

MORNING READING 晨读

Grade 10 Word Lists

Weekly vocabulary lists • all 18 weeks.

每周词汇表，共 18 周。

IGCSE subjects • English and 中文.

Contents 目录

Week 1	3
Week 2	11
Week 3	19
Week 4	27
Week 5	35
Week 6	44
Week 7	52
Week 8	60
Week 9	68
Week 10	76
Week 11	84
Week 12	92

Week 13	100
Week 14	108
Week 15	116
Week 16	124
Week 17	132
Week 18	140

Morning Reading 晨读

Grade 10 · Week 1

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。

Science starts with **measurement**. In the laboratory 实验室, we do not guess. We use a **ruler** to measure length, a **measuring cylinder** to measure the volume of a liquid, and a balance to measure **mass**. Good scientists measure carefully, because every measurement has a small **uncertainty**.

Everything around you is made of tiny **particles**. In a **solid**, the particles are close together and only vibrate. In a **liquid**, they can move past each other. In a **gas**, they fly around quickly and are far apart. When you smell breakfast from the kitchen, gas particles have travelled 移动 to your nose!

Economists also study the world, but they study people. People have unlimited **wants**, but **resources** are **scarce**. This is the basic **economic problem**: we cannot have everything, so we must choose.

Talk about it 说一说:

1. What did you measure this week, and what did you use to measure it?
2. You have 20 yuan and one hour of free time. What do you choose to do, and what do you give up?

Physics

Topic 1 · Motion, forces and energy

 measurement 测量			
 ruler 直尺			
 measuring cylinder 量筒			
 meniscus 弯月面			

Morning Reading 晨读 · Grade 10 · Week 1

÷ **measure many and divide** 测多个再相除

 **pendulum** 摆

 **period** 周期

② **uncertainty** 不确定度

scalar 标量

 **magnitude** 大小

 **vector** 矢量

 **mass** 质量

 **energy** 能量

 **principle of conservation of energy** 能量守恒定律

 **Principle of moments** 力矩原理

 **Conservation of momentum** 动量守恒

⇔ **momentum** 动量

 **temperature** 温度

→ **force** 力

 **resultant force** 合力

 **resultant** 合矢量

Chemistry

Topic 1 · States of matter

⋮ **particles** 粒子

⊗ **atoms** 原子

Morning Reading 晨读 · Grade 10 · Week 1

 molecules 分子			
 ions 离子			
 kinetic particle theory 粒子动理论			
 kinetic energy 动能			
 energy 能量			
 thermal energy 热能			
 solid 固体			
 liquid 液体			
 gas 气体			
 volume 体积			
 compress 压缩			
 density 密度			
 mass 质量			
 relative molecular mass 相对分子质量			
 separation 间距			
 arrangement 排列			
 motion 运动			
 regular 规则			
 vibrate 振动			
 forces of attraction 引力			

Biology

Topic 1 · Characteristics and classification of living organisms

 characteristics 特征			
 life processes 生命过程			
 organisms 生物体			
 movement 运动			
 respiration 呼吸作用			
 cells 细胞			
 nutrient molecules 营养 物质			
 energy 能量			
 metabolism 新陈代谢			
 sensitivity 应激性			
 environment 环境			
 growth 生长			
 dry mass 干重			
 reproduction 生殖			
 excretion 排泄			
 waste products 废物			
 nutrition 营养			
 classify 分类			
 species 物种			
 fertile offspring 可育后代			
 scientific name 学名			

 binomial system 双名法			
 genus 属			
 dichotomous key 二歧检索表			
 evolutionary relationships 进化关系			
 ancestor 祖先			
 base sequence 碱基序列			
 genes 基因			
 kingdoms 界			
 animal 动物			
 cell wall 细胞壁			
 plant 植物			
 photosynthesis 光合作用			
 chloroplasts 叶绿体			
 fungus 真菌			
 moulds 霉菌			
 mushrooms 蘑菇			

Mathematics

Topic 1 · Number

 natural number 自然数			
 integer 整数			
 factor 因数			
 remainder 余数			

 multiple 倍数			
 common factor 公因数			
 common multiple 公倍数			
 prime number 质数			
 square number 平方数			
 cube number 立方数			
 rational number 有理数			
 fraction 分数			
 irrational number 无理数			
 reciprocal 倒数			
 product 乘积			
 prime factor 质因数			
 highest common factor 最大公因数			

Computer Science

Topic 1 · Data representation

 digit 数字			
 binary 二进制			
 data 数据			
 logic gate 逻辑门			
 processor 处理器			
 register 寄存器			
 number system 数制			
 denary 十进制			

⬡ hexadecimal 十六进制			
×₂ base 基数			
▤ place value 位值			
Ⓢ bit 位			
Ⓢ byte 字节			
□ nibble 半字节			
📍 memory address 内存地址			
⚠ overflow 溢出			
» logical binary shift 逻辑二进制移位			
→ least significant bit 最低有效位			
⚡ two's complement 补码			
← most significant bit 最高有效位			

Economics

Topic 1 · The basic economic problem

📦 resources 资源			
🔗 economic problem 经济问题			
📦 finite 有限的			
♥ wants 欲望			
📦 scarce 稀缺			
📦 scarcity 稀缺性			
📦 goods 物品			

🏠 services 服务			
🛒 consumers 消费者			
👷 workers 工人			
🏭 producers 生产者			
🏢 firms 企业			
🏛 governments 政府			
📦 economic goods 经济物品			
↔ opportunity cost 机会成本			

English

Topic 1 · Reading skills

🔍 skim 略读			
💡 gist 大意			
¶ paragraph 段落			
🔍 scan 扫读			
🔮 predict 预测			
🗨 phrase 短语			
🔄 multiple matching 多项匹配			

Morning Reading 晨读

Grade 10 · 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。

Li Wei cycles to school every morning. When the road is empty, his **speed** is high. When he sees the school gate, he slows down. This is called **deceleration**. At the gate he stops and waits for his friend, so he is **at rest**. If you draw his journey on a **distance–time graph**, the **gradient** of the line shows his speed.

Before school, his mother boils water for tea. **Boiling** turns the liquid into gas. Some water is also **evaporating** slowly from the wet cups by the window. On the cold glass, the steam is **condensing** back into water drops.

His aunt is an **entrepreneur**. She opened a small noodle shop this year. She needed **land** for the shop, **labour** to cook and serve, and **capital** such as pots and tables. Her reward is **profit**. Every choice has an **opportunity cost**: the money she spent on tables cannot buy a new sign.

Talk about it 说一说:

1. Describe your journey to school using the words speed, acceleration, and at rest.
2. If you started a small shop, what land, labour, and capital would you need?

Physics

Topic 1 · Motion, forces and energy

↓ weight 重力			
↻ velocity 速度			
↓ terminal velocity 收尾速度			
↗ acceleration 加速度			

↓ acceleration of free fall 自由落体加速度			
↻ Speed 速率			
↗ speed–time graph 速度-时间图			
↗ load–extension graph 载荷-伸长图			
↗ distance–time graph 距离-时间图			
↑ extension 伸长量			
↘ deceleration 减速			
at rest 静止			
↗ gradient 斜率			
Σ area under the line 线下面积			
⇌ air resistance 空气阻力			
⊗ matter 物质			
⊕ Gravitational field strength 重力场强度			
Δ gravitational potential 重力势能			
⚖ balance 天平			
⬠ Regular solid 规则固体			
⬠ Irregular solid 不规则固体			

Chemistry

Topics 1-2 · States of matter, Atoms, elements and compounds

 melting 熔化			
 melting point 熔点			
 boiling point 沸点			
 boiling 沸腾			
 freezing 凝固			
 evaporating 蒸发			
 condensing 凝结			
 sublimation 升华			
 heating curve 加热曲线			
 cooling curve 冷却曲线			
 collide 碰撞			
 diffusion 扩散			
 concentration 浓度			
 rate 速率			
 pressure 压强			
 ammonia 氨气			
 hydrogen chloride 氯化氢			
 ammonium chloride 氯化铵			
 compound 化合物			
 ionic compound 离子化合物			
 ionic bond 离子键			

covalent bond 共价键

Biology

Topic 1 · Characteristics and classification of living organisms

 yeast 酵母			
 prokaryote 原核生物			
 bacteria 细菌			
 single-celled 单细胞			
 nucleus 细胞核			
 protocist 原生生物			
 algae 藻类			
 vertebrates 脊椎动物			
 backbone 脊柱			
 mammals 哺乳动物			
 fur 毛发			
 birds 鸟类			
 feathers 羽毛			
 beak 喙			
 reptiles 爬行动物			
 scales 鳞片			
 amphibians 两栖动物			
 fish 鱼类			
 fins 鳍			
 gills 鳃			

 arthropods 节肢动物			
 exoskeleton 外骨骼			
 joints 关节			
 insects 昆虫			
 antennae 触角			
 arachnids 蛛形类			
 crustaceans 甲壳类			
 myriapods 多足类			
 segments 体节			
 ferns 蕨类植物			
 spores 孢子			
 flowering plants 开花植物			
 seeds 种子			
 cotyledons 子叶			
 monocotyledons 单子叶植物			
 leaf veins 叶脉			
 dicotyledons 双子叶植物			

Mathematics

Topic 1 · Number

 lowest common multiple 最小公倍数			
 set 集合			
 element 元素			

 universal set 全集			
 complement 补集			
 empty set 空集			
 subset 子集			
 union 并集			
 intersection 交集			
 Venn diagram 维恩图			
 power 幂			
 index 指数			
 square root 平方根			
 cube root 立方根			
 base 底数			
 standard form 科学记数法			
 surd 根式			

Computer Science

Topics 1-2 · Data representation, Data transmission

 character set 字符集			
 emoji 表情符号			
 storage 存储			
 sound wave 声波			
 sampling 采样			
 sample rate 采样率			
 sample resolution 采样分辨率			

↑ amplitude 振幅			
□ pixel 像素			
田 resolution 分辨率			
色 colour depth 颜色深度			
× compression 压缩			
↻ bandwidth 带宽			
Ⓜ transmission 传输			
🛡 lossless 无损			
↗ run-length encoding 行程编码			
✂ lossy 有损			
↔ data transmission 数据传输			
📦 packets 数据包			
📄 packet header 包头			

Economics

Topic 1 · The basic economic problem

📺 free goods 免费物品			
⚙ factors of production 生产要素			
🏠 land 土地			
👤 labour 劳动			
💰 capital 资本			
👤 enterprise 企业家才能			
👤 entrepreneur 企业家			

Morning Reading 晨读 · Grade 10 · Week 2

👤 reward 报酬			
🏠 rent 地租			
💰 wages 工资			
% interest 利息			
↗ profit 利润			
↔ mobility 流动性			
🔄 alternative 替代选择			
📈 production possibility curve 生产可能性曲线			

English

Topic 1 · Reading skills

↔ paraphrase 改写			
📶 signal words 信号词			
+ addition 递进			
① contrast 对比			
→ cause and effect 因果			
📝 note-making 做笔记			
📄 summary 概括			

Morning Reading 晨读 · Grade 10 · Week 2

Morning Reading 晨读

Grade 10 · Week 3

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。

When you send a photo to a friend, your phone does something clever. It cuts the photo into small **packets**. Each packet gets a **packet header** with the **address** of your friend's phone. **Routers** on the internet read the address and push each packet forward. This is called **packet switching**. At the other end, the packets join together again, and your friend sees the photo.

In science class this week, we learned about balance. A seesaw 跷跷板 turns around a **pivot**. The turning effect of a force is called a **moment**. When the moments on both sides are equal, the seesaw is in **equilibrium**. Every object also has a **centre of gravity**, the point where its weight seems to act.

In economics, a country must choose what to make. A **production possibility curve** shows the choices. Making more phones may mean making less food. That is a **trade-off**.

Talk about it 说一说:

1. Explain to a younger student how a photo travels across the internet.
2. Give one trade-off you made this week. What did you give up?

