

Contents

| | | |
|--------------------------------|------------------------------|----------------|
| | Introduction | 4 |
| | Vocabulary | |
| PROFESSIONAL ACTIVITIES | 1 Production 1 | 6 |
| | 2 Production 2 | 8 |
| | 3 Research and development 1 | 10 |
| | 4 Research and development 2 | 12 |
| | 5 Information technology 1 | 14 |
| | 6 Information technology 2 | 16 |
| | 7 Logistics | 18 |
| | 8 Quality | 20 |
| | 9 Health and safety | 22 |
| | COMPANY PROFILES | 10 Engineering |
| 11 Automotive | | 26 |
| 12 Chemical | | 28 |
| 13 Pharmaceutical 1 | | 30 |
| 14 Pharmaceutical 2 | | 32 |
| 15 Construction | | 34 |
| 16 Electrical | | 36 |
| 17 Electronics 1 | | 38 |
| 18 Electronics 2 | | 40 |
| 19 Energy | | 42 |
| 20 Civil engineering 1 | | 44 |
| 21 Civil engineering 2 | | 46 |
| 22 Mining | | 48 |
| 23 Petroleum 1 | | 50 |
| 24 Petroleum 2 | | 52 |
| 25 Plastics | | 54 |
| 26 Agroindustry | | 56 |
| 27 Pulp and paper | | 58 |
| 28 Telecoms 1 | | 60 |
| 29 Telecoms 2 | | 62 |
| 30 Textiles | 64 | |

| | | |
|--|----------------------------------|-----|
| | Grammar uses | |
| PROFESSIONAL ACTIVITIES | 31 Present tenses | 66 |
| | Present simple | |
| | Present continuous | |
| | Present perfect | |
| | 32 Past tenses | 68 |
| | Past simple | |
| | Past continuous | |
| | Past perfect | |
| | 33 Future forms | 70 |
| | 34 Conditionals | 72 |
| 35 Verb phrases | 74 | |
| 36 Active vs passive | 76 | |
| 37 Causation | 78 | |
| 38 Obligation and requirements | 80 | |
| 39 Cause and effect | 82 | |
| 40 Ability and inability | 84 | |
| 41 Scale of likelihood | 86 | |
| 42 Relative clauses | 88 | |
| 43 Subordinate clauses of result and purpose | 90 | |
| 44 Countable and uncountable nouns | 92 | |
| 45 Comparison of adjectives | 94 | |
| 46 Adjectives and adverbs | 96 | |
| 47 Prepositions of time | 98 | |
| 48 Prepositions of place | 100 | |
| 49 Quantifiers | 102 | |
| 50 Contrasting ideas | 104 | |
| | Glossary of grammatical terms | 106 |
| | Answer key | 107 |
| | Checklist | 117 |
| | Glossary of technical vocabulary | 124 |

9 Health and safety

A The average person finds it difficult to assess **risks**. For this reason, work practices need to be **regulated**. Examples of **dangerous** activities are:

- welding or grinding without **goggles**
- working on a construction site work without a **hard hat**
- working in **noisy** factories, cabs, on airport tarmacs and with other machinery without ear **protection**
- working in chemical areas without **protective** clothing
- **smoking** near hazardous **substances**

Without regulation some employees will take risks.

Health and safety is a part of employment (labour) law. It covers general matters such as:

- **occupational health**
- **accident** prevention regulations
- special regulations for hazardous occupations such as mining and building
- provisions for risks such as **poisons**, **dangerous** substances, **dust**, **noise**, **vibration**, and **radiation**
- the full range of dangers arising from industrial processes, for example the widespread use of chemicals

B The key concerns for health and safety are to assess the **risks and hazards** by identifying and quantifying the **effects** so that appropriate **protective measures** can be taken.

Risks and hazards

combustion • contamination • draught • dust • explosion
 flammable • friction • fumigation • gas
 harmful • shock • spraying • toxic • vapour

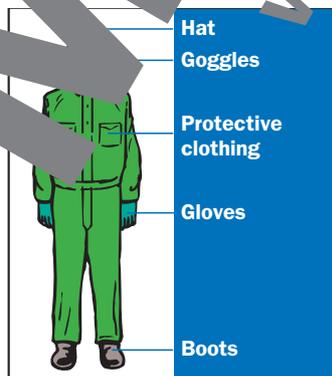
Effects

adverse effect • birth defect • burn • cancer • dizziness
 drowsiness • eye damage • impact • fertility • irreversible effect • vomiting

Protective measures

avoid contact • dispose of • dry • handle • keep
 precautionary • protect • remove • rinse • seal
 tightly • wash • well-ventilated

C Following health and safety notices show some protective measures that can be taken:



17 Electronics 1

A Electronics is a branch of engineering and physics. It deals with the **emission**, behaviour, and effects of **electrons** for the **generation, transmission, reception**, and storage of information. This information can be **audio signals** in a radio, **images (video signals)** on a television screen, or numbers and other data in a computer. **Electronic systems** are important in communication, **entertainment**, and **control** systems.

Electronic circuits consist of interconnections of electronic components, at the heart of which are **semiconductors**. **Transistors**, which are made of **silicon**, **transistors** are made from semiconductors. Commercial products range from **cellular radiotelephone systems** and video cassette recorders to high-performance **supercomputers** and sophisticated **weapons systems**. In industry, electronic devices have led to dramatic improvements in productivity and quality. For example, **computer-aided design** tools facilitate the design of complex parts, such as aircraft wings, or intricate structures, such as **integrated circuits**.

B The development of microelectronics has had a major impact on the electronics industry. *Electronic components* are expected to deliver ever higher performance, while electronic circuits continue to benefit from miniaturization.

Function of electronic circuits

amplification • demodulation • electronic processing • generation
information extraction • modulation • radio wave • recovery (of audio signal)

Electronic components

absorb • active • battery • capacitor • diode • energy • generator • inductor
passive • resistor • transformer • transistor • vacuum tube (AmE) • valve (BrE)

Impacts

device size • digital • efficiency • high speed • increased reliability
manufacturing cost • storage capacity • storage system • ultrahigh image definition

C One way of increasing your vocabulary is to learn the associated words from a key word. Look at the word table below, which shows words related to the key words presented above:

| Noun | Verb | Adjective |
|---------------|-----------|-----------------------------|
| activation | activate | active |
| amplification | amplify | amplified |
| emission | emit | emitted |
| entertainment | entertain | entertaining |
| extraction | extract | extracted |
| generation | generate | generative |
| integration | integrate | integrated/integrative |
| reception | receive | receptive |
| recovery | recover | recovered |
| reliability | rely | reliable |
| storage | store | stored |
| transmission | transmit | transmittable/transmissible |