

# Morning Reading

Grade 11 · AS · Week 16

Read each word aloud, then copy the English word three times.

## Reading

Read the passage aloud twice.

Look at the canteen at noon: the first student in the line is served first. Computer scientists call this structure a **queue**: first in, first out, or **FIFO**. New people **enqueue** at the back; the server **dequeues** from the front. Now look at the clean plates: the last plate placed on the pile is the first one taken. That is a **stack**: last in, first out, **LIFO**. You **push** a plate on top and **pop** it off again. Your browser’s back button is a stack of pages; a printer’s waiting list is a queue. Choosing the right structure is half of programming.

In the circuits lab you used **Kirchhoff’s first law**: the current flowing into a **junction** equals the current flowing out, because charge is never lost. A **capacitor** stores charge briefly, smoothing the flow.

When inflation rises, the **central bank** tightens **monetary policy**: a higher **interest rate** makes borrowing dearer, cooling spending. **Supply-side policy** works slower but deeper, through training, technology and **infrastructure**.

Talk about it :

- Find two queues and two stacks in your daily life.
- Why does raising the interest rate slow down price rises? Trace the steps.

# Physics

Topic 11 · Particle physics

|                                                                                                                                              |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>discrete</b><br><i>/di'skri:t/</i>                    |  |  |  |
|  <b>cloud chamber</b><br><i>/klaəd 'tʃeimbə/</i>          |  |  |  |
|  <b>beta particle</b> $\beta$<br><i>/'bi:tə 'pɑ:tɪkl/</i> |  |  |  |
|  <b>positron</b><br><i>/'pɒzɪtrɒn/</i>                    |  |  |  |
|  <b>continuous</b><br><i>/kən'tɪnju:əs/</i>               |  |  |  |
|  <b>photon</b><br><i>/'fəʊtɒn/</i>                        |  |  |  |
|  <b>attenuated</b><br><i>/ə'tenju:etɪd/</i>               |  |  |  |
|  <b>gamma ray</b> $\gamma$<br><i>/'gæmə reɪ/</i>          |  |  |  |
|  <b>daughter nucleus</b><br><i>/'dɔ:tə 'nju:kliəs/</i>    |  |  |  |
|  <b>excited state</b><br><i>/ek'saɪtɪd steɪt/</i>        |  |  |  |
|  <b>antiparticle</b><br><i>/,æntɪ'pɑ:tɪkl/</i>          |  |  |  |
|  <b>antineutrino</b><br><i>/,æntɪnju:'trɪ:nəʊ/</i>      |  |  |  |
|  <b>neutrino</b><br><i>/nju:'trɪ:nəʊ/</i>               |  |  |  |
|  <b>quark</b><br><i>/kwɑ:k/</i>                         |  |  |  |
|  <b>flavours</b><br><i>/'flɛvəz/</i>                    |  |  |  |

|                                                                                                 |  |  |  |
|-------------------------------------------------------------------------------------------------|--|--|--|
|  <b>antiquark</b> |  |  |  |
| <i>/ˈæntɪkwɑːk/</i>                                                                             |  |  |  |
|  <b>hadrons</b> |  |  |  |
| <i>/ˈhædrɒnz/</i>                                                                               |  |  |  |
|  <b>baryons</b> |  |  |  |
| <i>/ˈbæɪrɪɒnz/</i>                                                                              |  |  |  |
|  <b>mesons</b>  |  |  |  |
| <i>/ˈmiːzɒnz/</i>                                                                               |  |  |  |
|  <b>leptons</b> |  |  |  |
| <i>/ˈleptɒnz/</i>                                                                               |  |  |  |

