

Morning Reading 晨读

Grade 11 · AS · Week 2

Read each word aloud, then copy the English word three times. 朗读每个单词，然后把英语单词抄写三遍。

Reading 阅读

Read the passage aloud twice. 把短文朗读两遍。

Scientists and economists both build models. A **model** is a simplified picture of the world that keeps the important parts and drops the rest. A map is a model: it ignores every tree, and that is exactly why it is useful. Economists add the phrase **ceteris paribus**, "all other things equal", to study one change at a time. Be careful to separate a **positive statement**, which can be tested against facts, from a **normative statement**, which contains a **value judgement** about what ought to happen.

Mathematics gives models their shape. A **quadratic equation** draws a **parabola**, the curve a thrown ball follows. A **function** is a machine: for each input from its **domain**, it returns exactly one output.

In physics the model is often an equation linking quantities: **force** in **newtons**, **energy** in **joules**, **power** in **watts**, **pressure** in **pascals**. Each unit is built from the base units, and checking them catches many mistakes.

Talk about it 说一说:

- 1. "Petrol prices should be lower" and "petrol prices rose 5% last year": which is normative, which is positive?
- 2. A map ignores trees. What does a distance-time graph ignore about a real journey?

Physics

Topic 1 · Physical quantities and units

→ force 力			
/fɔ:s/			
Ⓜ newton 牛顿			
/'nju:tn/			
⚡ work 功			
/wɜ:k/			
⚡ energy 能量			
/'enədʒi/			
⚡ joule 焦耳			
/dʒu:l/			
⚡ power 功率			
/'paʊə/			
⚡ watt 瓦特			
/wɒt/			
↓ pressure 压强			
/'preʃə/			
↑ stress 应力			
/stres/			
Ⓜ pascal 帕斯卡			
/'pæskl/			
= homogeneous 量纲一致			
/həmə'dʒi:niəs/			
× ₂ prefix 词头			
/'pri:fiks/			
📏 measurement 测量			
/'meʒəmənt/			
❓ uncertainty 不确定度			
/ʌn'sɜ:tənti/			
↗ systematic error 系统误差			
/sɪstə'mætik 'erə/			

 zero error 零点误差			
/ˈziərəʊ ˈerə/			
 calibration 校准			
/ˌkælɪˈbreɪʃn/			
 parallax 视差			
/ˈpærələks/			
 accuracy 准确度			
/ˈækjʊrəsi/			
 precision 精密度			
/priˈɪʃn/			

Chemistry

Topic 1 · Atomic structure

 period 周期			
/ˈpiəriəd/			
 nuclear charge 核电荷			
/ˈnjuːklɪə ˈtʃɑːdʒ/			
 shielding 屏蔽			
/ˈʃiːldɪŋ/			
 group 族			
/gruːp/			
 cation 阳离子			
/ˈkætaɪən/			
 anion 阴离子			
/ˈænaɪən/			
 repulsion 排斥			
/rɪˈpʌlʃn/			
 isotope 同位素			
/ˈaɪsətaʊp/			
 chemical properties 化学性质			
/ˈkemɪkl ˈprɒpətɪz/			

 physical properties 物理性质			
/ˈfɪzɪkl ˈprɒpətɪz/			
 density 密度			
/ˈdensɪti/			
 principal quantum number 主量子数			
/ˈprɪnsɪpl ˈkwɒntəm ˈnʌmbə/			
 sub-shell 亚层			
/sʌb ʃel/			

 orbital 轨道			
/ˈɔːbɪtl/			
 electronic configuration 电子排布			
/ɪlekˈtrɒnɪk kənˌfɪɡjəˈreɪʃn/			

 ground state 基态			
/graʊnd steɪt/			
 noble gas 稀有气体			
/ˈnəʊbl ɡæs/			
 spin 自旋			
/spɪn/			

Biology

Topic 1 · Cell structure

 eukaryotic cell 真核细胞			
/juːkəriˈɒtɪk sel/			
 nucleus 细胞核			
/ˈnjuːklɪəs/			
 organelle 细胞器			
/ˌɔːɡəˈnel/			
 cytoplasm 细胞质			
/ˈsaɪtəplæzəm/			
 cell surface membrane 细胞膜			
/sel ˈsɜːfɪs ˈmembreɪn/			

 nuclear envelope 核膜			
<i>/ˈnjuːkliəˈenvələʊp/</i>			
 nucleolus 核仁			
<i>/ˈnjuːkliˈəʊləs/</i>			
 rough endoplasmic reticulum 粗面内质网			
<i>/ˈrʌfˌendəʊˈplæzmɪk reˈtɪkjələm/</i>			
 protein 蛋白质			
<i>/ˈprəʊtɪn/</i>			
 antibody 抗体			
<i>/ˈæntɪbɒdi/</i>			
 smooth endoplasmic reticulum 滑面内质网			
<i>/smuːðˌendəʊˈplæzmɪk reˈtɪkjələm/</i>			
 lipid 脂质			
<i>/ˈlɪpɪd/</i>			
 Golgi body 高尔基体			
<i>/ˈɡɒlɡɪˈbɒdi/</i>			
 vesicle 囊泡			
<i>/ˈvesɪkl/</i>			
 secretion 分泌			
<i>/sɪˈkriːʃn/</i>			
 mitochondria 线粒体			
<i>/ˈmaɪtəˈkɒndrɪə/</i>			
 respiration 呼吸作用			
<i>/ˌrespɪˈreɪʃn/</i>			
 energy 能量			
<i>/ˈenədʒi/</i>			
 ribosome 核糖体			
<i>/ˈrɪːbəʊsaʊm/</i>			
 amino acid 氨基酸			
<i>/əˈmiːnəʊˈæsɪd/</i>			
 synthesise 合成			
<i>/ˈsɪnθəsaɪz/</i>			

