

DNA

Class: Middle school/high school

Level: Upper-intermediate.

Time : 45 minutes

Aims:

- To learn about DNA, the molecule and DNA strand
- To learn about genes and chromosomes
- To learn vocabulary connected with genetics, DNA
- To look for specific information on the internet
- To read for specific information
- To transfer the information.
- To use web pages

CLIL: Biology

Materials : included photocopies, access to the internet and personal computer, speakers.

| STAGE | AIMS | PROCEDURE | CLASSROOM LANGUAGE | TIME | MATERIALS |
|-----------------------------|--|---|--|--------------|-------------|
| Introduction | To start the lesson | Check the register /check homework | | 1 min/ 6 min | |
| Warm – up activity | To provide students with introduction to the topic | Start the class discussion and students the questions, ask what they know about DNA. | When watching a detective film, do you know why the investigators always look for strands of hair or any other material left behind by the suspect? | 5 min | |
| The main part of the lesson | To learn about the discoverer of DNA | Ask the students to go online and read the information about the discovery of DNA. Monitor the time and tell the students to scan through the texts and pay attention only to the most important facts. | Before we learn about DNA let's read about scientist who discovered it. Go online http://www.bbc.co.uk/history/historic_figures/crick_and_watson.shtml http://www.ducksters.com/biography/scientists/watson_and_crick.php read the information and take notes. | 10 mn | Worksheet 1 |
| | To learn about DNA | Ask the students to work alone and go online to find the information about DNA and answers to the questions,. | What does DNA mean? What is DNA made of? What is the shape of DNA molecule? How is information encoded in DNA? | 15 min | Internet |

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|---------|---|--|---|--------|--|
| | | Allow time for the students to work at their own pace., Put the students in pairs to exchange the information and check their answers. | What are genes? What are chromosomes? What information is in DNA? What is DNA code? | | |
| | To watch an educational video about DNA | Ask the students to watch a video. It is a good idea to watch it beforehand and prepare questions checking students understanding of the topic. | Go online and watch a video about DNA: http://www.popsci.com/science/article/2013-03/watch-absolutely-beautiful-animated-explainer-dna | 10 min | |
| Wrap-up | To summarise the lesson | Ask the students to read the amazing facts about DNA. | | 5 min | |

Sources:

http://www.bbc.co.uk/history/historic_figures/crick_and_watson.shtml

http://www.ducksters.com/biography/scientists/watson_and_crick.php

<http://www.popsci.com/science/article/2013-03/watch-absolutely-beautiful-animated-explainer-dna>

<http://science.howstuffworks.com/life/cellular-microscopic/dna4.htm>

<http://ghr.nlm.nih.gov/handbook/basics/chromosome>

<http://www.eyondna.com/2007/08/20/100-facts-about-dna/>

<http://www.genome.gov/25520880#a1-3>

<http://www.ducksters.com/science/biology/dna.php>

http://www.chem4kids.com/files/bio_dna.html

<http://www.popsci.com/science/article/2013-03/watch-absolutely-beautiful-animated-explainer-dna>