## Chemistry

Topics 14–15 · Hydrocarbons, Halogen compounds

|                                                                                                                   |  |  |  |
|-------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>ultraviolet light</b>         |  |  |  |
| <i>/ˌʊltrəˈvaɪələɪt laɪt/</i>                                                                                     |  |  |  |
|  <b>crude oil</b>                 |  |  |  |
| <i>/kruːd ɔɪl/</i>                                                                                                |  |  |  |
|  <b>fraction</b>                  |  |  |  |
| <i>/ˈfrækʃn/</i>                                                                                                  |  |  |  |
|  <b>halogenoalkane</b>            |  |  |  |
| <i>/ˈheɪlədʒnəʊlkeɪn/</i>                                                                                         |  |  |  |
|  <b>dehydration</b>              |  |  |  |
| <i>/dɪːhaɪˈdreɪʃn/</i>                                                                                            |  |  |  |
|  <b>alcohol</b>                 |  |  |  |
| <i>/ˈælkəhɒl/</i>                                                                                                 |  |  |  |
|  <b>steam</b>                   |  |  |  |
| <i>/stiːm/</i>                                                                                                    |  |  |  |
|  <b>diol</b>                    |  |  |  |
| <i>/dɪˈɒl/</i>                                                                                                    |  |  |  |
|  <b>bromine water</b>           |  |  |  |
| <i>/ˈbrəʊmaɪn ˈwɔːtə/</i>                                                                                         |  |  |  |
|  <b>addition polymerisation</b> |  |  |  |
| <i>/əˈdɪʃn ˌpɒlɪməraɪˈzeɪʃn/</i>                                                                                  |  |  |  |

|                                                                                                               |  |  |  |
|---------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>polymer</b>              |  |  |  |
| <i>/ˈpɒlɪmə/</i>                                                                                              |  |  |  |
|  <b>carbocation</b>        |  |  |  |
| <i>/ˌkɑːbəˈkeɪʃn/</i>                                                                                         |  |  |  |
|  <b>inductive effect</b>   |  |  |  |
| <i>/ɪnˈdʌktɪv ɪˈfekt/</i>                                                                                     |  |  |  |
|  <b>Markovnikov's rule</b> |  |  |  |
| <i>/ˈmɑːkəvɪkovz ruːl/</i>                                                                                    |  |  |  |
|  <b>primary</b>            |  |  |  |
| <i>/ˈpraɪməɪ/</i>                                                                                             |  |  |  |
|  <b>secondary</b>          |  |  |  |
| <i>/ˈsekəndəri/</i>                                                                                           |  |  |  |
|  <b>tertiary</b>           |  |  |  |
| <i>/ˈtɜːʃəri/</i>                                                                                             |  |  |  |
|  <b>nitrile</b>            |  |  |  |
| <i>/ˈnaɪtrɪl/</i>                                                                                             |  |  |  |

## Biology

Topics 8–9 · Transport in mammals, Gas exchange

|                                                                                                                   |  |  |  |
|-------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>chloride shift</b>         |  |  |  |
| <i>/ˈklɔːraɪd ʃɪft/</i>                                                                                           |  |  |  |
|  <b>haemoglobinic acid</b>   |  |  |  |
| <i>/ˌhiːməˌɡləʊˈbɪnɪk ˈæsɪd/</i>                                                                                  |  |  |  |
|  <b>carbaminohaemoglobin</b> |  |  |  |
| <i>/ˌkɑːbəˌmɪnəʊˌhiːməˈɡləʊbɪn/</i>                                                                               |  |  |  |
|  <b>atrium</b>               |  |  |  |
| <i>/ˈeɪtrɪəm/</i>                                                                                                 |  |  |  |
|  <b>ventricle</b>            |  |  |  |
| <i>/ˈventrɪkl/</i>                                                                                                |  |  |  |
|  <b>cardiac cycle</b>        |  |  |  |
| <i>/ˈkɑːdɪæk ˈsaɪkl/</i>                                                                                          |  |  |  |

|                                                                                                                                                       |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>systole</b><br><i>/ˈsɪstəʊl/</i>                                    |  |  |  |
|  <b>diastole</b><br><i>/ˈdaɪəstəʊl/</i>                               |  |  |  |
|  <b>sinoatrial node</b><br><i>/sɪˈnəʊtriəl nɒd/</i>                   |  |  |  |
|  <b>atrioventricular node</b><br><br><i>/eɪtriˌævənˈtrɪkjələ nɒd/</i> |  |  |  |
|  <b>Purkyne tissue</b><br><br><i>/ˈpɜːkɪn ˈtɪʃuː/</i>                 |  |  |  |
|  <b>gas exchange</b><br><i>/gæs ɛksˈtʃeɪndʒ/</i>                      |  |  |  |
|  <b>trachea</b><br><i>/trəˈkiə/</i>                                   |  |  |  |
|  <b>bronchus</b><br><i>/'brɒŋkəs/</i>                                 |  |  |  |
|  <b>bronchiole</b><br><i>/'brɒŋkiəʊl/</i>                             |  |  |  |
|  <b>alveoli</b><br><i>/'ælviəli/</i>                                  |  |  |  |
|  <b>lungs</b><br><i>/lʌŋz/</i>                                       |  |  |  |
|  <b>cartilage</b><br><i>/'kɑːtɪlɪdʒ/</i>                            |  |  |  |
|  <b>ciliated epithelium</b><br><br><i>/'sɪlietɪd ˌepɪˈθiːliəm/</i>  |  |  |  |
|  <b>mucus</b><br><i>/'mjuːkəs/</i>                                  |  |  |  |
|  <b>goblet cell</b><br><i>/'gɒblət sel/</i>                         |  |  |  |
|  <b>mucous gland</b><br><i>/'mjuːkəs glænd/</i>                     |  |  |  |