 lysosome 溶酶体			
<i>/ˈlaɪsəʊsəʊm/</i>			
 enzyme 酶			
<i>/ˈenzaim/</i>			

Mathematics

Topic 1 · Pure Mathematics 1

= quadratic equation 二次方程			
<i>/kwɒˈdræɪtɪk tɪˈkweɪʒn/</i>			
<> quadratic inequality 二次不等式			
<i>/kwɒˈdræɪtɪk ɪniːˈkwɒlɪti/</i>			
 parabola 抛物线			
<i>/pəˈræbələ/</i>			
 simultaneous equations 联立方程			
<i>/sɪməˈltenɪəs tɪˈkweɪʒnz/</i>			
 substitution 代入			
<i>/səbstɪˈtjuːʃn/</i>			
 function 函数			
<i>/ˈfʌŋkʃn/</i>			
 domain 定义域			
<i>/dəˈmeɪn/</i>			
 range 值域			
<i>/reɪndʒ/</i>			
= one-one 一一对应			
<i>/wʌn wʌn/</i>			
 inverse function 反函数			
<i>/ɪnˈvɜːs ˈfʌŋkʃn/</i>			

Further Mathematics

Topic 1 · Further Pure Mathematics 1

 oblique asymptote 斜渐近线			
<i>/ə'blɪk 'æsɪmptəʊt/</i>			
 method of differences 差分法			
<i>/ˈmeθəd ɒv 'dɪfrənsɪz/</i>			
 convergent 收敛			
<i>/kən'veɪdʒənt/</i>			
 sum to infinity 无穷和			
<i>/sʌm tu ɪn'fɪnɪti/</i>			
 matrix 矩阵			
<i>/ˈmeɪtrɪks/</i>			

Computer Science

Topics 1–2 · Information representation, Communication

 bit depth 位深度			
<i>/bɪt depθ/</i>			
 vector graphic 矢量图形			
<i>ˈvektə 'ɡræfɪk/</i>			
 drawing list 绘图列表			
<i>ˈdrɔːɪŋ lɪst/</i>			
 primitive 图元			
<i>ˈprɪmɪtɪv/</i>			
 render 渲染			
<i>ˈrendə/</i>			
 analogue data 模拟数据			
<i>ˈænəlɒɡ 'deɪtə/</i>			
 digital data 数字数据			
<i>ˈdɪdʒɪtl 'deɪtə/</i>			
 sampling 采样			
<i>ˈsæmplɪŋ/</i>			

 sampling rate 采样率			
<i>ˈsæmplɪŋ reɪt/</i>			
 sampling resolution 采样分辨率			
<i>ˈsæmplɪŋ ,reʒəˈluʃn/</i>			
 amplitude 振幅			
<i>ˈæmplitjuːd/</i>			
 quantisation 量化			
<i>ˌkwɒntaɪˈzeɪʃn/</i>			
 compression 压缩			
<i>ˌkʌmˈpreʃn/</i>			
 bandwidth 带宽			
<i>ˈbændwɪð/</i>			
 lossless 无损			
<i>ˈlʊsləs/</i>			
 lossy 有损			
<i>ˈlɒsi/</i>			
 run-length encoding 行程编码			
<i>ˈrʌn leŋθ enˈkəʊdɪŋ/</i>			
 dictionary methods 字典编码			
<i>ˈdɪkʃənəri ˈmeθədz/</i>			
 Huffman coding 霍夫曼编码			
<i>ˈhʌfmən ˈkəʊdɪŋ/</i>			
 entropy 熵			
<i>ˈentrəpi/</i>			
 spatial 空间			
<i>ˈspeɪʃl/</i>			
 temporal 时间			
<i>ˈtempərəl/</i>			
 network 网络			
<i>ˈnetwɜːk/</i>			

 local area network 局域网			
/ləʊkl 'eəriə 'netwɜ:k/			
 latency 延迟			
/ˈleɪtənsi/			
 wide area network 广域网			
/waɪd 'eəriə 'netwɜ:k/			
 server 服务器			
/ˈsɜ:və/			
 client 客户端			
/ˈklaɪənt/			
 peer-to-peer 对等网络			
/piə tə piə/			

Economics

Topic 1 · Basic economic ideas and resource allocation

 model 模型			
/ˈmɒdl/			
 ceteris paribus 其他条件不变			
/ˈsetərɪs ˈpærɪbəs/			
 positive statement 实证表述			
/ˈpɒzɪtɪv ˈsteɪtmənt/			
 normative statement 规范表述			
/ˈnɔːmətɪv ˈsteɪtmənt/			
 value judgement 价值判断			
/ˈvæljuː ˈdʒʌdʒmənt/			
 microeconomics 微观经济学			
/ˌmaɪkrəʊ ɪːkəˈnɒmɪks/			
 macroeconomics 宏观经济学			
/ˌmækrə ɪːkəˈnɒmɪks/			

 output 产出			
/ˈaʊtpʊt/			
 factors of production 生产要素			
/ˈfæktəz ɒv prəˈdʌkʃn/			
 reward 报酬			
/rɪˈwɔːd/			
 land 土地			
/lænd/			
 rent 地租			
/rent/			
 labour 劳动			
/ˈleɪbə/			
 wages 工资			
/ˈweɪdʒɪz/			
 capital 资本			
/ˈkæpɪtl/			