

ITIS
LEONARDO DA VINCI
Via Toscana 10, 43122 Parma, tel 0521-266511
Programma di lingua straniera **Inglese**
Classe 5B Biotechnologie Sanitarie – a.s. 2023-2024
Prof.ssa Renzi Cristina Maria

English for Science:

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

- Module 1 - The basics of chemistry

- 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: mass
- Measuring matter: density
- States of matter
- 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 glassware cleaning

- **Module 5 – chemistry and biochemistry**

- Organic chemistry and its relationship with biochemistry
- Analyzing carbohydrates
- Examining lipids
- Exploring proteins
- The importance of food and nutrition
- Food problems: allergies and intolerances
- *Extra:* Powerpoint presentation *Food and us* (good eating habits and eating disorders)

- **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)
 - Analysis of the themes in the movie *Never Let Me Go*

- **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 (solo lettura autonoma domestica facoltativa)

- 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

- 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

- 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 verifica orale sul seguente argomento:

- *An approach to the world of jobs.*

Business English

- The CV

English Literature:

- Analisi del testo letto durante le vacanze estive, commento storico-letterario e attualizzazione della trama e dei suoi temi attraverso la creazione di servizi televisivi e/o radiofonici:

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

L'insegnante

Gli studenti

Parma, 15 maggio 2024