

Morning Reading

Grade 11 · AS · Week 4

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

Reading

Read the passage aloud twice.

Send a message to a friend abroad and it may cross the ocean in a tenth of a second. The message is split into **packets**, each stamped with the destination **IP address**. Every **router** on the way reads the address, consults its **routing table**, and forwards the packet towards its goal. At your school’s edge, a **firewall** inspects the traffic and blocks anything dangerous. No single computer controls the journey; the network finds the way by itself.

In mechanics, motion in two dimensions becomes simple when you split a vector into a horizontal and a vertical **component**. Combine forces by adding them as vectors to get the **resultant**; a moving object’s mass times velocity is its **momentum**.

No real country runs on markets alone. In a **mixed economy**, the **private sector** and the **public sector** work side by side. Prices act as the **price mechanism**: a rising price is both a signal and an **incentive**, telling producers where resources are wanted.

Talk about it :

1. Trace a message from your phone to a server abroad. Name each device it passes.
2. Petrol prices double. What signals and incentives does this send, and to whom?

Physics

Topics 1–3 · Physical quantities and units, Kinematics, Dynamics

 vertical <i>/ˈvɜːtɪkl/</i>			
 inclined plane <i>/ɪnˈklaɪnd pleɪn/</i>			
 kinematics <i>/ˌkɪnɪˈmætiks/</i>			
 distance <i>/ˈdɪstəns/</i>			
 deceleration <i>/dɪˌseləˈreɪʃn/</i>			
 gradient <i>/ˈɡreɪdɪənt/</i>			
 tangent <i>/ˈtændʒənt/</i>			
 uniform acceleration <i>/ˈjuːnɪfɔːm əkˌseləˈreɪʃn/</i>			
 trapezium <i>/trəˈpiːziəm/</i>			
 gravity <i>/ˈɡrævɪti/</i>			
 air resistance <i>/eə ɪˈzɪstəns/</i>			
 symmetric <i>/sɪˈmetrɪk/</i>			
 light gate <i>/laɪt ɡeɪt/</i>			
 reaction-time <i>/rɪˈækʃn taɪm/</i>			
 range <i>/reɪndʒ/</i>			

 projectile			
<i>/prəˈdʒektail/</i>			
 linear momentum			
<i>/ˈliniə məʊˈmentəm/</i>			
 resultant force			
<i>/rɪˈzʌltənt fɔːs/</i>			
 collision			
<i>/kəˈlɪʒn/</i>			
 impulse			
<i>/ˈɪmpʌls/</i>			

Chemistry

Topic 2 · Atoms, molecules and stoichiometry

 balanced			
<i>/ˈbælənst/</i>			
 state symbols			
<i>/steɪt ˈsɪmblz/</i>			
 aqueous			
<i>/ˈeɪkwɪəs/</i>			
= ionic equation			
<i>/aɪˈɒnɪk ɪˈkweɪʒn/</i>			
 spectator ions			
<i>/spekˈteɪtə ˈaɪənz/</i>			
 empirical formula			
<i>/emˈpɪrɪkl ˈfɔːmjələ/</i>			
 molecular formula			
<i>/məˈlekjələ ˈfɔːmjələ/</i>			
 water of crystallisation			
<i>/ˈwɔːtə ɒv ˌkrɪstalaɪˈzeɪʃn/</i>			
 hydrated			
<i>/haɪˈdreɪtɪd/</i>			

 anhydrous			
<i>/ænˈhaɪdrəs/</i>			
 stoichiometry			
<i>/ˌstəʊɪkɪˈɒmətri/</i>			
% percentage yield			
<i>/pəˈsentɪdʒ ˈjiːld/</i>			
 limiting reagent			
<i>/ˈlɪmɪtɪŋ rɪˈeɪdʒənt/</i>			
+ excess reagent			
<i>/ekˈses rɪˈeɪdʒənt/</i>			
 hydrocarbons			
<i>/ˈhaɪdrəkaːbənz/</i>			
 concentration			
<i>/ˌkɒnsənˈtreɪʃn/</i>			
 solute			
<i>/ˈsɒljʊt/</i>			
 solution			
<i>/səˈluːʃn/</i>			

Biology

Topic 2 · Biological molecules

 carbohydrate			
<i>/ˌkɑːbəʊˈhaɪdreɪt/</i>			
 reducing sugar			
<i>/rɪˈdjuːsɪŋ ˈʃʊɡə/</i>			
 precipitate			
<i>/prɪˈsɪpɪteɪt/</i>			
 starch			
<i>/stɑːtʃ/</i>			
 iodine			
<i>/aɪədiːn/</i>			
 emulsion			
<i>/ɪˈmʌlʃn/</i>			

 biuret <i>/ˈbiːuːrət/</i>			
 semi-quantitative <i>/ˈsemi ˈkwɒntɪtətɪv/</i>			
 standardise <i>/ˈstændədaɪz/</i>			
 concentration <i>/ˌkɒnsənˈtreɪʃn/</i>			
 non-reducing sugar <i>/nɒn rɪˈdjuːsɪŋ ˈʃʊɡə/</i>			
 hydrochloric acid <i>/ˌhaɪdrəˈklɔːrɪk ˈæsɪd/</i>			
 neutralise <i>/ˈnjuːtrəlaɪz/</i>			
 monomer <i>/ˈmɒnəʊmə/</i>			
 polymer <i>/ˈpɒlɪmə/</i>			
 macromolecule <i>/ˈmækrəmɒlɪkjʊːl/</i>			
 monosaccharide <i>/ˈmɒnəʊsækəːraɪd/</i>			
 glucose <i>/ˈgluːkəʊs/</i>			
 disaccharide <i>/ˌdɪsəkˈhɑːraɪd/</i>			
 polysaccharide <i>/ˌpɒlɪˈsækəːraɪd/</i>			
 fructose <i>/ˈfrʌktəʊs/</i>			
 maltose <i>/ˈmɒltəʊs/</i>			
 sucrose <i>/ˈsuːkrəʊs/</i>			