Physics

Topic 1 · Motion, forces and energy

📍 displacement method 排水法			
🛶 floats 漂浮			
📐 shape 形状			
📈 limit of proportionality 比例极限			

Morning Reading 晨读 · Grade 10 · Week 3

🔗 spring constant 弹簧常数			
🔥 Friction 摩擦力			
🔄 moment 力矩			
📍 pivot 支点			
⚖️ equilibrium 平衡			
📍 centre of gravity 重心			
📄 lamina 薄片			
🛡️ stable 稳定			
⚡ Impulse 冲量			
📦 stored 储存			
↔️ transferred 转移			
⚡ kinetic 动能			
⚗️ chemical 化学能			
📈 elastic (strain) 弹性势能			
☢️ nuclear 核能			
⚡ electrostatic 静电能			
🔥 internal (thermal) 内能			

Chemistry

Topics 2-7 · Atoms, elements and compounds, Acids, bases and salts

📄 giant covalent structure 巨型共价结构			
🔄 mixture 混合物			
📍 electrons 电子			
☢️ atom 原子			

Morning Reading 晨读 · Grade 10 · Week 3

☒ element 元素			
+ proton 质子			
☉ nucleus 原子核			
⊕ charge 电荷			
# proton number 质子数			
Σ nucleon number 核子数			
± ion 离子			
🌀 delocalised electrons 离域电子			
⬤ shells 电子层			
+ protons 质子			
○ neutrons 中子			
⋮ atomic number 原子序数			
⚖ mass number 质量数			
⚖ relative atomic mass 相对原子质量			
⬢ electronic configuration 电子排布			
📅 Periodic Table 周期表			
📅 Period 周期			
📅 Group 族			

Biology

Topics 1-2 · Characteristics and classification of living organisms, Organisation of the organism

🦠 viruses 病毒			
🛡 protein coat 蛋白质外壳			

🧬 genetic material 遗传物质			
🏠 host 宿主			
🍴 digestion 消化			
🦠 bacterium 细菌			
🔪 division 分裂			
⬤ cell membrane 细胞膜			
🌀 cytoplasm 细胞质			
⬤ ribosomes 核糖体			
📄 mitochondria 线粒体			
💧 vacuole 液泡			
🧬 proteins 蛋白质			
📄 cellulose 纤维素			
🌿 chlorophyll 叶绿素			
💧 cell sap 细胞液			
⬤ plasmids 质粒			
🏠 specialised cells 特化细胞			
🔪 ciliated cells 纤毛细胞			
💧 mucus 黏液			
🔪 trachea 气管			
🌿 bronchi 支气管			
🔪 root hair cells 根毛细胞			
📄 absorption 吸收			
📄 palisade mesophyll cells 栅栏叶肉细胞			

 neurones 神经元			
 electrical impulses 电脉冲			
 red blood cells 红细胞			
 oxygen 氧气			
 sperm 精子			
 egg cells 卵细胞			
 gametes 配子			
 organism 生物体			
 tissue 组织			
 muscle 肌肉			
 organ 器官			
 organ system 器官系统			

Mathematics

Topic 1 · Number

$\div$ rationalise the denominator 分母有理化			
$\vee$ denominator 分母			
$\wedge$ numerator 分子			
 proper fraction 真分数			
 improper fraction 假分数			
 mixed number 带分数			
$\odot$ decimal 小数			
% percentage 百分比			

 simplest form 最简形式			
 recurring decimal 循环小数			
 order of operations 运算顺序			
 magnitude 大小			
$\times$ multiplier 乘数			
% interest 利息			
 principal 本金			
% simple interest 单利			
 compound interest 复利			

Computer Science

Topic 2 · Data transmission

 payload 有效载荷			
 trailer 尾部			
 address 地址			
 packet switching 数据包交换			
 routers 路由器			
$\rightarrow$ serial 串行			
$=$ parallel 并行			
$\rightarrow$ simplex 单工			
$\hookleftarrow$ half-duplex 半双工			
$\rightleftarrows$ full-duplex 全双工			
 universal serial bus 通用串行总线			

 interface 接口			
 interference 干扰			
 parity check 奇偶校验			
 parity bit 奇偶校验位			
 checksum 校验和			
 echo check 回送校验			
 automatic repeat request 自动重传请求			
 acknowledgements 确认			
 timeout 超时			

Economics

Topics 1–2 · The basic economic problem, The allocation of resources

 unemployment 失业			
 trade-off 取舍			
 economic growth 经济增长			
 economic decline 经济衰退			
 non-renewable resources 不可再生资源			
 microeconomics 微观经济学			
 macroeconomics 宏观经济学			
 market 市场			
 price mechanism 价格机制			

 allocate 配置			
 signalling 信号			
 incentive 激励			
 rationing 配给			
 demand 需求			
 good 物品			

English

Topic 1 · Reading skills

 repetition 重复			
 inference 推断			
 implies 暗示			
 attitude 态度			
 word choice 用词			
 multiple-choice 选择题			
 context 语境			

Morning Reading 晨读

Grade 10 · Week 4

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。

Lifting your school bag is **work done**. Energy is measured in **joules**, and **power**, measured in **watts**, tells us how fast energy is used. A bright old lamp feels hot because much of its energy is **wasted** as heat. A good LED lamp has high **efficiency**: most of the electrical energy becomes light. A **Sankey diagram** shows with wide and narrow arrows where the energy goes.

Your messages also need protection. Before a message leaves your phone, an app turns the readable **plaintext** into secret **ciphertext**. This is **encryption**. Only someone with the right **key** can read it, even if the message is **intercepted** on the way.

Shops watch our choices carefully. The **law of demand** says that when the price of a good rises, the **quantity demanded** usually falls. If milk tea gets expensive, many students switch to **substitutes** such as juice.

Talk about it 说一说:

1. Name one thing at home that wastes energy. How could you improve its efficiency?
2. The price of your favourite snack doubles. What do you buy instead, and why?

Physics

Topics 1-2 · Motion, forces and energy, Thermal physics

🔗 Sankey diagram 桑基图			
🗑️ wasted 浪费			
🔧 Work done 做功			
🔊 joule 焦耳			
⚡ Power 功率			

Morning Reading 晨读 · Grade 10 · Week 4

💡 watt 瓦特			
% Efficiency 效率			
⬇️ pressure 压强			
🌀 pascal 帕斯卡			
⬇️ depth 深度			
📊 states of matter 物态			
➡️ motion 运动			
📊 density 密度			
📦 solid 固体			
💧 liquid 液体			
🌬️ gas 气体			
🔊 vibrate 振动			
⚡ kinetic energy 动能			
🔥 melting 融化			
🍷 boiling 沸腾			
💧 condensation 凝结			

Chemistry

Topics 2-4 · Atoms, elements and compounds, Electrochemistry

🌬️ noble gases 稀有气体			
🔗 isotopes 同位素			
📊 abundance 丰度			
⊕ cation 阳离子			
⊖ anion 阴离子			

Morning Reading 晨读 · Grade 10 · Week 4

 electrostatic attraction 静电引力			
 metal 金属			
 non-metal 非金属			
 lattice 晶格			
 alternating 交替			
 electrical conductivity 导电性			
 electric current 电流			
 molten 熔融			
 aqueous 水溶液			
 intermolecular forces 分子间作用力			
 diamond 金刚石			
 cutting tools 切割工具			
 graphite 石墨			
 layers 层			
 lubricant 润滑剂			
 electrode 电极			
 silicon(IV) oxide 二氧化硅			

Biology

Topics 2-4 · Organisation of the organism, Movement into and out of cells, Biological molecules

 digestive system 消化系统			
 microscope 显微镜			

 magnification 放大倍数			
 specimen 标本			
 micrometres 微米			
 diffusion 扩散			
 net movement 净移动			
 particles 粒子			
 concentration 浓度			
 concentration gradient 浓度梯度			
 random movement 随机运动			
 kinetic energy 动能			
 molecules 分子			
 ions 离子			
 gases 气体			
 solutes 溶质			
 carbon dioxide 二氧化碳			
 surface area 表面积			
 temperature 温度			
 solvent 溶剂			
 dissolve 溶解			
 solution 溶液			
 transport 运输			
 osmosis 渗透			
 partially permeable membrane 半透膜			

💧 water potential 水势	_____	_____	_____
○ turgid 膨胀	_____	_____	_____
↻ turgor pressure 膨压	_____	_____	_____
🍃 flaccid 松软	_____	_____	_____
✂️ plasmolysis 质壁分离	_____	_____	_____
🔍 dialysis tubing 透析管	_____	_____	_____
⬆️ active transport 主动运输	_____	_____	_____
🌱 root hairs 根毛	_____	_____	_____
🚚 protein carriers 载体蛋白	_____	_____	_____
🧫 molecule 分子	_____	_____	_____
🧪 elements 元素	_____	_____	_____
🍷 carbohydrates 碳水化合物	_____	_____	_____

Mathematics

Topic 1 · Number

↩️ reverse percentage 逆百分比	_____	_____	_____
↗️ exponential growth 指数增长	_____	_____	_____
↘️ exponential decay 指数衰减	_____	_____	_____
↘️ depreciation 折旧	_____	_____	_____
÷ ratio 比	_____	_____	_____
📐 proportion 比例	_____	_____	_____
📏 scale 比例尺	_____	_____	_____

↻ rate 比率	_____	_____	_____
↻ average speed 平均速度	_____	_____	_____
📦 density 密度	_____	_____	_____
📦 mass 质量	_____	_____	_____
📦 volume 体积	_____	_____	_____
👥 population density 人口密度	_____	_____	_____
↓ pressure 压强	_____	_____	_____
⊙ decimal place 小数位	_____	_____	_____
# significant figure 有效数字	_____	_____	_____
❓ estimate 估算	_____	_____	_____

Computer Science

Topics 2-3 · Data transmission, Hardware

✅ check digit 校验码	_____	_____	_____
↔️ transposition error 换位错误	_____	_____	_____
📊 barcodes 条形码	_____	_____	_____
🔒 encryption 加密	_____	_____	_____
🛑 intercepted 拦截	_____	_____	_____
📄 plaintext 明文	_____	_____	_____
🔒 ciphertext 密文	_____	_____	_____
🔑 symmetric encryption 对称加密	_____	_____	_____
🔑 key 密钥	_____	_____	_____

 asymmetric encryption 非对称加密			
 public key 公钥			
 private key 私钥			
 central processing unit 中央处理器			
 instructions 指令			
 arithmetic logic unit 算 术逻辑单元			
 control unit 控制单元			
 registers 寄存器			
 buses 总线			
 address bus 地址总线			
 data bus 数据总线			

Economics

Topic 2 · The allocation of resources

 law of demand 需求定律			
 inverse relationship 反向 关系			
 ceteris paribus 其他条件 不变			
 quantity demanded 需求 量			
 demand curve 需求曲线			
 shift 移动			
 income 收入			

 tastes 偏好			
 substitutes 替代品			
 complements 互补品			
 population 人口			
 advertising 广告			
 supply 供给			
 law of supply 供给定律			

English

Topic 2 · Writing: purpose, audience and accuracy

 purpose 目的			
 inform 告知			
 argue 论证			
 discuss 讨论			
 audience 读者			
 register 语域			
 formal 正式			

Morning Reading 晨读

Grade 10 · Week 5

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。

On a cold morning, a metal spoon feels colder than a wooden one, but they have the same temperature. Metal is a good **thermal conductor**: it carries heat away from your warm hand quickly. Wood is a **thermal insulator**. Your coat does not make heat; it traps air, which is a poor conductor, so your body's heat stays close to you. Water needs a lot of energy to warm up because it has a high **specific heat capacity**.

Inside every computer, the processor repeats the **fetch-execute cycle** many millions of times each second. Instructions wait in **memory**, small fast **registers** hold the data being used right now, and a **cache** keeps popular data near the processor, like a pencil case on your desk.

In the market, sellers respond to prices. The **law of supply** says a higher price usually raises the **quantity supplied**. When demand and supply meet, the market reaches **equilibrium**. If the price is set too low, there is a **shortage**.

Talk about it 说一说:

1. Why does a metal chair feel colder than a plastic one in the same room?
2. Concert tickets sell out in one minute. Is the price too high or too low? Explain.

