

# Tixtieq ikollok karriera bhala xjentist?

## Informazzjoni għall-istudenti

(Huwa rrakkomandat li din l-informazzjoni tinqara kemm mill-istudenti kif ukoll mill-ġenituri li jkollhom uliedhom waslu fil-Form 2)

1. Jehtieg li tagħtu importanza kbira lill-għażla tas-suġġetti li tiddeċiedi li tistudjaw mill-Form 3 'l fuq. Din l-għażla aktarx li tkun kruċjali għalikom għax minnha tiddependi l-karriera jew ix-xogħol li jkollkom tul hajjtkom. Għalhekk, nirrakkomandalkom li żzommu ruħkom agġornati u tinformaw ruħkom fuq is-suġġetti kollha li huma offruti bhala *options* mill-Form 3 'l fuq.
2. Kif tafu, ix-xjenza għandha importanza kbira fid-dinja tal-lum u, minhabba f'hekk, huwa neċessarju li kull student ikollu l-hiliet baziċi fil-qasam tax-xjenza. Ma tistax tgħid li taf ix-xjenza jekk ma tkunx kapaċi tinvestiga, tesperimenta u mbagħad toħroġ riżultati u konkluzjonijiet mix-xogħol tiegħek.
3. Kull suġġett tax-xjenza, kemm *Physics*, kemm *Chemistry*, kemm *Biology* jew xi suġġett xjentifiku ieħor, nibet mill-kurzità li għandu l-bniedem biex jitgħallem fuq id-dinja ta' madwaru. Il-bniedem jixtieq ikun jaf, il-bniedem dejjem jistaqsi u naturalment jixtieq isib risposti biex jissodisfa l-kurzità tiegħu.
4. It-tagħlim tal-*Chemistry* jagħti twegiba għal hafna mill-mistoqsijiet li għandu l-bniedem tal-lum, hafna mistoqsijiet li intom l-istudenti jigukom f'raskom meta tkunu qed tosservaw id-dinja ta' madwarkom.

Pereżempju:

- (i) Għaliex is-sapun ma jagħmilx ragħwa mal-ilma tal-baħar?
  - (ii) X'jigriha borża tal-plastik meta tinħaraq?
  - (iii) X'fih velenuż l-*exhaust* tal-karozzi?
  - (iv) Għaliex il-*chlorine* inżiduh mal-ilma tas-*swimming pools*?
  - (v) X'fiha x-xita aċiduża u għaliex qed teqred il-foresti tad-dinja?
  - (vi) X'qed jikkawża l-qerda ta' xi wħud mill-kreaturi tal-baħar?
  - (vii) Għaliex il-ħadid isaddad? X'nista' nagħmel biex niproteġi l-ħadid?
  - (viii) Kif jinħadmu l-*plastics*? Għaliex ċerti *plastics* huma flessibbli?
  - (ix) Min fejn jiġi l-kulur tal-murtali?
  - (x) Għaliex ir-ram jiħdar biż-żmien, il-fidda tiswied imma d-deheb jibqa' qisu ġdid?
  - (xi) X'fihom id-deterġenti? Għaliex inadffu?
5. Il-*Chemistry* huwa suġġett Prattiku u l-lezzjonijiet kollha għandhom kemm jista' jkun isiru fil-laboratorju. Hawnhekk ikunu jistgħu jsiru investigazzjonijiet u esperimenti li minnhom titgħallem kif tuża l-apparat xjentifiku mingħajr ma twegġa' int jew twegġa' lil sħabek. Is-*safety* fil-laboratorju hija ta' importanza kbira. Minhabba f'hekk, qatt ma tkunu aktar minn sittax-il student għal-lezzjonijiet tal-*Chemistry*. B'hekk ikun hemm aktar attenzjoni individwali lejn kull student min-naħa tal-għalliema.
  6. Fid-dinja tal-lum, kemm hawn Malta imma aktar u aktar barra minn pajjiżna, il-*jobs* fil-qasam tal-*industrial chemistry* u l-*chemical engineering* qegħdin dejjem jizdiedu u

għalhekk dawk li jieħdu l-*Chemistry* u jkomplu jistudjaw għandhom hafna bibien miftuħa għal *jobs* interessanti u pagi għoljin. Minbarra dan, il-*Chemistry* huwa wiehed mis-sugġetti obligatorji fl-Università għal dawk li jridu jibdew kors fil-medicina.

## Would you like to become a scientist?

The text below contains information for:

- (i) students who intend to choose optional subjects for study from Form 3 onwards
- (ii) parents whose children attend Form 2 in a secondary school

1. It is of utmost importance to decide well which field of study you opt for after you finish Form 2. So, keep yourself well informed with regards to the optional subjects available and what each subject entails both where content is concerned as well as where a particular field of study leads to.
2. As you may very probably know, the importance of science subjects has steadily grown over the last half century. This is partly due to the revolution in technology and the advancement in the field of medicine, both of which are apparent everywhere. Such a development necessitates that all students should acquire basic skills in science, skills that lead gradually to competencies in investigations, experimentation, data analysis and methods used for drawing up conclusions.
3. Any science subject, whether it is Physics, Chemistry, Biology or any other field of scientific study, stems out of curiosity, that magic curiosity that is fundamental for the process of evolution and is characteristic of mankind. Human nature is always looking for knowledge. This manifests itself in the number of questions and queries we are continually asking and for which we obviously require answers. Only by having answers to our requests can we satisfy our inborn curiosities.
4. The science of Chemistry is mostly the science of materials. Many answers to our queries about the world we live in may be found if we embark on a voyage of discovering chemistry as a subject of investigations. Many students have thousands of questions for which they would like correct answers, questions that crop out after they observe the behaviour of the things around us.

For example:

- (i) Soap does not form a lather with seawater. Why?
- (ii) What is happening during the combustion of a plastic?
- (iii) Which poisonous gases are given off in the exhaust fumes of a car?
- (iv) Why is chlorine added to fresh water in a pool?
- (v) What is acid rain and why is it responsible for deforestation?
- (vi) Why are some aquatic creatures becoming extinct?
- (vii) What is rust? Is it possible to prevent it?
- (viii) How are plastics manufactured? Why are certain plastics flexible while others are rigid?
- (ix) Which materials are responsible for the bright colours of fireworks?
- (x) What is happening when copper becomes green and silver becomes black? Why does the colour of gold remain mostly unchanged?
- (xi) What do detergents contain to make them suitable for washing clothes and cleaning dirty surfaces?

5. Chemistry lessons are mostly practical and it is recommended that all chemistry lessons are conducted in a well-planned laboratory. From investigative work and experiments, students learn how to handle lab equipment, chemicals and other ancillary apparatus. Safety in the lab, particularly where acids and alkalis are concerned, is given utmost importance. To emphasize the importance of safety, any science lab is planned to take a maximum of 16 students. This is obviously an aid towards individual attention and greater participation from students in every aspect of practical work.
6. Both in Malta and abroad, jobs in the fields of industrial chemistry, chemical engineering and biochemistry are on the increase. So, it is obvious that students who opt for chemistry are also opting for interesting and well-paid jobs in their future career. Besides, Chemistry is a compulsory subject at University level for anyone who opts for a course in medicine and other paramedical professions.