

Morning Reading

Grade 11 · AS · Week 14

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

Reading

Read the passage aloud twice.

What actually flows in a wire? Electrons, each carrying a tiny negative charge. Charge is measured in **coulombs**, and one ampere of current means one coulomb passing every second. Surprisingly, the electrons themselves creep along at a **drift velocity** of less than a millimetre per second; the electric field that pushes them, however, spreads at nearly the speed of light, which is why the lamp lights instantly. A battery provides the push: its **electromotive force** drives charge around the circuit, and the **potential difference** across a component, in **volts**, tells you the energy transferred per coulomb. A **semiconductor** sits between conductor and insulator, and its special behaviour built the modern world.

The labour market has its own flow. **Frictional unemployment** is people between jobs; **structural unemployment** follows when whole industries change and skills no longer match; **seasonal unemployment** comes and goes with harvests and holidays. Meanwhile **inflation** eats quietly at the **purchasing power** of every yuan saved.

Talk about it :

1. The light comes on instantly, yet electrons crawl. Explain the difference.
2. Which type of unemployment worries you most for your own future? Why?

Physics

Topic 10 · D.C. circuits

 breadboard

/ˈbredboːd/

 multimeter

/ˌmʌltɪˈmiːtə/

 internal resistance

/ɪnˈtɜːnl rɪˈzɪstəns/

 cell

/sel/

 terminal p.d.

/ˈtɜːmɪnəlˌpiːˈdiː/

 open circuit

/ˈəʊpən ˈsɜːkɪt/

 short circuit

/ʃɔːt ˈsɜːkɪt/

 ammeter

/ˈæmɪtə/

 voltmeter

/ˈvɔʊltmɪtə/

 LED

/ˌel ɪːˈdiː/

 capacitor

/kəˈpæsɪtə/

 fuse

/fjuːz/

 junction

/ˈdʒʌŋkʃn/

 conservation of charge

/ˌkɒnsəˈveɪʃn ɒv tʃɑːdʒ/

 loop

/luːp/

 Kirchhoff's first law

/ˈkɜːkhɒfs fɜːst lɔː/

 Kirchhoff's second law

/ˈkɜːkhɒfs ˈsekənd lɔː/

 rheostat

/ˈriːəstæt/

 sensor

/ˈsensə/

 transistor

/træn'zistə/

Chemistry

Topic 13 · An introduction to AS Level organic chemistry

 electrophile

/ɪˌlektɹəʊ'faɪl/

 addition

/ə'dɪʃn/

 substitution

/ˌsʌbstɪ'tʃuːʃn/

 elimination

/ɪˌlɪmɪ'neɪʃn/

 condensation

/kɒndən'seɪʃn/

 initiation

/ɪˌnɪʃɪ'eɪʃn/

 propagation

/ˌprɒpə'geɪʃn/

 termination

/ˌtɜːmɪ'neɪʃn/

 free-radical substitution

/friː 'rædɪkl ˌsʌbstɪ'tʃuːʃn/

 electrophilic addition

/ɪˌlektɹəʊ'fɪlɪk ə'dɪʃn/

 nucleophilic substitution

/ˌnjuːkliə'fɪlɪk ˌsʌbstɪ'tʃuːʃn/

 nucleophilic addition

/ˌnjuːkliə'fɪlɪk ə'dɪʃn/

 curly arrow

/'kɜːli 'æɹəʊ/

 cyclic

/'saɪklɪk/

 planar

/'pleɪnə/

 isomerism

/'aɪsəməɹɪzəm/

 structural isomerism

/'strʌktʃərəl 'aɪsəməɹɪzəm/

 chain isomerism

/tʃeɪn 'aɪsəməɹɪzəm/

Biology

Topics 7–8 · Transport in plants, Transport in mammals

 cohesion

/kəʊ'hiːʒn/

 tension

/'tenʃn/

 adhesion

/əd'hiːʒn/

 xerophyte

/'ziərəʔaɪt/

 adapted

/ə'dæptɪd/

 cuticle

/'kjuːtɪkl/

 source

/soːs/

 sink

/sɪŋk/

 proton pump

/'prəʊtɒn pʌmp/

 cotransporter protein			
<i>/ˈkɒtrənsˌpɔːtə ˈprəʊtiːn/</i>			
 hydrostatic pressure			
<i>/ˌhaɪdrəˈstætɪk ˈpreʃə/</i>			
 mass flow			
<i>/mæs fləʊ/</i>			
 blood vessel			
<i>/bləd ˈvesl/</i>			
 heart			
<i>/hɑːt/</i>			
 double circulation			
<i>/ˈdʌbl ˌsɜːkjʊˈleɪʃn/</i>			
 circulatory system			
<i>/ˌsɜːkjʊˈleɪtəri ˈsɪstəm/</i>			
 pulmonary circulation			
<i>/ˈpʌlmənəri ˌsɜːkjʊˈleɪʃn/</i>			
 systemic circulation			
<i>/sɪˈstemɪk ˌsɜːkjʊˈleɪʃn/</i>			
 artery			
<i>/ˈɑːtəri/</i>			
 arteriole			
<i>/ɑːˈtɪəriəəl/</i>			
 capillary			
<i>/kəˈpɪləri/</i>			
 venule			
<i>/ˈvenjuːl/</i>			