Physics

Topic 2 · Thermal physics

❄️ solidification 凝固			
🔲 kinetic particle model 分子动理论			
⋯ particle 粒子			
🔥 internal energy 内能			

🔗 transfer of thermal energy 热能传递			
⚡ thermal conductor 热导体			
🛡️ thermal insulator 热绝缘体			
☀️ thermal radiation 热辐射			
↔ thermal expansion 热膨胀			
❄️ absolute zero 绝对零度			
🌀 Brownian motion 布朗运动			
🌡️ kelvin 开尔文			
🔥 specific heat capacity 比热容			
☁️ evaporation 蒸发			
❄️ cools down 冷却			
⚡ conduction 热传导			
🔗 delocalised electrons 自由电子			
🔄 convection 对流			
🔥 infrared 红外线			
🌑 dull 暗淡			
📡 emitter 发射体			

Chemistry

Topics 2–3 · Atoms, elements and compounds, Stoichiometry

⋮ metallic bonding 金属键			
🔧 malleability 展性			
↔ ductility 延性			
⚖ stoichiometry 化学计量			
🧪 formula 化学式			
📄 molecular formula 分子式			
÷ empirical formula 实验式			
⚖ relative formula mass 相对式量			
⚖ molar mass 摩尔质量			
⇌ molar gas volume 摩尔气体体积			
% percentage composition by mass 质量分数			
⊗ percentage purity 纯度			
% percentage yield 产率			
📄 molecule 分子			
÷ ratio 比例			
👁 spectator ions 旁观离子			
= ionic equation 离子方程式			
📄 word equation 文字方程式			
Σ symbol equation 化学方程式			

→ reactants 反应物			
📦 products 生成物			
⚖ balanced 配平			

Biology

Topics 4–6 · Biological molecules, Enzymes, Plant nutrition

📄 fats 脂肪			
📄 carbon 碳			
⊗ hydrogen 氢			
⇌ nitrogen 氮			
🍷 starch 淀粉			
📄 glycogen 糖原			
🍷 glucose 葡萄糖			
🔪 amino acids 氨基酸			
📄 fatty acids 脂肪酸			
📄 glycerol 甘油			
📄 iodine solution 碘液			
🍷 reducing sugars 还原糖			
📄 Benedict's solution 本尼迪特试剂			
📄 biuret 双缩脲			
📄 ethanol 乙醇			
📄 emulsion 乳浊液			
📄 vitamin 维生素			
↪ strands 链			

 double helix 双螺旋			
 bases 碱基			
 bonds 化学键			
 catalyst 催化剂			
 rate 速率			
 chemical reaction 化学反应			
 enzymes 酶			
 active site 活性位点			
 substrate 底物			
 complementary 互补			
 enzyme-substrate complex 酶底物复合物			
 products 产物			
 specific 专一			
 collisions 碰撞			
 optimum temperature 最适温度			
 denatured 变性			
 raw materials 原料			
 pigment 色素			
 cell walls 细胞壁			

Mathematics

Topics 1-2 · Number, Algebra and graphs

 lower bound 下界			
 upper bound 上界			
 area 面积			
 time zone 时区			
 exchange rate 汇率			
 algebra 代数			
 variable 变量			
 substitute 代入			
 term 项			
 expression 表达式			
 like terms 同类项			
 coefficient 系数			
 expand 展开			
 brackets 括号			
 factorise 因式分解			
 difference of two squares 平方差			
 perfect square 完全平方			

Computer Science

Topic 3 · Hardware

 control bus 控制总线			
 program counter 程序计数器			

 memory address register 内存地址寄存器			
 memory data register 内存数据寄存器			
 current instruction register 当前指令寄存器			
+ accumulator 累加器			
 fetch-execute cycle 取指执行周期			
 memory 内存			
 Cache 高速缓存			
 cores 核心			
 clock speed 时钟速度			
 embedded system 嵌入式系统			
 barcode scanner 条形码扫描器			
 QR code scanner 二维码扫描器			
 optical mouse 光电鼠标			
 sensors 传感器			
 touch screen 触摸屏			
 resistive 电阻式			
 capacitive 电容式			
 infrared 红外线			

Economics

Topic 2 · The allocation of resources

 direct relationship 正向关系			
# quantity supplied 供给量			
 supply curve 供给曲线			
 costs of production 生产成本			
 technology 技术			
 tax 税收			
 subsidy 补贴			
 equilibrium 均衡			
 disequilibrium 非均衡			
 excess demand 超额需求			
 shortage 短缺			
 excess supply 超额供给			
 surplus 过剩			
 price elasticity of demand 需求价格弹性			

English

Topic 2 · Writing: purpose, audience and accuracy

 informal 非正式			
 slang 俚语			
 plan 计划			
 linking words 衔接词			

↕ range 多样性			
⌚ accuracy 准确性			
🕒 tenses 时态			

Morning Reading 晨读

Grade 10 · Week 6

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。

Music is physics you can hear. Sound travels as a **wave**. The **frequency** of the wave decides the pitch 音高: fast waves sound high, slow waves sound low. The **amplitude** decides how loud the sound is. Light is a **transverse wave**, like a rope shaken up and down, with a **crest** at the top and a **trough** at the bottom. Sound is a **longitudinal wave**: the air is pushed forward and back. The **wavelength** is the distance from one crest to the next.

Chemists count particles in a special way. Atoms are far too small to count one by one, so they use the **mole**. One mole of any substance contains the same huge number of particles, the **Avogadro constant**.

Why are concert tickets so expensive? Fans will pay almost any price, so demand is **inelastic**. But if the price of one brand of cola rises, people simply buy another brand: that demand is **elastic**. Sellers study **price elasticity of demand** before they set prices.

Talk about it 说一说:

1. Draw a wave in the air with your finger. Point to the crest, the trough, and one wavelength.
2. Name one product you would still buy if its price doubled. Why?

Physics

Topics 2-3 · Thermal physics, Waves

📡 absorber 吸收体			
🔦 reflector 反射体			
🌊 wave 波			
🌀 wave speed 波速			

 transverse wave 横波			
 longitudinal wave 纵波			
 wavefront 波前			
 wavelength 波长			
 frequency 频率			
 crest 波峰			
 trough 波谷			
 amplitude 振幅			
 propagation 传播			
 ripple tank 波纹水槽			
 reflection 反射			
 angle of reflection 反射角			
 angle of refraction 折射角			
 total internal reflection 全反射			
 critical angle 临界角			
 refraction 折射			
 angle of incidence 入射角			

Chemistry

Topics 3-4 · Stoichiometry, Electrochemistry

 state symbols 状态符号			
 mole 摩尔			
 amount of substance 物质的量			

 Avogadro constant 阿伏伽德罗常数			
 solution 溶液			
 limiting reactant 限量反应物			
 titration 滴定			
 solute 溶质			
 electrolysis 电解			
 decomposition 分解			
 electrolytic cell 电解池			
 fuel cell 燃料电池			
 electrodes 电极			
 electrolyte 电解质			
 anode 阳极			
 cathode 阴极			
 inert 惰性			
 platinum 铂			
 metals 金属			
 non-metals 非金属			
 dilute 稀			
 concentrated 浓			

Biology

Topics 6–7 · Plant nutrition, Human nutrition

 sucrose 蔗糖			
 phloem 韧皮部			
 nectar 花蜜			
 pollination 传粉			
 nitrate ions 硝酸根离子			
 magnesium ions 镁离子			
 light intensity 光照强度			
 limiting factor 限制因素			
 control 对照			
 gas exchange 气体交换			
 indicator 指示剂			
 adapted 适应			
 cuticle 角质层			
 epidermis 表皮			
 mesophyll 叶肉			
 palisade mesophyll 栅栏叶肉			
 spongy mesophyll 海绵叶肉			
 air spaces 气腔			
 stomata 气孔			
 guard cells 保卫细胞			
 vascular bundles 维管束			

 xylem 木质部			
 balanced diet 均衡饮食			
 calcium 钙			
 mineral ions 矿物质离子			
 iron 铁			
 fibre 膳食纤维			
 scurvy 坏血病			
 rickets 佝偻病			
 alimentary canal 消化道			
 oesophagus 食道			
 stomach 胃			
 small intestine 小肠			
 duodenum 十二指肠			
 ileum 回肠			
 large intestine 大肠			
 colon 结肠			

Mathematics

Topic 2 · Algebra and graphs

 quadratic 二次			
 completing the square 配方法			
 algebraic fraction 分式			
 rational expression 有理式			

$\times^2$ indices 指数			
= equation 方程			
— linear 一次			
⊙ unknown 未知数			
÷ fractional equation 分式方程			
≡ simultaneous equations 联立方程			
f quadratic formula 求根公式			
↔ change the subject 公式变形			
≧ inequality 不等式			
number line 数轴			
region 区域			
sequence 数列			
→ term-to-term rule 递推规则			

Computer Science

Topic 3 · Hardware

actuator 执行器			
projector 投影仪			
inkjet printer 喷墨打印机			
laser printer 激光打印机			
speaker 扬声器			
Primary storage 主存储器			

Morning Reading 晨读 · Grade 10 · Week 6

random access memory 随机存取存储器			
read only memory 只读存储器			
volatile 易失性			
non-volatile 非易失性			
Secondary storage 辅助存储器			
magnetic storage 磁存储			
optical storage 光存储			
solid state storage 固态存储			
flash memory 闪存			
virtual memory 虚拟内存			
network interface card 网络接口卡			
media access control 介质访问控制			
internet protocol 网际协议			
router 路由器			

Economics

Topic 2 · The allocation of resources

determinants 决定因素			
elastic 富有弹性			
inelastic 缺乏弹性			
unit elastic 单位弹性			

Morning Reading 晨读 · Grade 10 · Week 6

 total revenue 总收益			
 total expenditure 总支出			
 price elasticity of supply 供给价格弹性			
 spare capacity 闲置产能			
 stocks 库存			
 market economy 市场经 济			
 planned economy 计划经 济			
 market failure 市场失灵			
 inefficient 低效率			
 private cost 私人成本			

English

Topics 2-3 · Writing: purpose, audience and accuracy, Writing an informal email

 vocabulary 词汇			
 synonyms 同义词			
 grammar 语法			
 spelling 拼写			
 punctuation 标点			
 informal email 非正式电 子邮件			
 prompts 提示			

Morning Reading 晨读

Grade 10 · Week 7

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。

Why does a straw look bent in a glass of water? Light changes direction when it moves from water into air. This is **refraction**. Glasses and cameras use a **converging lens** to bend light and make a clear **real image**. The distance from the lens to its **principal focus** is the **focal length**. Even the internet uses light: an **optical fibre** is a thin glass thread that carries light signals under the sea. The light cannot escape, because it always hits the wall of the fibre at more than the **critical angle**.

A computer is two things working together. **Hardware** is the physical machine you can touch. **Software** is the **programs** that tell it what to do. The most important program is the **operating system**: it starts the computer, manages memory, and runs your apps.

Markets are useful, but they are not perfect. A factory may make cheap toys but dirty the river. The factory pays its **private cost**, yet the village pays an **external cost**. Together these make the **social cost**. Economists call this **market failure**.

Talk about it 说一说:

1. Where have you seen refraction this week? Describe it.
2. A firework factory moves next to your school. What external costs does it bring?

Physics

Topics 3-6 · Waves, Space physics

 diffraction 衍射			
 Light 光			
 normal 法线			
 plane mirror 平面镜			

 refractive index 折射率			
 converging lens 凸透镜			
 diverging lens 凹透镜			
 principal focus 焦点			
 focal length 焦距			
 real image 实像			
 virtual image 虚像			
 magnifying glass 放大镜			
 prism 棱镜			
 spectrum 光谱			
 electromagnetic spectrum 电磁波谱			
 dispersion 色散			
 monochromatic 单色			
 vacuum 真空			
 radio waves 无线电波			
 microwaves 微波			
 ultraviolet 紫外线			

Chemistry

Topics 4–10 · Electrochemistry, Chemical energetics, Chemistry of the environment

 bromine 溴			
 chlorine 氯气			
 sulfuric acid 硫酸			
 oxygen 氧气			

 external circuit 外电路			
 reduction 还原			
 oxidation 氧化			
 half-equation 半反应式			
 copper 铜			
 electroplating 电镀			
 corrosion 腐蚀			
 pollutants 污染物			
 cancer 癌症			
 exothermic reaction 放热反应			
 endothermic reaction 吸热反应			
 reaction pathway diagram 反应进程图			
 activation energy 活化能			
 bond energy 键能			
 bond breaking 断键			
 bond making 成键			
 surroundings 环境			
 combustion 燃烧			

Biology

Topic 7 · Human nutrition

 rectum 直肠			
 anus 肛门			

💧	salivary glands 唾液腺			
🌀	pancreas 胰腺			
🍷	liver 肝脏			
💧	gall bladder 胆囊			
🍽️	ingestion 摄入			
🍷	nutrients 营养物质			
➡️	assimilation 同化			
🗑️	egestion 排遗			
🗑️	faeces 粪便			
😊	teeth 牙齿			
✂️	incisors 门齿			
△	canines 犬齿			
□	premolars 前臼齿			
□	molars 臼齿			
🍷	enamel 牙釉质			
🏠	dentine 牙本质			
💧	pulp 牙髓			
🧠	nerves 神经			
🩺	blood vessels 血管			
⚓	cement 牙骨质			
○	gums 牙龈			
💧	bile 胆汁			
🌀	emulsifies 乳化			
✂️	lipase 脂肪酶			

