
Morning Reading

Grade 10 · Week 18

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

Reading

Read the passage aloud twice.

Look up on a clear night. Every star you see belongs to our **galaxy**, the **Milky Way**, a slowly turning city of more than one hundred billion stars. Distances in space are so huge that we measure them in **light-years**, the distance light travels in one year. When a giant star dies, it can explode as a **supernova**, and the heaviest ones collapse into a **black hole**, whose gravity is so strong that even light cannot escape. The **Universe** contains billions of galaxies like ours.

Astronomers keep their star data in databases and search it with **structured query language**. A **query** like `SELECT name FROM stars WHERE distance < 10` finds every star within ten light-years. Underneath, computers decide everything with **Boolean logic**: an **AND gate** outputs true only if both inputs are true; an **OR gate** needs just one. A **truth table** lists every case.

Money also travels between countries. The **exchange rate** is the price of one **currency** in another. When the yuan buys more dollars than before, it has seen an **appreciation**.

Talk about it :

1. If a star is 100 light-years away, when did the light you see leave it?
2. You are travelling abroad and the yuan appreciates. Is your trip cheaper or dearer? Why?

Physics

Topics 3–6 · Waves, Electricity and magnetism, Space physics

☆ **neutron star**

/ˈnjuːtrɒn stɑː/

⊗ **nuclear reaction**

/ˈnjuːklɪə rɪˈækʃn/

✦ **galaxy**

/ˈgæləksi/

≡ **Milky Way**

/ˈmɪlki weɪ/

📏 **light-year**

/laɪt jɪə/

— **diameter**

/daɪˈæmɪtə/

🌐 **Universe**

/ˈjuːnɪvɜːs/

☁ **interstellar cloud**

/ˌɪntəˈstelə klaʊd/

✦ **protostar**

/ˈprəʊtəʊstɑː/

🛢 **fuel**

/ˈfjuːəl/

☁ **nebula**

/ˈnebjʊlə/

☆ **red supergiant**

/red ˈsuːpədzaiənt/

✦ **supernova**

/ˌsuːpəˈnəʊvə/

○ **black hole**

/blæk həʊl/

← **receding**

/rɪˈsiːdɪŋ/

→ **redshift**

/ˈredʃɪft/

[] **expanding**

/ekˈspændɪŋ/

✱ **Big Bang**

/bɪg bæŋ/

☐ **microwave**

/ˈmaɪkrəʊweɪv/

(☉) **cosmic microwave
background radiation**

/ˈkɒzmɪk ˈmaɪkrəʊweɪv ˈbækgraʊnd
ˌreɪdɪˈeɪʃn/

☞ **Hubble constant**

/ˈhʌbl ˈkɒnstənt/

☞ **poles**

/pəʊlz/

Chemistry

Topics 7–12 · Acids, bases and salts, Organic chemistry, Experimental techniques and chemical analysis

||| **chromatogram**

/krəʊˈmætəgrəm/

💎 **crystallisation**

/ˌkrɪstəlaɪˈzeɪʃn/

☞ **simple distillation**

/ˈsɪmpl dɪstrɪˈleɪʃn/

🧪 **nitric acid**

/ˈnaɪtrɪk ˈæsɪd/

|| **silver nitrate**

/ˈsɪlvə ˈnaɪtreɪt/

🧪 **barium nitrate**

/ˈbeəriəm ˈnaɪtreɪt/

💎 **barium**

/ˈbeəriəm/

 bromide /'brəʊmaɪd/			
 iodide /'aɪədaɪd/			
 sodium hydroxide /'səʊdiəm haɪ'drɒksaɪd/			
 sulfite /'sʌlfait/			
 ammonium /æ'məʊniəm/			
 limewater /'laɪmwɔ:tə/			
 flame test /'fleɪm test/			
 effervescence /ɛfə'vesəns/			
 amide linkage /ə'maɪd 'lɪŋkɪdʒ/			
 ester linkage /'estə 'lɪŋkɪdʒ/			

Biology

Topics 20–21 · Human influences on ecosystems, Biotechnology and genetic modification

 non-biodegradable /nɒn ˌbaɪəʊdɪ'greɪdəbl/			
 plastics /'plæstɪks/			
 methane /'mi:θeɪn/			
 greenhouse effect /'ɡri:nhaʊs ɪ'fekt/			
 climate change /'klaɪmət tʃeɪndʒ/			

 sustainable /sə'steɪnəbl/			
 conserved /kən'sɜ:vəd/			
 quotas /'kwəʊtəz/			
 closed seasons /kləʊzd 'si:znz/			
 endangered /en'deɪndʒəd/			
 hunting /'hʌntɪŋ/			
 introduced species /ˌɪnrə'dju:st 'spi:si:z/			
 captive breeding /'kæptɪv 'bri:dɪŋ/			
 artificial insemination /ˌɑ:trɪ'fɪʃl ɪnˌseɪn'eɪʃn/			
 in vitro fertilisation /ɪn 'vɪtrəʊ ˌfɜ:tɪlaɪ'zeɪʃn/			
 seed banks /si:d bæŋks/			
 genetic variation /dʒɪ'netɪk ˌveəri'eɪʃn/			
 biotechnology /ˌbaɪəʊteknɒlədʒi/			
 ethical /'eθɪkl/			
 biofuel /ˌbaɪəʊ'fju:əl/			
 pectinase /'pektɪneɪs/			
 washing powders /'wɒʃɪŋ 'paʊdəz/			

