of course, being able to grow meat artificially ……. have a positive impact on animal welfare, too.

OPINION - What do you think about cultured meat?



Activity Five: What would you hack?

Countercultures are shared identities among a group of people and do not fit in with mainstream culture. Hackers, eco warriors, whistle blowers, gamers; these are all examples of modern day counterculture. The hackers of today though are not just digital… Todays hacks are also happening in science labs. Revolutionary new techniques are making new food sources available to humanity!

- **With your partner come up with a new idea for a food hack!**
- **What would you adapt, develop or grow to create a new source of food?**