🚫	insoluble 不溶性			
💧	soluble 可溶性			
✂️	amylase 淀粉酶			
✂️	protease 蛋白酶			
🧪	hydrochloric acid 盐酸			
🍷	gastric juice 胃液			
🦠	microorganisms 微生物			
🧪	acidic 酸性			
🍷	maltose 麦芽糖			
✂️	maltase 麦芽糖酶			
🏠	epithelium 上皮			

Mathematics

Topic 2 · Algebra and graphs

🏠	cubic 三次			
↗️	exponential sequence 指数数列			
↗️	direct proportion 正比例			
🏠	constant 常数			
↘️	inverse proportion 反比例			
↗️	gradient 斜率			
↗️	rate of change 变化率			
🗺️	travel graph 行程图			
🗺️	conversion graph 换算图			

 acceleration 加速度			
 deceleration 减速度			
 distance 距离			
 table of values 数值表			
 coordinates 坐标			
 axis 坐标轴			
 roots 根			
 intersection point 交点			

Computer Science

Topic 4 · Software

 Hardware 硬件			
 physical 物理的			
 Software 软件			
 programs 程序			
 System software 系统软件			
 operating system 操作系统			
 compiler 编译器			
 linker 链接器			
 device driver 设备驱动程序			
 utility software 实用程序			
 Application software 应用软件			

 word processing 文字处理			
 spreadsheet 电子表格			
 database management system 数据库管理系统			
 web browser 网页浏览器			
 user interface 用户界面			
 peripherals 外围设备			
 multitasking 多任务处理			
 platform 平台			
 interrupt 中断			

Economics

Topic 2 · The allocation of resources

 external cost 外部成本			
 social cost 社会成本			
 private benefit 私人效益			
 external benefit 外部效益			
 social benefit 社会效益			
 merit goods 有益物品			
 demerit goods 有害物品			
 public goods 公共物品			
 monopoly 垄断			
 mixed economy 混合经济			
 private sector 私营部门			

 public sector 公共部门			
 intervention 干预			
 maximum price 最高价格			

English

Topic 3 · Writing an informal email

 tone 语气			
 greeting 问候语			
 closing 结束语			
 paragraphs 段落			
 short forms 缩略形式			
 developed 展开的			
 reason 原因			

Morning Reading 晨读

Grade 10 · Week 8

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。

Invisible waves are all around you right now. **Radio waves** carry music to cars. **Microwaves** heat food and carry phone signals. **Ultraviolet** light from the Sun can burn your skin. Doctors use **X-rays** to see bones, and **gamma rays** to treat cancer. All of these can travel through empty space, a **vacuum**. Sound cannot: it always needs a **medium** such as air or water. Shout at a big wall and you hear an **echo**, your own sound wave reflected back.

Before money, people used **barter**: they traded fish for rice or shoes for tea. It was slow, because both sides had to want what the other had. **Money** solved this. It is a **medium of exchange** that everyone accepts, and a **store of value** you can keep for later.

Computers only understand **machine code**, patterns of ones and zeros. People write in a **high-level language** like Python, and a **translator** turns it into machine code.

Talk about it 说一说:

1. Name three invisible waves you used today and what they did for you.
2. Imagine one week without money. How would you get your lunch?

Physics

Topics 3-4 · Waves, Electricity and magnetism

 X-rays X 射线			
 gamma rays 伽马射线			
 Sound 声音			
 compression 压缩			
 rarefaction 稀疏			

 medium 介质			
 echo 回声			
 magnet 磁体			
 temporary magnet 临时磁体			
 permanent magnet 永磁铁			
 magnetic pole 磁极			
 north pole 北极			
 south pole 南极			
 magnetic material 磁性材料			
 magnetic field 磁场			
 magnetic field lines 磁场线			
 electric field 电场			
 electric current 电流			
 conventional current 常规电流			
 direct current 直流电			
 alternating current 交流电			

Chemistry

Topics 5-6 · Chemical energetics, Chemical reactions

 neutralisation 中和			
 enthalpy change 焓变			

 colliding 碰撞			
 physical change 物理变化			
 chemical change 化学变化			
 precipitate 沉淀			
 rate of reaction 反应速率			
 reversible reaction 可逆反应			
 forward reaction 正反应			
 reverse reaction 逆反应			
 redox reaction 氧化还原反应			
 collision theory 碰撞理论			
 surface area 表面积			
 catalyst 催化剂			
 enzymes 酶			
 syringe 注射器			
 hydrated 水合			
 anhydrous 无水			
 closed system 密闭系统			
 position of equilibrium 平衡位置			
 equilibrium 平衡			
 endothermic 吸热反应			

Biology

Topics 7-9 · Human nutrition, Transport in plants, Transport in animals

✂	pepsin	胃蛋白酶			
✂	trypsin	胰蛋白酶			
🍷	alkaline	碱性			
⚖	neutralises	中和			
⋮	villi	绒毛			
⋮	microvilli	微绒毛			
🩺	capillaries	毛细血管			
🍼	lacteal	乳糜管			
🏗	support	支撑			
🩺	vessels	导管			
🏠	lignin	木质素			
🏠	cortex	皮层			
🎨	stain	染色剂			
💧	transpiration	蒸腾作用			
☁	water vapour	水蒸气			
☁	evaporates	蒸发			
⇌	diffuses	扩散			
⇌	wind speed	风速			
💧	humidity	湿度			
⬆	transpiration pull	蒸腾拉力			
🌀	forces of attraction	吸引力			

🏗	column	水柱			
🍷	wilts	萎蔫			
↕	translocation	转运			
⬆	sources	源			
🏠	sinks	库			
🩺	circulatory system	循环系统			
🩺	heart	心脏			
🩺	pump	泵			
🏠	valves	瓣膜			
🏠	single circulation	单循环			
🩺	mammal	哺乳动物			
∞	double circulation	双循环			
⬇	pressure	压力			
🩺	septum	隔膜			
🏠	atrium	心房			
🩺	ventricle	心室			

Mathematics

Topics 2-3 · Algebra and graphs, Coordinate geometry

🏠	symmetry	对称			
🕒	intercept	截距			
🩺	parabola	抛物线			
🩺	turning point	转折点			

— asymptote 渐近线			
∇ differentiation 微分			
↗ tangent 切线			
↗ derivative 导数			
∞ stationary point 驻点			
^ maximum 最大值			
∨ minimum 最小值			
f function 函数			
↔ domain 定义域			
↕ range 值域			
↔ inverse function 反函数			
⊞ composite function 复合函数			
+ axes 坐标轴			

Computer Science

Topics 4–5 · Software, The internet and its uses

<> programming language 编程语言			
<> high-level language 高级语言			
11 low-level language 低级语言			
11 machine code 机器码			
11 assembly language 汇编语言			
⌚ specific 特定的			

🗣 translator 翻译程序			
▷ interpreter 解释器			
<> integrated development environment 集成开发环境			
📄 code editor 代码编辑器			
▷ run time environment 运行时环境			
🔍 error diagnostics 错误诊断			
🔧 auto-completion 自动补全			
🔧 auto-correction 自动纠错			
≡ prettyprinting 美化打印			
🌐 internet 互联网			
🏗 infrastructure 基础设施			
🌐 world wide web 万维网			
💻 websites 网站			
🔗 uniform resource locator 统一资源定位符			

Economics

Topics 2–3 · The allocation of resources, Microeconomic decision-makers

⬇ minimum price 最低价格			
🏠 indirect tax 间接税			
📋 regulation 监管			
📁 direct provision 直接提供			
↔ barter 物物交换			

 money 货币			
 medium of exchange 交换媒介			
 store of value 价值储藏			
 unit of account 记账单位			
 means of deferred payment 延期支付手段			
 durable 耐用的			
 portable 便于携带的			
 divisible 可分割的			
 central bank 中央银行			

English

Topics 3-4 · Writing an informal email, Writing a formal letter or email

 example 例子			
 detail 细节			
 semi-formal 半正式			
 head teacher 校长			
 manager 经理			
 event organiser 活动组织者			
 format 格式			

Morning Reading 晨读

Grade 10 · Week 9

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。

Take off a wool hat on a dry winter day and your hair stands up. Rubbing gives your hair extra **electric charge**. Charges push and pull: like charges **repel**, opposite charges **attract**. When charge flows through a wire, we call it an **electric current**. A battery gives **direct current**, which flows one way. The sockets at home give **alternating current**, which changes direction many times each second.

When you type an address into a browser, you use the **world wide web**. Every device on the **internet** has an **IP address**, like a house number. Your browser asks a **web server** for the page, and the server sends it back to you.

Where does your money sleep at night? In a bank. **Commercial banks** keep savings safe and lend money to firms. The **central bank** is the bank of the whole country: it prints the money and sets the **interest rate**, the price of **borrowing**.

Talk about it 说一说:

1. Why does your hair stand up after you take off a wool hat?
2. If the interest rate rises, will people save more or borrow more? Why?

Physics

Topic 4 · Electricity and magnetism

 electric charge 电荷			
 positive charge 正电荷			
 negative charge 负电荷			
 point charge 点电荷			
 repel 排斥			

 attract 吸引			
 induced magnetism 感应磁性			
 soft iron 软铁			
 iron filings 铁屑			
 soft-iron core 软铁芯			
 magnetise 磁化			
 steel 钢			
 unmagnetised 未磁化			
 region 区域			
 compass 指南针			
 electromagnet 电磁铁			
 electron 电子			
 charging by friction 摩擦起电			
 conductor 导体			
 insulator 绝缘体			
 coulomb 库仑			

Chemistry

Topics 6-7 · Chemical reactions, Acids, bases and salts

 exothermic 放热反应			
 Haber process 哈伯法			
 Contact process 接触法			
 methane 甲烷			

 nitrogen 氮气			
 iron 铁			
 sulfur 硫			
 vanadium(V) oxide 五氧化二钒			
 compromise 折中			
 oxidation number 氧化数			
 oxidising agent 氧化剂			
 reducing agent 还原剂			
 potassium manganate(VII) 高锰酸钾			
 potassium iodide 碘化钾			
 iodine 碘			
 acid 酸			
 strong acid 强酸			
 hydrochloric acid 盐酸			
 weak acid 弱酸			
 ethanoic acid 乙酸			
 salt 盐			
 carbonates 碳酸盐			

Biology

Topics 7-10 · Human nutrition, Transport in animals, Diseases and immunity

 coronary arteries 冠状动脉			
 oxygenated blood 含氧血			

 deoxygenated blood 缺氧血			
 atrioventricular valves 房室瓣			
 semilunar valves 半月瓣			
 contract 收缩			
 pulse 脉搏			
 heart rate 心率			
 coronary heart disease 冠心病			
 risk factors 风险因素			
 lumen 管腔			
 arteries 动脉			
 veins 静脉			
 aorta 主动脉			
 vena cava 腔静脉			
 pulmonary artery 肺动脉			
 pulmonary vein 肺静脉			
 renal artery 肾动脉			
 renal vein 肾静脉			
 hepatic artery 肝动脉			
 hepatic vein 肝静脉			
 hepatic portal vein 肝门静脉			
 haemoglobin 血红蛋白			
 white blood cells 白细胞			

 platelets 血小板			
 clot 凝血			
 plasma 血浆			
 urea 尿素			
 hormones 激素			
 pathogens 病原体			
 phagocytes 吞噬细胞			
 phagocytosis 吞噬作用			
 lymphocytes 淋巴细胞			
 antibodies 抗体			
 fibrinogen 纤维蛋白原			
 fibrin 纤维蛋白			
 pathogen 病原体			

Mathematics

Topics 3-4 · Coordinate geometry, Geometry

 horizontal 水平			
 vertical 竖直			
 origin 原点			
 quadrants 象限			
 line segment 线段			
 length 长度			
 Pythagoras' theorem 勾股定理			
 midpoint 中点			

= parallel 平行			
+ perpendicular 垂直			
□ right angle 直角			
↗ perpendicular bisector 垂直平分线			
• vertex 顶点			
> acute angle 锐角			
» obtuse angle 钝角			
↺ reflex angle 优角			
× vertically opposite angles 对顶角			