 lactase /'lækteɪs/			
 lactose /'læktəʊs/			
 fermenter /fɜː'mentə/			
 penicillin /ˌpenɪ'sɪlɪn/			
 mycoprotein /'maɪkəprəʊtiːn/			
 genetic modification /dʒɪ'netɪk ˌmɒdɪfɪ'keɪʃn/			
 restriction enzymes /rɪ'strɪkʃn 'enzaɪmz/			
 sticky ends /'stɪki endz/			
 ligase /'lɪgeɪs/			
 recombinant plasmid /ˌrɪː'kɒmbɪnənt 'plæzɪd/			
 resistance /rɪ'zɪstəns/			

Mathematics

Topics 4–9 · Geometry, Statistics

 pie chart /paɪ tʃɑːt/			
 pictogram /'pɪktəgræm/			
 stem-and-leaf diagram /stem ænd liːf 'daɪəgræm/			
 frequency distribution /'friːkwənsi ˌdɪstrɪ'bjuːʃn/			

☐ scatter diagram

/ˈskætə ˈdaɪəɡræm/

↗ correlation

/ˌkɒrɪˈleɪʃn/

↗ positive correlation

/ˈpɒzɪtɪv ˌkɒrɪˈleɪʃn/

↘ negative correlation

/ˈnegətɪv ˌkɒrɪˈleɪʃn/

— zero correlation

/ˈziərəʊ ˌkɒrɪˈleɪʃn/

↗ line of best fit

/laɪn ɒv best fit/

↗ cumulative frequency

/ˈkjuːmjələtɪv ˈfriːkwənsi/

% percentile

/pəˈsentail/

▮ histogram

/ˈhɪstəɡræm/

≡ frequency density

/ˈfriːkwənsi ˈdensɪti/

[] class width

/klæs wɪθ/

⬡ decagon

/dɪˈkæɡən/

Computer Science

Topics 3–6 · Hardware, Software, Automated and emerging technologies

↻ fetch–execute cycle

/fetʃ ˈeksɪkjʊt ˈsaɪkl/

☁ Cloud storage

/klaʊd ˈstɔːrɪdʒ/

🔒 static

/ˈstætɪk/

 dynamic /daɪˈnæmɪk/			
 firmware /ˈfɜːmweə/			
 bootloader /ˈbuːtləʊdə/			
 providing a user interface /prəˈvaɪdɪŋ ə ˈjuːzə ˈɪntəfeɪs/			
 managing peripherals /ˈmænɪdʒɪŋ pəˈrɪfərəlz/			
 managing multitasking /ˈmænɪdʒɪŋ ˈmʌltitæskɪŋ/			
 providing a platform /prəˈvaɪdɪŋ ə ˈplætfoːm/			
 assembler /əˈseɪblə/			
 sensor types /ˈsensə taɪps/			
 accelerometer /əkˌseləˈrɒmɪtə/			
 humidity /hjuːˈmɪdɪti/			
 proximity /prɒkˈsɪmɪti/			
 knowledge base /ˈnɒlɪdʒ beɪs/			
 rule base /ruːl beɪs/			
 inference engine /ˈɪnfərəns ˈendʒɪn/			
 Machine learning /məˈʃiːn ˈlɜːnɪŋ/			

Economics

Topics 4–6 · Government and the macroeconomy, International trade and globalisation

depreciation

/dɪˌprɪːʃi'eɪʃn/

current account

/'kʌrənt ə'kaʊnt/

trade in goods

/treɪd ɪn ɡoʊdz/

trade in services

/treɪd ɪn 'sɜːvɪsɪz/

primary income

/'praɪməri 'ɪŋkʌm/

secondary income

/'sekəndəri 'ɪŋkʌm/

current account deficit

/'kʌrənt ə'kaʊnt 'defɪsɪt/

current account surplus

/'kʌrənt ə'kaʊnt 'sɜːpləs/

competitiveness

/kəm'petɪtɪvnəs/

primary sector

/'praɪməri 'sektə/

secondary sector

/'sekəndəri 'sektə/

tertiary sector

/'tɜːʃəri 'sektə/

deindustrialisation

/ˌdeɪndə'striələɪ'zeɪʃn/

English

Topics 7–11 · Writing a review, Speaking skills, Vocabulary and text types

 **breathtaking**

/ˈbreɪtɪŋ/

 **politely**

/pəˈlaɪtli/

 **revise**

/rɪˈvaɪz/

 **interrupts**

/ˈɪntərʌpts/

 **spaced review**

/speɪst rɪˈvjuː/

 **blog**

/blɒg/