

LESSON PLAN

OCTOBER 2017

FROZEN IN TIME



Vol. 14 Issue 6
THE SCIENCE OF STAR TREK



UPPER INTERMEDIATE

Stages	Procedure	Time
Objectives	<ol style="list-style-type: none"> 1. To practice <ol style="list-style-type: none"> a. scanning and skimming for details b. guessing the word meaning in context c. answering inferential questions 	
Warmer	<ol style="list-style-type: none"> 1. Teacher shows picture of a wood frog and asks students 'What is special about the wood frog?' 2. Teacher elicits responses. 3. Teacher introduces the term 'cryonics' and leads into the topic of the day. 	4mins
Pre-reading	<ol style="list-style-type: none"> 1. Teacher distributes Task 1. 2. Without referring to the article, students try to match the numbers/terms to their descriptions. 	8mins
While-Reading	<ol style="list-style-type: none"> 1. To confirm answers for Task 1, teacher gets students to scan for the details in the article. 2. Next, teacher distributes Task 2. 3. Students work with their partners to answer each vocabulary question. 4. Teacher checks answers. 5. Next, teacher distributes Task 3. 6. Students skim and scan for information from the article to answer each question. 7. Teacher checks answers. 	15mins
Post-reading	<ol style="list-style-type: none"> 1. Teacher divides class into small groups. 2. Each group discusses on the following questions and present their views to the class: <i>'What do you think of the idea of cryonics? Will you participate in it? Share your views.'</i> 	10mins
Wrap	<ol style="list-style-type: none"> 1. Teacher concludes class discussion and wraps up lesson. 	3mins

TASK 1

Match each number or term below to its description.

1. Robert Ettinger

a. The number of people in cryogenic state

a. It is to make the idea of cryonics public.

2. The Prospect of Immortality

b. The process of turning a body into a glass like solid

b. It has the ability to put its body in deep freeze and bring it to life again.

3. Vitrification

c. The year Cryonics Institute founded

c. The body is the 106th body being cryogenically frozen in the Cryonics Institute.

4. Rana sylvatica

d. The founder of Cryonics Institute

d. It was founded in Detroit.

5. 250

e. The age the founder of Cryonics Institute died

e. They are looked after by cryogenic organisations.

6. 92

f. A wood frog species

f. It has been experimented on a rabbit.

7. 1976

g. A book about cryonics

g. He was formerly a physics teacher.

TASK 2

Look for words from the text provided to answer each question below.

1. 'It is estimated that there are around 250 people in a cryogenic state at this moment in time. They are looked after by one of half a dozen cryogenic organisations. There are reports of many more people signing up for the chance to be preserved and then revived in future.'

Which **two** words explain the process of cryonics?

2. 'Robert Ettinger is considered by many to be the father of cryonics having spent much of his life in pursuit of his dream to be frozen and brought back to life. He made his idea public with his book "The Prospect of Immortality".'

Which word tells you that Robert Ettinger had put a lot of effort in trying to make cryonics a reality?

Which word shows that Robert Ettinger's idea of cryonics has been widespread?

3. 'Many around the scientific world insist the possibility of being revived and cured are slim, to say the least.'

Which word tells you that cryonics is near impossible to succeed?

4. 'This glucose prevents the cells from freezing by acting as a cryoprotectant (a substance used to protect biological tissue from freezing damage). If this did not happen the ice would suck the water out of the cells and the damage would be irreversible.'

Which word tells you that damage will be permanent if cells are not protected by cryoprotectant?

5. 'After the return of the frog's first heart beat, it takes about a day to defrost and amazingly it thaws from inside out with the brain and other organs thawing first. Scientists are still puzzled as to what triggers the heart to start beating again and reverse the process.'

Which word shows that how the wood frog comes back to life remains a mystery to the scientists?

TASK 3

Answer the questions below with reference to the article.

1. According to the author, what do participants of cryonics believe would happen in the future?

2. How has the possibility of cryonics to succeed been proven scientifically?

3. What kind of people will most likely be interested in the idea of cryonics?

4. What is the key element that helps wood frogs to survive in a deep freeze?

5. What is the main difference between the freezing processes of humans and wood frogs?

ANSWERS

Task 1

1. d, g
2. g, a
3. b, f
4. f, b
5. a, e
6. e, c
7. c, d

Task 2

1. preserved, revived
2. pursuit, public
3. slim
4. irreversible
5. puzzled

Task 3

1. They believe that a cure for the cause of their death might be found in the future.
/ They believe that the continuing development of mankind will be able to successfully revive them in the future.
2. It has been proven through the process of vitrification on a rabbit.
3. The fearful, ultimate explorers and risk takers will most likely be interested in the idea of cryonics.
4. It is the glucose which acts as a cryoprotectant.
5. Humans are dead before they are being frozen, whereas wood frogs are alive before they go into deep freeze.