Computer Science

Topic 5 · The internet and its uses

🖨 rendering 渲染			
<> hypertext markup language 超文本标记语言			
📍 IP address 网际协议地址			
🌐 domain name service 域 名服务			
🌐 web server 网页服务器			
🕒 session 会话			
📁 persistent 持久			
👤 user preferences 用户偏 好			
₿ digital currency 数字货币			
📄 electronic form 电子形式			

Morning Reading 晨读 · Grade 10 · Week 9

🔗 blockchain 区块链			
📖 digital ledger 数字账本			
↔ transaction 交易			
🕒 timestamp 时间戳			
# hash value 哈希值			
🛡 cyber security 网络安全			
🔑 brute force attack 暴力 破解			
🕒 data interception 数据拦 截			
🚫 distributed denial of service 分布式拒绝服务			
👤 hacking 黑客攻击			

Economics

Topic 3 · Microeconomic decision-makers

% interest rate 利率			
🏦 commercial banks 商业 银行			
🏠 household 家庭			
💰 saving 储蓄			
🔄 borrowing 借贷			
😊 confidence 信心			
👤 occupation 职业			
💵 wage 工资			
🔑 skill 技能			

Morning Reading 晨读 · Grade 10 · Week 9

🎓	qualifications 资格	_____	_____	_____
👥	trade unions 工会	_____	_____	_____
⚖️	discrimination 歧视	_____	_____	_____
👤	division of labour 劳动分工	_____	_____	_____
🕒	specialisation 专业化	_____	_____	_____

English

Topics 4–5 · Writing a formal letter or email, Writing a report

😊	polite 礼貌	_____	_____	_____
❤️	grateful 感激	_____	_____	_____
📄	report 报告	_____	_____	_____
📅	event 事件	_____	_____	_____
📍	situation 情况	_____	_____	_____
✓	facts 事实	_____	_____	_____
✓	factual 事实性的	_____	_____	_____

Morning Reading 晨读

Grade 10 · Week 10

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。

A message says you have won a phone: just click the link and enter your password. Stop! This is **phishing**, a trick to steal your details. Criminals also use **malware**, harmful software such as a **virus**, or try a **brute force attack**, testing thousands of passwords until one works. Some do not attack computers at all; they trick people. That is **social engineering**. Good **cyber security** habits, such as strong passwords and careful clicking, protect you.

Why are factories so fast? Because of the **division of labour**. Each worker repeats one small job and becomes an expert at it. This **specialisation** raises **productivity**: more is made in the same time. Big factories also enjoy **economies of scale**, so each item costs less to make.

In physics you built an **electromagnet** this week: a coil of wire around soft iron. Switch on the current and it becomes a magnet; switch off and the magnetism is gone.

Talk about it 说一说:

1. A stranger's email asks for your password. What do you do, and why?
2. Making dumplings with your class: how would you divide the labour?

Physics

Topic 4 · Electricity and magnetism

±	ion 离子	_____	_____	_____
⚡	ampere 安培	_____	_____	_____
🔌	ammeter 电流表	_____	_____	_____
🔌	free electrons 自由电子	_____	_____	_____

 mains supply 市电			
 power supply 电源			
 electrical power 电功率			
 electrical energy 电能			
 volt 伏特			
 electromotive force 电动势			
 circuit 电路			
 potential difference 电势差			
 potential divider 分压器			
 voltmeter 电压表			
 resistance 电阻			
Σ total resistance 总电阻			
Ω ohm 欧姆			
 directly proportional 成正比			
 inversely proportional 成反比			
 cross-sectional area 横截面积			

Chemistry

Topic 7 · Acids, bases and salts

 carbon dioxide 二氧化碳			
 indicator 指示剂			
 universal indicator 通用指示剂			

Morning Reading 晨读 · Grade 10 · Week 10

 litmus 石蕊			
 thymolphthalein 百里酚酞			
 methyl orange 甲基橙			
 oxides 氧化物			
 hydroxides 氢氧化物			
 alkali 可溶性碱			
 base 碱			
 ammonium salts 铵盐			
 dissociated 电离			
 acidic 酸性			
 neutral 中性			
 alkaline 碱性			
 amphoteric 两性			
 soluble 可溶			
 insoluble 不溶			
 nitrates 硝酸盐			
 chlorides 氯化物			
 sulfates 硫酸盐			
 excess 过量			

Biology

Topics 10-11 · Diseases and immunity, Gas exchange in humans

 disease 疾病			
 transmissible disease 传染病			

Morning Reading 晨读 · Grade 10 · Week 10

🔄 transmitted 传播			
👉 direct contact 直接接触			
💧 body fluids 体液			
☣ contaminated 污染			
🛡 defences 防御			
🍋 stomach acid 胃酸			
🧼 hygienic 卫生			
🗑 sewage treatment 污水处理			
🛡 antigens 抗原			
🛡 active immunity 主动免疫			
💉 vaccination 疫苗接种			
🧠 memory cells 记忆细胞			
🛡 passive immunity 被动免疫			
👶 placenta 胎盘			
💧 breast milk 母乳			
👶 breast-feeding 母乳喂养			
👶 infants 婴儿			
☣ cholera 霍乱			
☣ toxin 毒素			
± chloride ions 氯离子			
💩 diarrhoea 腹泻			
💧 dehydration 脱水			

🔄 ventilation 通气			
🗣 larynx 喉			
🫁 bronchioles 细支气管			
🫁 alveoli 肺泡			
🦴 ribs 肋骨			
— diaphragm 膈肌			
🦷 intercostal muscles 肋间肌			
🦷 cartilage 软骨			
🛡 thorax 胸腔			
↓ inhaling 吸气			
↑ exhaling 呼气			
💧 limewater 石灰水			
🧠 brain 大脑			

Mathematics

Topic 4 · Geometry

📐 corresponding angles 同位角			
↔ alternate angles 内错角			
[] co-interior angles 同旁内角			
⊕ supplementary 互补			
△ triangle 三角形			
△ equilateral 等边			
△ isosceles 等腰			

 scalene 不等边			
 quadrilateral 四边形			
 square 正方形			
 rectangle 矩形			
 parallelogram 平行四边形			
 rhombus 菱形			
 kite 鸢形			
 trapezium 梯形			
 polygon 多边形			

Computer Science

Topic 5 · The internet and its uses

 malware 恶意软件			
 pharming 域名欺骗			
 phishing 网络钓鱼			
 social engineering 社会工程			
 virus 病毒			
 worm 蠕虫			
 Trojan horse 特洛伊木马			
 spyware 间谍软件			
 adware 广告软件			
 ransomware 勒索软件			
 access levels 访问权限			
 anti-malware 反恶意软件			

 anti-virus 杀毒软件			
 anti-spyware 反间谍软件			
 authentication 身份验证			
 biometrics 生物识别			
 password 密码			
 two-step verification 两步验证			
 firewall 防火墙			
 privacy settings 隐私设置			

Economics

Topic 3 · Microeconomic decision-makers

 merger 合并			
 horizontal merger 横向合并			
 vertical merger 纵向合并			
 conglomerate merger 混合合并			
 business failure 企业倒闭			
 labour-intensive 劳动密集型			
 capital-intensive 资本密集型			
 productivity 生产率			
 economies of scale 规模经济			
 diseconomies of scale 规模不经济			

 cost 成本			
 fixed costs 固定成本			
 variable costs 可变成本			
 total cost 总成本			

English

Topics 5–6 · Writing a report, Writing an article

 headings 小标题			
 opinion 观点			
 recommendations 建议			
 conclusion 结论			
 article 文章			
 informs 告知			
 entertains 娱乐			

Morning Reading 晨读

Grade 10 · Week 11

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。

Imagine you open a milk-tea shop. Some costs stay the same every month, such as the rent. These are **fixed costs**. Other costs rise when you sell more, such as milk and cups. These are **variable costs**. Add them together for the **total cost**. The money coming in from sales is your **revenue**. If a new shop opens across the street, that is **competition**, and you may have to lower your price.

Protect the shop's computer too. Use a strong **password**, and turn on **two-step verification**, so a thief needs your phone as well. A **firewall** checks the traffic between your computer and the internet. Some systems use **biometrics**, such as a fingerprint, to check who you are.

In the electricity lab, you measured **resistance** in **ohms**. A long thin wire resists the current more than a short thick one. A **variable resistor** lets you turn the current up and down, like a volume knob.

Talk about it 说一说:

1. List two fixed costs and two variable costs of a milk-tea shop.
2. Which is safer: one strong password, or two-step verification? Why?

Physics

Topic 4 · Electricity and magnetism

 resistor 电阻器			
 variable resistor 可变电阻器			
 light-dependent resistor 光敏电阻			

 light-emitting diode 发光二极管			
 diode 二极管			
 filament lamp 灯丝灯泡			
 kilowatt-hour 千瓦时			
 appliance 电器			
 heater 加热器			
 cell 电池			
 battery 电池组			
 switch 开关			
 trip switch 跳闸开关			
 fuse 保险丝			
 fuse rating 额定值			
 thermistor 热敏电阻			
 relay 继电器			
 motor 电动机			
 d.c. motor 直流电动机			
 bell 电铃			

Chemistry

Topics 7-8 · Acids, bases and salts, The Periodic Table

 filter 过滤			
 evaporate 蒸发			
 crystallise 结晶			
 precipitation 沉淀			

 water of crystallisation 结晶水			
 elements 元素			
 transition elements 过渡元素			
 periods 周期			
 groups 族			
 alkali metals 碱金属			
 lithium 锂			
 sodium 钠			
 potassium 钾			
 soft 柔软			
 trends 趋势			
 reactivity 活泼性			
 halogens 卤素			
 diatomic 双原子			
 halide 卤化物			
 displacement reaction 置换反应			
 coloured 有色			
 compounds 化合物			

Biology

Topics 11-14 · Gas exchange in humans, Respiration, Excretion in humans, Coordination and response

 goblet cells 杯状细胞			
 protein synthesis 蛋白质合成			
 nerve impulses 神经冲动			
 aerobic respiration 有氧呼吸			
 anaerobic respiration 无氧呼吸			
 alcohol 酒精			
 lactic acid 乳酸			
 oxygen debt 氧债			
 kidneys 肾脏			
 urine 尿液			
 ureters 输尿管			
 bladder 膀胱			
 urethra 尿道			
 dialysis 透析			
 renal cortex 皮质			
 medulla 髓质			
 nephrons 肾单位			
 filtration 过滤			
 glomerulus 肾小球			
 reabsorption 重吸收			

 deamination 脱氨基作用			
 toxic 有毒			
 coordinate 协调			
 nervous system 神经系统			
 central nervous system 中枢神经系统			
 spinal cord 脊髓			
 peripheral nervous system 周围神经系统			
 regulates 调节			
 sensory neurones 感觉神经元			
 relay neurones 中间神经元			
 motor neurones 运动神经元			
 reflex 反射			
 response 反应			
 stimulus 刺激			
 reflex arc 反射弧			
 receptor 感受器			
 effector 效应器			

Mathematics

Topic 4 · Geometry

 regular polygon 正多边形			
 pentagon 五边形			

 hexagon 六边形			
 octagon 八边形			
> interior angle 内角			
>> exterior angle 外角			
 line symmetry 轴对称			
 rotational symmetry 旋转对称			
 plane of symmetry 对称面			
— axis of symmetry 对称轴			
 circle 圆			
• centre 圆心			
 radius 半径			
— diameter 直径			
 circumference 圆周			
— chord 弦			

Computer Science

Topics 5–6 · The internet and its uses, Automated and emerging technologies

 proxy server 代理服务器			
 automated system 自动化系统			
 environment 环境			
 human intervention 人工干预			
 central heating 中央供暖			

 chemical process 化学过程			
 greenhouse 温室			
— car park barrier 停车场道闸			
 sensor 传感器			
 microprocessor 微处理器			
 stored values 存储值			
 agriculture 农业			
✓ consistent 一致的			
 Robotics 机器人技术			
 robots 机器人			
 physical structure 物理结构			
 mechanical 机械的			
 electrical components 电子元件			
<> programmable instructions 可编程指令			
 factory equipment 工厂设备			

Economics

Topics 3–4 · Microeconomic decision-makers, Government and the macroeconomy

— average cost 平均成本			
 revenue 收益			
— average revenue 平均收益			

🎯 objectives 目标			
💚 survival 生存			
↗️ growth 增长			
⚔️ competition 竞争			
🚧 barriers to entry 进入壁垒			
🌐 macroeconomy 宏观经济			
👥 full employment 充分就业			
⚖️ price stability 价格稳定			
↗️ inflation 通货膨胀			
⚖️ balance of payments 国际收支			
🔄 redistribution of income 收入再分配			

English

Topics 6–7 · Writing an article, Writing a review

🪄 engage 吸引			
📄 title 标题			
% interest 兴趣			
📖 introduction 引言			
🔄 varied 多样的			
☆ review 评论			
🗨️ describes 描述			

Morning Reading 晨读

Grade 10 · Week 12

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。

In a modern car factory, **robots** do the heavy work. A robot has a **mechanical** arm, sensors, and a **microprocessor** that follows **programmable instructions**. Robots weld 焊接 the same joint perfectly, thousands of times, without getting tired. At home, smaller machines help too: a robot **vacuum cleaner** finds its own way around your floor. These are **domestic appliances** with tiny computers inside.