| Mathematics                                                                                                                                                       |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Topic 5 · Probability & Statistics 1                                                                                                                              |  |  |  |
|  <b>mode</b><br><i>/məʊd/</i>                                                  |  |  |  |
|  <b>variation</b><br><i>/ˌveəriˈeɪʃn/</i>                                      |  |  |  |
|  <b>range (of data)</b><br><i>/reɪndʒ/</i>                                     |  |  |  |
|  <b>interquartile range</b><br><br><i>/ˌɪntəˈkwɔːtaɪl reɪndʒ/</i>              |  |  |  |
|  <b>standard deviation</b><br><br><i>/'stændəd ˌdiːvɪˈeɪʃn/</i>                |  |  |  |
|  <b>variance</b><br><i>/'veəriəns/</i>                                         |  |  |  |
|  <b>permutation</b><br><i>/ˌpɜːmjʊːˈteɪʃn/</i>                                 |  |  |  |
|  <b>combination</b><br><i>/ˌkɒmbɪˈneɪʃn/</i>                                   |  |  |  |
|  <b>mutually exclusive events</b><br><i>/'mjuːtʃuːəli ɛksˈkluːsɪv ɪˈvents/</i> |  |  |  |
|  <b>independent events</b><br><br><i>/ˌɪndɪˈpendənt ɪˈvents/</i>             |  |  |  |

Further Mathematics

Topic 4 · Further Probability & Statistics

|                                                                                                                  |  |  |  |
|------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>pooled estimate</b>          |  |  |  |
| <i>/puːld ˈestɪmət/</i>                                                                                          |  |  |  |
|  <b>chi-squared test</b>         |  |  |  |
| <i>/kaɪ skweəd test/</i>                                                                                         |  |  |  |
|  <b>theoretical distribution</b> |  |  |  |
| <i>/θɪəˈretɪkl ˌdɪstrɪˈbjʊːʃn/</i>                                                                               |  |  |  |
|  <b>degrees of freedom</b>       |  |  |  |
| <i>/diˈɡriːz ov ˈfriːdəm/</i>                                                                                    |  |  |  |

Computer Science

Topics 1–12 · Information representation, Communication, Hardware, System Software, Algorithm Design and Problem-solving, Data Types and Structures, Programming, Software Development

|                                                                                                                  |  |  |  |
|------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>stub</b>                     |  |  |  |
| <i>/stʌb/</i>                                                                                                    |  |  |  |
|  <b>test strategy</b>            |  |  |  |
| <i>/test ˈstrætədʒi/</i>                                                                                         |  |  |  |
|  <b>test plan</b>               |  |  |  |
| <i>/test plæn/</i>                                                                                               |  |  |  |
|  <b>normal data</b>            |  |  |  |
| <i>/ˈnɔːml ˈdeɪtə/</i>                                                                                           |  |  |  |
|  <b>abnormal data</b>          |  |  |  |
| <i>/əbˈnɔːml ˈdeɪtə/</i>                                                                                         |  |  |  |
|  <b>boundary data</b>          |  |  |  |
| <i>/ˈbɑːndəri ˈdeɪtə/</i>                                                                                        |  |  |  |
|  <b>perfective maintenance</b> |  |  |  |
| <i>/pəˈfektɪv ˈmeɪntənəns/</i>                                                                                   |  |  |  |
|  <b>adaptive maintenance</b>   |  |  |  |
| <i>/ə ˈdæptɪv ˈmeɪntənəns/</i>                                                                                   |  |  |  |