Mathematics			
<i>Topic 1 · Pure Mathematics 1</i>			
 circle <i>/ˈsɜːkl/</i>			
centre <i>/ˈsentə/</i>			
 radius <i>/ˈreɪdiəs/</i>			
 tangent <i>/ˈtændʒənt/</i>			
— diameter <i>/daɪˈæmɪtə/</i>			
 radian <i>/ˈreɪdiən/</i>			
 arc <i>/ɑːk/</i>			
 degrees <i>/diˈɡriːz/</i>			
 sector <i>/ˈsektə/</i>			
— chord <i>/kɔːd/</i>			
Further Mathematics			
<i>Topic 1 · Further Pure Mathematics 1</i>			
 geometric transformation <i>/ˌdʒiːəʊˈmetrɪk trænʃɔːˈmeɪʃn/</i>			
invariant points <i>/ɪnˈveəriənt poɪnts/</i>			
— invariant lines <i>/ɪnˈveəriənt laɪnz/</i>			

 polar coordinates			
<i>/ˈpəʊlə kəʊˈɔːdɪnəts/</i>			
+ Cartesian coordinates			
<i>/kɑːˈtɪʒiən kəʊˈɔːdɪnəts/</i>			

Computer Science

Topics 2–3 · Communication, Hardware

 internet			
<i>/ˈɪntənət/</i>			
 protocol			
<i>/ˈprəʊtəkʊl/</i>			
 World Wide Web			
<i>/wɜːld waɪd web/</i>			
 subnets			
<i>/ˈsʌbnets/</i>			
 subnet mask			
<i>/ˈsʌbnɛt mæsk/</i>			
 ISP			
<i>/aɪ es ˈpiː/</i>			
 URL			
<i>/juː ɑː ˈel/</i>			
 domain name			
<i>/dəˈmeɪn neɪm/</i>			
 Domain Name System			
<i>/dəˈmeɪn neɪm ˈsɪstəm/</i>			
 wireless network interface card			
<i>/ˈwaɪələs ˈnetwɜːk ˈɪntəfeɪs kɑːd/</i>			
 input devices			
<i>/ˈɪnpʊt dɪˈvaɪsɪz/</i>			
 output devices			
<i>/ˈaʊtpʊt dɪˈvaɪsɪz/</i>			

 primary memory			
<i>/ˈpraɪməri ˈmeməri/</i>			
 processor			
<i>/ˈprəʊsesə/</i>			
 secondary storage			
<i>/ˈsekəndəri ˈstɔːrɪdʒ/</i>			
 embedded system			
<i>/emˈbedɪd ˈsɪstəm/</i>			
 firmware			
<i>/ˈfɜːmweə/</i>			
 laser printer			
<i>/ˈleɪzə ˈprɪntə/</i>			
 drum			
<i>/drʌm/</i>			
 toner			
<i>/ˈtəʊnə/</i>			
 3D printer 3D			
<i>/θriː ˈdiː ˈprɪntə/</i>			
 microphone			
<i>/ˈmaɪkrəfəʊn/</i>			
 capacitor			
<i>/kəˈpæsɪtə/</i>			
 analogue-to-digital converter			
<i>/ˈænəlɒɡ tə ˈdɪdʒɪtl kənˈvɜːtə/</i>			
 hard disk			
<i>/hɑːd disk/</i>			
 tracks			
<i>/træks/</i>			
 sectors			
<i>/ˈsektəz/</i>			
 read/write head			
<i>/riːd raɪt hed/</i>			

 solid-state drive			
<i>/ˈsɒlɪd steɪt draɪv/</i>			
Economics			
<i>Topic 1 · Basic economic ideas and resource allocation</i>			
 price mechanism			
<i>/praɪs ˈmekənɪzəm/</i>			
 signalling			
<i>/ˈsɪgnəlɪŋ/</i>			
 incentive			
<i>/ɪnˈsentɪv/</i>			
 rationing			
<i>/ˈræʃənɪŋ/</i>			
 production possibility curve			
<i>/prəˈdʌkʃn ˌpɒsəˈbɪlɪti kɜːv/</i>			
 efficiency			
<i>/ɪˈfɪʃənsi/</i>			
 unemployment			
<i>/ʌnemˈplɔɪmənt/</i>			
 trade-off			
<i>/treɪd ɒf/</i>			
 economic growth			
<i>/iːkəˈnɒmɪk grəʊθ/</i>			
 technology			
<i>/tekˈnɒlədʒi/</i>			
 economic decline			
<i>/iːkəˈnɒmɪk dɪˈklaɪn/</i>			
 capital goods			
<i>/ˈkæpɪtl ɡʊdz/</i>			

 consumer goods			
<i>/kənˈsuːmə ɡʊdz/</i>			
 free good			
<i>/friː ɡʊd/</i>			
 economic good			
<i>/iːkəˈnɒmɪk ɡʊd/</i>			
 private good			
<i>/ˈpraɪvət ɡʊd/</i>			