Electric circuits this week: in a **series** circuit, the same current flows through every part, and one broken bulb switches off the whole string of lights. In a **parallel** circuit, each bulb has its own path, so the others stay on. A **fuse** is a thin wire that melts if the current gets dangerously large, protecting the circuit.

When prices in a country keep rising year after year, we call it **inflation**. A government can respond with **fiscal policy**: changing **taxation** and **government spending** through its yearly **budget**.

Talk about it 说一说:

1. Which jobs in your city are now done by robots? Which jobs are safe, and why?
2. Your holiday lights use a series circuit. Why is that a bad design?

Physics

Topic 4 · Electricity and magnetism

🔌 transformer 变压器			
⋮ series 串联			
= parallel 并联			
🔗 junction 节点			

⚠ hazard 危险			
🛡 insulation 绝缘层			
🔥 overheating 过热			
💧 damp 潮湿			
🔌 overloading 过载			
🔌 socket 插座			
⚡ live wire 火线			
— neutral wire 零线			
⊕ earth wire 地线			
📦 casing 外壳			
⊕ earthed 接地			
🛡 double-insulated 双重绝缘			
🌀 solenoid 螺线管			
⚡ coil 线圈			
⚡ primary coil 原线圈			
⚡ secondary coil 副线圈			

Chemistry

Topics 4–9 · Electrochemistry, The Periodic Table, Metals

⚖ variable 可变			
# oxidation numbers 氧化数			
🚫 unreactive 不活泼			
○ monatomic 单原子			

🔥 thermal conductivity 导热性			
💪 brittle 易碎			
🧪 acids 酸			
☁ steam 蒸汽			
☒ oxide 氧化物			
📦 oxide layer 氧化层			
☒ calcium oxide 氧化钙			
🔑 calcium 钙			
🔗 alloy 合金			
💎 brass 黄铜			
💎 zinc 锌			
🛡 stainless steel 不锈钢			
💎 chromium 铬			
💎 nickel 镍			
📦 carbon 碳			
👤 carbon monoxide 一氧化碳			
📊 reactivity series 金属活动性顺序			
☒ hydrogen 氢气			

Biology

Topic 14 · Coordination and response

👤 gland 腺体			
🔗 synapse 突触			

⦿ vesicles 囊泡			
⚡ neurotransmitter 神经递质			
└ synaptic gap 突触间隙			
♂ receptor proteins 受体蛋白			
⇋ diffuse 扩散			
👁 sense organs 感觉器官			
⦿ cornea 角膜			
↷ refracts 折射			
🌀 iris 虹膜			
○ pupil 瞳孔			
👁 lens 晶状体			
👁 retina 视网膜			
👁 optic nerve 视神经			
👁 blind spot 盲点			
↔ antagonistic 拮抗			
○ circular muscles 环肌			
☀ radial muscles 辐射肌			
👁 accommodation 视觉调节			
👁 ciliary muscles 睫状肌			
👁 suspensory ligaments 悬韧带			
▮ rods 视杆细胞			
👁 vision 视觉			

△ cones 视锥细胞			
👁 fovea 中央凹			
⚡ hormone 激素			
👁 target organs 靶器官			
💧 endocrine glands 内分泌腺			
△ adrenal glands 肾上腺			
⚡ adrenaline 肾上腺素			
👁 insulin 胰岛素			
👁 glucagon 胰高血糖素			
⦿ testes 睾丸			
♂ testosterone 睾酮			
○ ovaries 卵巢			
👁 oestrogen 雌激素			

Mathematics

Topic 4 · Geometry

↷ arc 弧			
👁 sector 扇形			
👁 segment 弓形			
○ semicircle 半圆			
□ cyclic quadrilateral 圆内接四边形			
△ alternate segment theorem 弦切角定理			
👁 similar 相似			

 scale factor 比例因子			
= congruent 全等			
 bearing 方位角			
 clockwise 顺时针			
 construct 作图			
 compasses 圆规			
 net 展开图			
 scale drawing 比例图			
 solids 几何体			

Computer Science

Topics 6-7 · Automated and emerging technologies

 domestic appliances 家用电器			
 vacuum cleaner 吸尘器			
 lack of independent decision-making 缺乏独立决策			
 Artificial intelligence 人工智能			
 simulation 模拟			
 rules 规则			
 reason 推理			
 draw conclusions 得出结论			
 approximate 近似的			
 definite 确定的			

 learn 学习			
 adapt 适应			
 expert systems 专家系统			
 natural language processing 自然语言处理			
 self-driving cars 自动驾驶汽车			
 narrow AI 弱人工智能			
 general AI 通用人工智能			
 strong AI 强人工智能			
 program development life cycle 程序开发生命周期			
 analysis 分析			

Economics

Topic 4 · Government and the macroeconomy

 conflict 冲突			
 Fiscal policy 财政政策			
 government spending 政府支出			
 taxation 税收			
 budget 预算			
 budget deficit 预算赤字			
 budget surplus 预算盈余			
 direct tax 直接税			
 progressive tax 累进税			

↘ regressive tax 累退税			
= proportional tax 比例税			
💰 Monetary policy 货币政策			
💵 money supply 货币供给			
↗ invest 投资			

English

Topics 7-8 · Writing a review, Writing an essay

🔍 examples 例子			
⚖ evaluate 评价			
👍 recommendation 建议			
📄 essay 议论文			
🗣 discursive 论述的			
⚖ argumentative 议论的			
≡ body 主体			

Morning Reading 晨读

Grade 10 · Week 13

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。

Where does electricity come from? In a power station, a huge **coil** of wire spins inside a magnetic field. Moving a wire through a magnetic field creates a current. This is **electromagnetic induction**, and the machine is called an **a.c. generator**. Wind turbines, coal plants and dams all work this same way: something spins the coil, and electricity flows out.

Machines are also learning to think. **Expert systems** ask questions and give advice, like a doctor's assistant. **Self-driving cars** read the road with cameras and sensors. Today's systems are **narrow AI**: each one is clever at a single task, but it cannot do anything else.

How do we know if a country is doing well? Economists add up the value of everything it makes in a year: the **gross domestic product**. The economy moves in a **business cycle**: a **boom** with many jobs, then sometimes a **recession** when spending falls, and later a **recovery**. The central bank uses **monetary policy**, mainly the interest rate, to steady the ride.

Talk about it 说一说:

1. Trace the energy: how does a windy day become the light in your room?
2. Would you trust a self-driving taxi today? Give one reason for and one against.

Physics

Topics 4-5 · Electricity and magnetism, Nuclear physics

 loudspeaker 扬声器			
 electromagnetic induction 电磁感应			
 a.c. generator 交流发电机			
 slip rings 滑环			
 brushes 电刷			
 deflect 偏转			
 turning effect 转动效应			
 split-ring commutator 换向器			
 step-up 升压			
 step-down 降压			
 high-voltage transmission 高压输电			
 atom 原子			
 orbit 轨道			
 charge 电荷			
 alpha particle α 粒子			
 beta particle β 粒子			
 gold foil 金箔			
 scattering 散射			
 nucleon 核子			
 nucleus 原子核			

Chemistry

Topics 4-10 · Electrochemistry, Metals, Chemistry of the environment

 lead 铅			
 aluminium 铝			
 magnesium 镁			
 rusting 生锈			
 rust 铁锈			
 barrier methods 隔离法			
 galvanising 镀锌			
 sacrificial protection 牺牲保护			
 ore 矿石			
 hematite 赤铁矿			
 blast furnace 高炉			
 limestone 石灰石			
 slag 炉渣			
 bauxite 铝土矿			
 cryolite 冰晶石			
 distilled water 蒸馏水			
 impurities 杂质			
 sewage 污水			
 microbes 微生物			
 phosphates 磷酸盐			
 aquatic life 水生生物			

 **minerals** 矿物质

Biology

Topics 14–16 · Coordination and response, Drugs, Reproduction

 **duration** 持续时间

 **homeostasis** 稳态

 **negative feedback** 负反馈

 **set point** 设定点

 **diabetes** 糖尿病

 **sweat glands** 汗腺

 **sweating** 出汗

 **hair erector muscles** 立毛肌

 **fatty tissue** 脂肪组织

 **insulation** 隔热

 **arterioles** 小动脉

 **vasodilation** 血管舒张

 **shiver** 颤抖

 **vasoconstriction** 血管收缩

 **tropism** 向性

 **gravitropism** 向地性

 **gravity** 重力

 **phototropism** 向光性

 **auxin** 生长素

 **shoot** 嫩枝

 **elongate** 伸长

 **drug** 药物

 **chemical reactions** 化学反应

 **antibiotics** 抗生素

 **infections** 感染

 **resistant** 耐药

 **asexual reproduction** 无性生殖

 **parent** 亲本

 **offspring** 后代

 **sexual reproduction** 有性生殖

 **fusion** 融合

 **nuclei** 细胞核

 **zygote** 合子

 **fertilisation** 受精

 **variation** 变异

 **haploid** 单倍体

 **chromosomes** 染色体

Mathematics

Topics 4–5 · Geometry, Mensuration

 **cube** 立方体

 **cuboid** 长方体

 prism 棱柱			
 cylinder 圆柱			
 pyramid 棱锥			
 cone 圆锥			
 sphere 球			
 hemisphere 半球			
 frustum 平截头体			
 face 面			
 edge 棱			
 surface 表面			
 metric 公制			
 capacity 容量			
 perimeter 周长			
 height 高			

Computer Science

Topic 7

 design 设计			
 coding 编码			
 testing 测试			
 abstraction 抽象			
 decomposition 分解			
 sub-systems 子系统			
 structure diagram 结构图			

 iterative testing 迭代测试			
 test data 测试数据			
 flowchart 流程图			
 pseudocode 伪代码			
 algorithm 算法			
 input 输入			
 processing 处理			
 output 输出			
 validation 验证			
 range check 范围检查			
 length check 长度检查			
 type check 类型检查			
 presence check 存在性检查			

Economics

Topic 4 · Government and the macroeconomy

 Supply-side policy 供给侧政策			
 privatisation 私有化			
 deregulation 放松管制			
 incentives 激励			
 gross domestic product 国内生产总值			
 Real 实际			
 business cycle 经济周期			

↗ boom 繁荣			
↘ recession 衰退			
↓ slump 萧条			
↗ recovery 复苏			
🏠 living standards 生活水平			
👤 claimant count 失业救济申领人数			
💰 unemployment benefit 失业救济金			

English

Topic 9 · Listening skills

🎧 recording 录音			
🕒 specific 具体的			
📍 directions 方向			
💖 feelings 感受			
🔗 connect 连接			
👉 suggests 暗示			

Morning Reading 晨读

Grade 10 · Week 14

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。

A recipe is a plan: first wash the rice, then add water, then cook. Computer scientists call such a plan an **algorithm**: a list of steps that turns **input** into **output**. You can write it as **pseudocode**, simple English-like lines, or draw it as a **flowchart** with boxes and arrows. Good programs also check their input. **Validation** stops silly answers: a **range check** rejects an age of 200, and a **presence check** makes sure the box is not empty.

Deep inside every atom is a tiny **nucleus** made of **protons** and **neutrons**. Atoms of the same element always have the same number of protons, but the number of neutrons can differ. Such atoms are called **isotopes**.

Not all joblessness is the same. **Frictional unemployment** is short: a worker is between jobs. **Structural unemployment** is deeper: the industry itself has changed, and old skills no longer fit. When the whole economy slows down, **cyclical unemployment** rises everywhere.