Mathematics

Topic 4 · Mechanics

 tension			
<i>/ˈtenʃn/</i>			
 inclined plane			
<i>/ɪnˈklaɪnd pleɪn/</i>			
 connected particles			
<i>/kəˈnektɪd ˈpɑːtɪklz/</i>			
 work done			
<i>/wɜːk dʌn/</i>			
 kinetic energy			
<i>/kɪˈnetɪk ˈenədʒi/</i>			
 gravitational potential energy			
<i>/ˌɡrævɪˈteɪʃənəl pəˈtenʃl ˈenədʒi/</i>			
 conservation of energy			
<i>/ˌkɒnsəˈveɪʃn ɒv ˈenədʒi/</i>			
 power			
<i>/ˈpaʊə/</i>			
 limiting equilibrium			
<i>/ˈlɪmɪtɪŋ ˌɪːkwɪˈlɪbrɪəm/</i>			
 deceleration			
<i>/dɪˌseləˈreɪʃn/</i>			

Further Mathematics

Topics 3–4 · Further Mechanics, Further Probability & Statistics

 oblique impact			
<i>/əˈblik ˈɪmpækt/</i>			
 Further Probability & Statistics			
<i>/ˈfɜːðə ˌprɒbəˈbɪlɪti ænd stəˈtɪstɪks/</i>			

 probability density function			
<i>/ˌprəbəˈbɪlɪti ˈdensɪti ˈfʌŋkʃn/</i>			
 cumulative distribution function			
<i>/ˈkjuːmjələtɪv ˌdɪstrɪˈbjʊːʃn ˈfʌŋkʃn/</i>			
Computer Science			
<i>Topics 5–11 · System Software, Algorithm Design and Problem-solving, Data Types and Structures, Programming</i>			
 queue			
<i>/kjuː/</i>			
 FIFO			
<i>/'faɪfəʊ/</i>			
 enqueue			
<i>/enˈkjuː/</i>			
 dequeue			
<i>/diːˈkjuː/</i>			
 linked list			
<i>/lɪŋkt list/</i>			
 node			
<i>/nəʊd/</i>			
 pointer			
<i>/'pɔɪntə/</i>			
 traverse			
<i>/trəˈvɜːs/</i>			
 underflow			
<i>/ˌʌndəˈfləʊ/</i>			
 circular array			
<i>/'sɜːkjələ əˈreɪ/</i>			
 free list			
<i>/friː list/</i>			
 record structure			
<i>/'rekɔːd ˈstrʌktʃə/</i>			

 bubble sort			
<i>/'bʌbl sɔːt/</i>			
 constant			
<i>/'kɒnstənt/</i>			
 operators			
<i>/'ɒpəreɪtəz/</i>			
 library routines			
<i>/'laɪbrəri ruːˈtiːnz/</i>			
 nested			
<i>/'nestɪd/</i>			
 count-controlled loop			
<i>/kaʊnt kənˈtrəʊld luːp/</i>			
 pre-condition loop			
<i>/priː kənˈdɪʃn luːp/</i>			
 post-condition loop			
<i>/pəʊst kənˈdɪʃn luːp/</i>			
 structured programming			
<i>/'strʌktʃəd ˈprəʊɡræmɪŋ/</i>			
 parameters			
<i>/pəˈræmɪtəz/</i>			
 function			
<i>/'fʌŋkʃn/</i>			
 arguments			
<i>/'ɑːɡjʊːmənts/</i>			
 pass by value			
<i>/pæs baɪ ˈvæljuː/</i>			
 pass by reference			
<i>/pæs baɪ ˈrefrəns/</i>			

Economics

Topics 4–5 · The macroeconomy, Government macroeconomic intervention

 consumer price index			
<i>/kən'su:mə prais 'indeks/</i>			
 weight			
<i>/weɪt/</i>			
 demand-pull inflation			
<i>/dɪ'mænd pɒl ɪn'fleɪʃn/</i>			
 cost-push inflation			
<i>/kɒst pʊʃ ɪn'fleɪʃn/</i>			
 price stability			
<i>/praɪs steɪ'bɪləti/</i>			
 full employment			
<i>/fʊl em'plɔɪmənt/</i>			
 balance of payments			
<i>/'bæləns ɒv 'peɪmənts/</i>			
 redistribution of income			
<i>/riːˌdɪstrɪ'bjuːʃn ɒv 'ɪŋkəm/</i>			
 conflict			
<i>/'kɒnflɪkt/</i>			
 demand-side policies			
<i>/dɪ'mænd saɪd 'pɒlɪsɪz/</i>			
 fiscal policy			
<i>/'fɪskl 'pɒlɪsi/</i>			
 budget			
<i>/'bʌdʒɪt/</i>			
 budget deficit			
<i>/'bʌdʒɪt 'defɪsɪt/</i>			

 national debt			
<i>/'næʃənəl det/</i>			
 budget surplus			
<i>/'bʌdʒɪt 'sɜːpləs/</i>			
 direct tax			
<i>/daɪ'rekt tæks/</i>			