

ITIS
LEONARDO DA VINCI
Via Toscana 10, 43122 Parma, tel 0521-266511
Programma di lingua straniera **Inglese**
Classe 5B Biotechnologie Sanitarie – a.s. 2022-2023
Prof.ssa Renzi Cristina Maria

English for Science:

A) Cristina Oddone, *ScienceWise*, Editrice San Marco

- Module 1 - The basics of chemistry (revision)

- Understanding chemistry
- The scientific method
- Measuring physical quantities
- Atoms: the basic units of a substance
- The periodic table
- Molecules

- Module 2 - Matter and energy

- Exploring matter
- Measuring matter: volume
- Measuring matter: density
- Phase transitions
- Physical and chemical properties and phenomena
- Understanding energy
- Understanding heat

- Module 3 – Chemical compounds and reactions

- The role of chemical compounds and reactions
- Chemical formulae
- What happens during a chemical reaction
- Acids, bases and salts

- The pH scale

- Module 4 – Chemistry fieldwork

- A career in chemistry
- From lab to court: forensic science
- Essential features of a chemistry lab
- Laboratory equipment
- Lab glasswear cleaning

Module 5 – chemistry and biochemistry

- Organic chemistry and its relationship with biochemistry
- Polymerization
- The key role of carbon
- Understanding functional groups and organic families
- Analyzing carbohydrates
- Examining lipids
- Exploring proteins
- The importance of food and nutrition
- Food problems: allergies and intolerances
- *Extra:* Powerpoint presentation *Taking good care of yourself* (good eating habits, good sporting habits, eating disorders; depression)

- Module 6 – Uncovering life: biotechnology

- DNA and the secret of life
- Biotechnology and its innovations
- Genetic modification
- Artificial cloning
- Biotechnology in agriculture
- Biotechnology in the chemical field
- Tissue engineering
- Artificial limbs
- *Extra:* The risks of cloning

- *Why don't we hear about cloning anymore?*, by David Cox, 22nd March 2022 (BBC website)

- Module 7 – Science and health

- The human body
- The role of the immune system

B) da AA.VV., *A Matter of Life*, Edisco (fotocopie fornite dall'insegnante)

- Diseases

- Disorders of the immune system
- Neurodegenerative diseases
- More diseases affecting the brain and the nervous system
- Cardiovascular diseases
- Diabetes

- Addictions

- Smoking
- Alcohol
- Drugs
- Teens and smartphones: an addiction?

C) da AA.VV., *Chemistry – Skills and competences*, Mondadori Educational-Minerva Scuola (fotocopie fornite dall'insegnante)

- History of Medicine, Drugs and Vaccines (reading)

- The first medicines
- A timeline of the history of vaccines

- Diseases and Pandemics in History

- Diseases that have caused epidemics now controlled by vaccines
- Pandemics in the 20th Century
- 21st Century pandemics: SARS, Ebola, MERS, Covid-19

- COVID-19 Structure, Tests and Vaccines (reading)

- SARS-CoV-2 Structure
- Diagnostic tests for SARS-CoV-2
- Main types of vaccines used for COVID-19

Training for Invalsi:

I ragazzi hanno svolto autonomamente esercizi online sul sito Invalsi e sul sito Zanichelli dopo un'introduzione metodologica da parte dell'insegnante.

Citizenship:

- Lezione multimediale in tre unità, più visione di un film in tema, più verifica sul seguente argomento:

- *The Long Path of Women's Rights in the UK and in the US.*

Business English

- The CV

English Literature:

- Commento storico-letterario e analisi del testo letto durante le vacanze estive:

- Mary Shelley, *Frankenstein*, Black Cat (versione ridotta)

Video e film:

- Visione di video legati agli argomenti trattati (tratti da Ted Ed e da siti specializzati in ambito scientifico)

- Visione del film *Suffragette*, di Sarah Gavron, 2015 (DVD)

- Visione del film *Never Let Me Go*, di Mark Romanek, 2010 (DVD)

L'insegnante

Gli studenti

Parma, 15 maggio 2023