Talk about it 说一说:

- Write a four-step algorithm for making your breakfast.
- A robot factory replaces 100 workers. What kind of unemployment is this? What could help the workers?

Physics

Topics 1–5 · Motion, forces and energy, Nuclear physics

Σ nucleon number 核子数			
# proton number 质子数			
+ proton 质子			

 relative 相对			
 neutron 中子			
 nuclide 核素			
 isotope 同位素			
 nuclear fission 核裂变			
 nuclear fusion 核聚变			
 hydrogen 氢			
 helium 氦			
 unstable 不稳定			
 radiation 辐射			
 background radiation 背景辐射			
 gamma radiation γ 射线			
 radioactive 放射性			
 decay 衰变			
 spontaneous 自发			
 random 随机			
 radon 氡			

Chemistry

Topic 10 · Chemistry of the environment

 toxic 有毒			
 deoxygenation 缺氧			
 sedimentation 沉降			
 filtration 过滤			

 chlorination 氯消毒			
 fertilisers 肥料			
 oxides of nitrogen 氮氧化物			
 phosphorus 磷			
 greenhouse gases 温室气体			
 complete combustion 完全燃烧			
 incomplete combustion 不完全燃烧			
 particulates 颗粒物			
 fossil fuels 化石燃料			
 global warming 全球变暖			
 climate change 气候变化			
 respiratory 呼吸			
 acid rain 酸雨			
 photochemical smog 光化学烟雾			
 renewable energy 可再生能源			
 catalytic converters 催化转化器			
 flue gas desulfurisation 烟气脱硫			
 chlorophyll 叶绿素			

Biology

Topic 16 · Reproduction

⊙ diploid 二倍体			
🍃 sepals 萼片			
🌸 petals 花瓣			
🍂 stamens 雄蕊			
🌿 filament 花丝			
⊙ anther 花药			
🌾 pollen grains 花粉粒			
🌸 carpel 雌蕊			
⊙ stigma 柱头			
🌿 style 花柱			
○ ovary 子房			
○ ovules 胚珠			
↺ self-pollination 自花传粉			
↔ cross-pollination 异花传粉			
🐝 pollinators 传粉者			
🍃 pollen tube 花粉管			
🌱 seed 种子			
🌱 germinate 萌发			
○ scrotum 阴囊			
🍃 sperm ducts 输精管			
⊙ prostate gland 前列腺			

↑ penis 阴茎			
🍃 oviducts 输卵管			
😊 uterus 子宫			
⊙ cervix 子宫颈			
↓ vagina 阴道			
🌿 flagellum 鞭毛			
△ acrosome 顶体			
🌀 jelly coat 胶质层			
⊙ embryo 胚胎			
📌 implants 植入			
😊 fetus 胎儿			
👶 umbilical cord 脐带			
○ amniotic sac 羊膜囊			
💧 amniotic fluid 羊水			
☠ toxins 毒素			
↗ puberty 青春期			

Mathematics

Topics 5-6 · Mensuration, Trigonometry

🕒 minor sector 小扇形			
🕒 major sector 大扇形			
🍃 arc length 弧长			
📏 surface area 表面积			
✂ cross-section 横截面			

 curved surface area 侧面 积			
 slant height 斜高			
 compound shape 组合图 形			
 right-angled triangle 直 角三角形			
 hypotenuse 斜边			
 opposite 对边			
 adjacent 邻边			
 sine 正弦			
 cosine 余弦			
 tangent ratio 正切			
 angle of elevation 仰角			

Computer Science

Topics 7-8 · Programming

 format check 格式检查			
 verification 核实			
 visual check 目视检查			
 double entry 双重输入			
 trace table 追踪表			
 normal 正常数据			
 abnormal 异常数据			
 extreme 极端数据			
 boundary 边界数据			

 linear search 线性查找			
 bubble sort 冒泡排序			
 totalling 求和			
 counting 计数			
 maximum 最大值			
 minimum 最小值			
 average 平均值			
 variable 变量			
 constant 常量			
 declare 声明			
 data type 数据类型			

Economics

Topics 4-5 · Government and the macroeconomy, Economic development

 labour force survey 劳动 力调查			
 labour force 劳动力			
 frictional unemployment 摩擦性失业			
 structural unemployment 结构性失业			
 cyclical unemployment 周期性失业			
 deflation 通货紧缩			
 Consumer Prices Index 消费者价格指数			
 weight 权重			

 demand-pull 需求拉动			
 cost-push 成本推动			
 purchasing power 购买力			
 indicator 指标			
 per head 人均			
 Human Development Index 人类发展指数			

English

Topics 9–10 · Listening skills, Speaking skills

 distractors 干扰项			
 conversation 对话			
 respond 回应			
 turns 轮流			
 develop 展开			
 pronunciation 发音			

Morning Reading 晨读

Grade 10 · Week 15

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。

Is a country rich if it has money? Not only that. The **Human Development Index** measures three things together: income per person, education, and **life expectancy**, how long people live. A country can grow richer while some people stay poor. **Absolute poverty** means a family cannot afford basic food and shelter. **Relative poverty** means they have far less than others around them. One tool against low pay is a **minimum wage**.

In physics, you learned that some rocks and even the air are slightly **radioactive**. A detector clicks even with no sample nearby; this is **background radiation**, coming from space and from the ground. Radioactive **decay** is **random**: no one can say which atom will break next, only how many will decay on average.

How does a computer find one name in a list of millions? A **linear search** checks each item, one by one. To put a list in order, a **bubble sort** swaps neighbours again and again until the list is sorted.

Talk about it 说一说:

1. Which matters more for a good life: income, education, or health? Discuss.
2. How would you find one card in a shuffled deck? Compare your method with a linear search.

Physics

Topic 5 · Nuclear physics

 cosmic rays 宇宙射线			
 detector 探测器			
 counter 计数器			

 count rate 计数率			
 corrected 修正			
 ionising 电离			
 aluminium 铝			
 electromagnetic wave 电磁波			
 lead 铅			
 penetrating 穿透			
 absorb 吸收			
 sample 样品			
 half-life 半衰期			
 smoke alarm 烟雾报警器			
 sterilise 消毒			
 cancer 癌症			
 living cells 细胞			
 bacteria 细菌			
 mutation 突变			
 dose 剂量			

Chemistry

Topics 10-11 · Chemistry of the environment, Organic chemistry

 photosynthesis 光合作用			
 yeast 酵母			
 glucose 葡萄糖			
 displayed formula 结构式			

 structural formula 结构简式			
 general formula 通式			
 Structural isomers 同分异构体			
 homologous series 同系物			
 functional group 官能团			
 saturated 饱和			
 unsaturated 不饱和			
 coal 煤			
 natural gas 天然气			
 petroleum 石油			
 hydrocarbon 碳氢化合物			
 fractions 馏分			
 fractional distillation 分馏			
 fractionating column 分馏塔			
 chain length 链长			
 volatility 挥发性			
 viscosity 黏度			

Biology

Topics 16-17 · Reproduction, Inheritance

♂ secondary sexual characteristics 第二性征			
↺ menstrual cycle 月经周期			
○ ovulation 排卵			
👶 progesterone 孕酮			
🤰 pregnancy 怀孕			
🦠 sexually transmitted infection 性传播感染			
🦠 infection 感染			
🦠 virus 病毒			
🧬 codes 编码			
🧬 allele 等位基因			
♂ sex chromosomes 性染色体			
÷ ratio 比例			
🧠 neurotransmitters 神经递质			
🗣 expresses 表达			
✉ messenger 信使			
⦿ ribosome 核糖体			
📦 mitosis 有丝分裂			
📦 replication 复制			
⦿ daughter cell 子细胞			
🧑 stem cells 干细胞			

↗ meiosis 减数分裂			
🧬 inheritance 遗传			
🧬 genotype 基因型			
👁 phenotype 表现型			
↑ dominant 显性			
↓ recessive 隐性			
= homozygous 纯合子			
💎 pure-breeding 纯种			
± heterozygous 杂合子			
× cross 杂交			
📊 Punnett square 庞纳特方格			
👤 pedigree diagram 系谱图			
× test cross 测交			
↔ codominance 共显性			
🩸 blood groups 血型			
♂ sex-linked 伴性遗传			

Mathematics

Topics 6-7 · Trigonometry, Transformations and vectors

↘ angle of depression 俯角			
📐 trigonometric equation 三角方程			
📐 sine rule 正弦定理			
📐 cosine rule 余弦定理			

② ambiguous case 两解情况			
□ plane 平面			
⚙ transformation 变换			
[.] reflection 反射			
— mirror line 对称轴			
↻ rotation 旋转			
[] enlargement 放大			
↔ translation 平移			
↗ vector 向量			
↑↓ column vector 列向量			
# scalar 标量			
→ directed line segment 有向线段			

Computer Science

Topic 8 · Programming

± integer 整数			
⊙ real 实数			
T char 字符			
〰 string 字符串			
⊙ Boolean 布尔值			
≡ sequence 顺序			
🗳 selection 选择			
↻ iteration 迭代			
↻ loop 循环			

↻ count-controlled loop 计数循环			
↑ pre-condition loop 前测循环			
↓ post-condition loop 后测循环			
% remainder 余数			
>≡ nested statement 嵌套语句			
✂ substring 子串			
↑ upper case 大写			
↓ lower case 小写			
↔ length 长度			
📄 procedure 过程			
📄 function 函数			

Economics

Topic 5 · Economic development

♥ life expectancy 预期寿命			
📈 income distribution 收入分配			
☹ poverty 贫困			
☹ absolute poverty 绝对贫困			
📊 relative poverty 相对贫困			
📈 redistribute 再分配			
⌚ minimum wage 最低工资			

🎁 benefits 福利	_____	_____	_____
👶 birth rate 出生率	_____	_____	_____
💀 death rate 死亡率	_____	_____	_____
✈ migration 移民	_____	_____	_____
➔ immigration 迁入	_____	_____	_____
➡ emigration 迁出	_____	_____	_____
↔ net migration 净移民	_____	_____	_____

English

Topics 10–11 · Speaking skills, Vocabulary and text types

🎵 intonation 语调	_____	_____	_____
↔ paraphrasing 释义	_____	_____	_____
🔗 collocations 词语搭配	_____	_____	_____
🗉 set phrases 固定短语	_____	_____	_____
🗉 phrasal verbs 短语动词	_____	_____	_____
≡ fluent 流利	_____	_____	_____

Morning Reading 晨读

Grade 10 · Week 16

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。

Why is January cold and July hot? The Earth's **axis** is **tilted**. As the Earth travels around the **Sun**, our half of the planet sometimes leans towards the Sun and sometimes away. That gives us the **seasons**. The Earth also **rotates** once every 24 hours, which gives us day and night.

Programs repeat things too. A **loop** runs the same lines again and again. A **count-controlled loop** repeats an exact number of times: print a star, five times. **Selection** means the program chooses a path: IF it rains, THEN take an umbrella. With **sequence**, selection and **iteration**, you can build any program.

Countries also repeat a yearly cycle: they buy and sell with each other. Goods sold to other countries are **exports**; goods bought from them are **imports**. **Developed countries** often sell services and machines, while many **developing countries** sell food and raw materials, though this is changing fast.

Talk about it 说一说:

1. Explain to a child why summer days are long and winter days are short.
2. Name three things your family owns that were imported. Where were they made?