|                                                                                                                 |  |  |  |
|-----------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>corrective maintenance</b> |  |  |  |
| <i>/kəˈrektɪv ˈmeɪntənəns/</i>                                                                                  |  |  |  |
|  <b>regression testing</b>   |  |  |  |
| <i>/rɪˈɡreʃn ˈtestɪŋ/</i>                                                                                       |  |  |  |
|  <b>extreme data</b>         |  |  |  |
| <i>/ekˈstriːm ˈdeɪtə/</i>                                                                                       |  |  |  |
|  <b>drawing objects</b>      |  |  |  |
| <i>/ˈdrɔːɪŋ ˈɒbdʒekts/</i>                                                                                      |  |  |  |
|  <b>sample resolution</b>    |  |  |  |
| <i>/ˈsæmpl ˌrezəˈluːʃn/</i>                                                                                     |  |  |  |
|  <b>bridge</b>               |  |  |  |
| <i>/brɪdʒ/</i>                                                                                                  |  |  |  |
|  <b>filament</b>             |  |  |  |
| <i>/ˈfɪləmənt/</i>                                                                                              |  |  |  |
|  <b>diaphragm</b>            |  |  |  |
| <i>/ˈdaɪəfræm/</i>                                                                                              |  |  |  |
|  <b>lands</b>                |  |  |  |
| <i>/ləndz/</i>                                                                                                  |  |  |  |
|  <b>multitasking</b>         |  |  |  |
| <i>/ˈmʌltɪtæskɪŋ/</i>                                                                                           |  |  |  |
|  <b>portable</b>           |  |  |  |
| <i>/ˈpɔːtəbl/</i>                                                                                               |  |  |  |
|  <b>counter</b>            |  |  |  |
| <i>/ˈkaʊntə/</i>                                                                                                |  |  |  |
|  <b>lower bound</b>        |  |  |  |
| <i>/ˈləʊə baʊnd/</i>                                                                                            |  |  |  |
|  <b>upper bound</b>        |  |  |  |
| <i>/ˈʌpə baʊnd/</i>                                                                                             |  |  |  |
|  <b>insert</b>             |  |  |  |
| <i>/ˈɪnsɜːt/</i>                                                                                                |  |  |  |
|  <b>trace table</b>        |  |  |  |
| <i>/treɪs ˈteɪbl/</i>                                                                                           |  |  |  |

Economics

Topic 6 · International economic issues

|                                                                                                           |  |  |  |
|-----------------------------------------------------------------------------------------------------------|--|--|--|
|  specialise               |  |  |  |
| <i>/'speʃəlaɪz/</i>                                                                                       |  |  |  |
|  absolute advantage       |  |  |  |
| <i>/'æbsəlu:t əd'væntɪdʒ/</i>                                                                             |  |  |  |
|  comparative advantage    |  |  |  |
| <i>/kəm'pærətɪv əd'væntɪdʒ/</i>                                                                           |  |  |  |
|  terms of trade           |  |  |  |
| <i>/tɜ:mz ɒv treɪd/</i>                                                                                   |  |  |  |
|  protectionism            |  |  |  |
| <i>/prə'tekʃənɪzəm/</i>                                                                                   |  |  |  |
|  tariff                   |  |  |  |
| <i>/'tærɪf/</i>                                                                                           |  |  |  |
|  quota                    |  |  |  |
| <i>/'kwɒtə/</i>                                                                                           |  |  |  |
|  embargo                  |  |  |  |
| <i>/em'bə:ɡəʊ/</i>                                                                                        |  |  |  |
|  administrative barriers |  |  |  |
| <i>/əd'mɪnɪstrətɪv 'bærɪəz/</i>                                                                           |  |  |  |
|  infant industry        |  |  |  |
| <i>/'ɪnfənt 'ɪndəstri/</i>                                                                                |  |  |  |
|  dumping                |  |  |  |
| <i>/'dʌmpɪŋ/</i>                                                                                          |  |  |  |
|  retaliation            |  |  |  |
| <i>/rɪˌtæli'eɪʃn/</i>                                                                                     |  |  |  |
|  stakeholder            |  |  |  |
| <i>/'steɪkhəʊldə/</i>                                                                                     |  |  |  |
|  current account        |  |  |  |
| <i>/'kʌrənt ə'kaʊnt/</i>                                                                                  |  |  |  |

|                                                                                                       |  |  |  |
|-------------------------------------------------------------------------------------------------------|--|--|--|
|  trade in goods      |  |  |  |
| <i>/treɪd ɪn ɡɒdz/</i>                                                                                |  |  |  |
|  trade in services |  |  |  |
| <i>/treɪd ɪn 'sɜ:vɪsɪz/</i>                                                                           |  |  |  |