Physics

Topics 5–6 · Nuclear physics, Space physics

☀ exposure 照射	_____	_____	_____
🛡 shielding 屏蔽	_____	_____	_____
🔄 rotate 自转	_____	_____	_____
✚ axis 轴	_____	_____	_____

 tilted 倾斜			
 Sun 太阳			
 seasons 季节			
 Moon 月球			
 phases 月相			
 circumference 周长			
 orbital speed 轨道速率			
 Solar System 太阳系			
 planet 行星			
 dwarf planet 矮行星			
 white dwarf 白矮星			
 rocky 岩石			
 gaseous 气态			
 gas giant 气态巨行星			
 ice giant 冰巨行星			
 red giant 红巨星			

Chemistry

Topic 11 · Organic chemistry

 bitumen 沥青			
 Alkanes 烷烃			
 substitution reaction 取代反应			
 photochemical reaction 光化学反应			

 ultraviolet light 紫外线			
 Alkenes 烯烃			
 Cracking 裂化			
 addition reactions 加成反应			
 addition polymerisation 加聚			
 condensation polymerisation 缩聚			
 Alcohols 醇			
 ethanol 乙醇			
 fermentation 发酵			
 ethene 乙烯			
 solvent 溶剂			
 Carboxylic acids 羧酸			
 amino acid 氨基酸			
 bases 碱			
 vinegar 醋			
 ester 酯			
 polymer 聚合物			

Biology

Topics 17–19 · Inheritance, Variation and selection, Organisms and their environment

 colour blindness 色盲			
 continuous variation 连续变异			

👁 phenotypes 表现型			
📊 discontinuous variation 不连续变异			
🩸 ABO blood groups 血型			
🔗 mutation 突变			
🔗 alleles 等位基因			
🔗 gene mutation 基因突变			
☢ ionising radiation 电离辐射			
🧬 adaptive feature 适应特征			
📦 inherited 遗传			
🛡 survive 生存			
😊 reproduce 生殖			
💧 hydrophytes 水生植物			
☀ xerophytes 旱生植物			
👉 natural selection 自然选择			
👨 many offspring 后代			
⚔ competition 竞争			
🍷 resources 资源			
💊 antibiotic 抗生素			
👉 selective breeding 选择育种			
👤 artificial selection 人工选择			
🌾 crops 农作物			

🍷 food chain 食物链			
🍷 food web 食物网			
🏠 producer 生产者			
🛒 consumer 消费者			
🌿 herbivore 食草动物			
🐾 carnivore 食肉动物			
🧫 decomposer 分解者			
👉 decomposition 分解			
🍷 trophic level 营养级			
△ pyramid 金字塔			
🍷 biomass 生物量			
🌾 crop plants 农作物			
👉 overharvesting 过度捕捞			

Mathematics

Topics 7-8 · Transformations and vectors, Probability

📍 position vector 位置向量			
— collinear 共线			
□ coplanar 共面			
📍 probability 概率			
📅 event 事件			
📅 outcome 结果			
% relative frequency 相对频率			
⚖ fair 公平			

 bias 偏倚			
 random 随机			
 expected frequency 期望频数			
 combined events 组合事件			
 independent events 独立事件			
 mutually exclusive 互斥			
 sample space diagram 样本空间图			
 tree diagram 树状图			

Computer Science

Topics 8–9 · Programming, Databases

 parameter 参数			
 local variable 局部变量			
 global variable 全局变量			
 library routine 库程序			
 maintainable 可维护的			
 meaningful identifiers 有意义的标识符			
 comments 注释			
 array 数组			
 index 索引			
 one-dimensional (1D) array 一维数组			

 two-dimensional (2D) array 二维数组			
 file 文件			
 database 数据库			
 single-table database 单表数据库			
 record 记录			
 field 字段			
 text/alphabetic 文本			
 character 字符			
 date/time 日期时间			
 primary key 主键			

Economics

Topics 5–6 · Economic development, International trade and globalisation

 population structure 人口结构			
 population pyramid 人口金字塔			
 ageing population 人口老龄化			
 economic development 经济发展			
 developed countries 发达国家			
 developing countries 发展中国家			
 subsistence farming 自给农业			

💰 debt 债务			
↔ trade 贸易			
📦 exports 出口			
⚓ imports 进口			
🤝 free trade 自由贸易			
🏠 domestic 国内的			
⚔️ compete 竞争			

English

Topics 5–11 · Writing a report, Vocabulary and text types

📄 text type 文本类型			
🔔 notice 通知			
📄 leaflet 传单			
▶ act 行动			
🗨️ phrases 短语			
🎯 aim 目的			

Morning Reading 晨读

Grade 10 · Week 17

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。

Hundreds of machines fly silently above your head. A **satellite** is any object that orbits a planet. The Moon is a natural one; the others we built and launched. They stay in orbit because **gravity** keeps pulling them towards the Earth while they move forward at great speed. Satellites carry phone calls, take weather photos, and tell your map app exactly where you are.

Satellites collect mountains of data, and data needs a home. A **database** stores information in an organised way. Each row is a **record**, for example one weather station. Programs read the data from a **file** or search the database directly.

Trade now connects the whole planet; we call this **globalisation**. A **multinational company** makes phones in one country, writes software in another, and sells everywhere. Some governments use **trade protection**: a **tariff** taxes imports to make them dearer, and a **quota** limits how many may enter. Supporters of **free trade** say open markets make goods cheaper for everyone.

Talk about it 说一说:

1. Your phone map knows where you are. How do satellites make this possible?
2. A tariff makes imported shoes expensive. Who wins and who loses?

Physics

Topic 6 · Space physics

 asteroid 小行星			
 satellite 卫星			
 comet 彗星			
 gravity 引力			
 gravitational potential energy 重力势能			
 conservation of energy 能量守恒			
 ellipse 椭圆			
 dust 尘埃			
 element 元素			
 accretion 吸积			
 accretion disc 吸积盘			
 star 恒星			
 neutron star 中子星			
 nuclear reaction 核反应			
 galaxy 星系			
 Milky Way 银河系			
 light-year 光年			
 diameter 直径			
 Universe 宇宙			
 interstellar cloud 星际云			

Chemistry

Topics 11–12 · Organic chemistry, Experimental techniques and chemical analysis

 monomers 单体			
 repeat unit 重复单元			
 Polyamides 聚酰胺			
 Nylon 尼龙			
 Polyesters 聚酯			
 Plastics 塑料			
 landfill 填埋			
 Proteins 蛋白质			
 stop-watch 秒表			
 thermometer 温度计			
 balance 天平			
 measuring cylinder 量筒			
 burette 滴定管			
 volumetric pipette 移液管			
 gas syringe 注射器			
 saturated solution 饱和溶液			
 residue 残渣			
 filtrate 滤液			
 end-point 终点			
 paper chromatography 纸色谱法			

 locating agent 显色剂

Biology

Topics 19–20 · Organisms and their environment, Human influences on ecosystems

 foreign species 外来物种

 carbon cycle 碳循环

 combustion 燃烧

 fossil fuels 化石燃料

 nitrogen cycle 氮循环

 ammonium ions 铵离子

 nitrification 硝化作用

 nitrogen fixation 固氮作用

 denitrification 反硝化作用

 population 种群

 community 群落

 ecosystem 生态系统

 predation 捕食

 lag phase 延迟期

 exponential phase 对数期

 stationary phase 稳定期

 death phase 衰亡期

 fertilisers 化肥

 yields 产量

 insecticides 杀虫剂

 herbicides 除草剂

 weeds 杂草

 livestock 牲畜

 monoculture 单一栽培

 biodiversity 生物多样性

 habitats 栖息地

 pollution 污染

 food webs 食物网

 food chains 食物链

 deforestation 森林砍伐

 extinction 灭绝

 sewage 污水

 ecosystems 生态系统

 eutrophication 富营养化

 producers 生产者

 decomposers 分解者

Mathematics

Topics 8–9 · Probability, Statistics

 with replacement 有放回

 without replacement 无放回

 conditional probability 条件概率

 statistical 统计			
 data 数据			
 tally table 计数表			
 two-way table 双向表			
 mean 平均数			
 median 中位数			
 mode 众数			
 frequency 频数			
 grouped data 分组数据			
 modal class 众数组			
 quartile 四分位数			
 interquartile range 四分位距			
 bar chart 条形图			

Computer Science

Topics 2–10 · Data transmission, Databases, Boolean logic

 unique 唯一的			
 structured query language 结构化查询语言			
 query 查询			
 condition 条件			
 ascending 升序			
 descending 降序			
 Boolean logic 布尔逻辑			

 truth table 真值表			
 NOT gate 非门			
 AND gate 与门			
 OR gate 或门			
 NAND gate 与非门			
 NOR gate 或非门			
 XOR gate 异或门			
 logic expression 逻辑表达式			
 logic circuit 逻辑电路			
 problem statement 问题陈述			
 parity block 奇偶校验块			
 parity byte 奇偶校验字节			

Economics

Topic 6 · International trade and globalisation

 dependent 依赖			
 globalisation 全球化			
 multinational company 跨国公司			
 host country 东道国			
 trade protection 贸易保护			
 tariff 关税			
 quota 配额			

🚫 embargo 禁运			
👶 infant industry 幼稚产业			
📦 dumping 倾销			
🔄 exchange rate 汇率			
💰 currency 货币			
🌊 floating exchange rate 浮动汇率			
↗️ appreciation 升值			

English

Topics 5–7 · Writing a report, Writing an article, Writing a review

💡 solution 解决办法			
— flat 平淡			
🗑️ decide 决定			
👍 believable 可信			
🗨️ criticise 批评			
⚖️ fair 公正			

Morning Reading 晨读

Grade 10 · Week 18

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。

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 说一说:

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, Space physics

✶ protostar 原恒星			
🔥 fuel 燃料			
☁️ nebula 星云			

☆ red supergiant 红超巨星			
💥 supernova 超新星			
○ black hole 黑洞			
← receding 退行			
→ redshift 红移			
⌈⌋ expanding 膨胀			
💥 Big Bang 大爆炸			
📺 microwave 微波			
📡 cosmic microwave background radiation 宇宙微波背景辐射			
🔭 Hubble constant 哈勃常数			
🔗 optical fibres 光纤			
analogue 模拟			
digital 数字			
loudness 响度			
pitch 音调			
Ultrasound 超声波			
The electromagnetic spectrum 电磁波谱			

Chemistry

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

📊 chromatogram 色谱图			
💎 crystallisation 结晶			

💧 simple distillation 蒸馏			
△ carbonate 碳酸盐			
⬡ chloride 氯化物			
🧪 nitric acid 硝酸			
🧴 silver nitrate 硝酸银			
⊗ nitrate 硝酸盐			
🧴 barium nitrate 硝酸钡			
💎 barium 钡			
⬡ bromide 溴化物			
⊗ iodide 碘化物			
🧪 sodium hydroxide 氢氧化钠			
⊗ sulfate 硫酸盐			
⬡ sulfite 亚硫酸盐			
⊕ ammonium 铵			
💧 limewater 石灰水			
🔥 flame test 焰色试验			
effervescence 泡腾			
amide linkage 酰胺键			
ester linkage 酯键			

Biology

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

 non-biodegradable 不可降解			
 plastics 塑料			
 methane 甲烷			
 greenhouse effect 温室效应			
 climate change 气候变化			
 sustainable 可持续			
 conserved 保护			
 quotas 配额			
 closed seasons 禁渔期			
 endangered 濒危			
 hunting 狩猎			
 introduced species 外来物种			
 captive breeding 圈养繁殖			
 artificial insemination 人工授精			
 in vitro fertilisation 体外受精			
 seed banks 种子库			
 drugs 药物			
 genetic variation 变异			
 biotechnology 生物技术			

 ethical 伦理			
 biofuel 生物燃料			
 pectinase 果胶酶			
 washing powders 洗衣粉			
 lactase 乳糖酶			
 lactose 乳糖			
 fermenter 发酵罐			
 penicillin 青霉素			
 mycoprotein 真菌蛋白			
 genetic modification 基因改造			
 protein 蛋白质			
 restriction enzymes 限制酶			
 sticky ends 黏性末端			
 ligase 连接酶			
 recombinant plasmid 重组质粒			
 express 表达			
 resistance 抗性			

Mathematics

Topics 4–9 · Geometry, Statistics

 pie chart 饼图			
 pictogram 象形图			
 stem-and-leaf diagram 茎叶图			

 frequency distribution 频数分布			
 scatter diagram 散点图			
 correlation 相关性			
 positive correlation 正相关			
 negative correlation 负相关			
 zero correlation 零相关			
 line of best fit 最佳拟合线			
 cumulative frequency 累积频数			
 percentile 百分位数			
 histogram 直方图			
 frequency density 频数密度			
 class width 组距			
 decagon 十边形			

Computer Science

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

 fetch–execute cycle 取指执行周期			
 Cloud storage 云存储			
 static 静态			
 dynamic 动态			
 firmware 固件			

 bootloader 引导程序			
 providing a user interface 用户界面			
 managing peripherals 外围设备			
 managing multitasking 多任务处理			
 providing a platform 平台			
 assembler 汇编器			
 sensor types 传感器类型			
 accelerometer 加速度计			
 humidity 湿度			
 proximity 接近			
 knowledge base 知识库			
 rule base 规则库			
 inference engine 推理引擎			
 Machine learning 机器学习			

Economics

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

 depreciation 贬值			
 current account 经常账户			
 trade in goods 货物贸易			
 trade in services 服务贸易			

 primary income	初次收入			
 secondary income	二次收入			
 current account deficit	逆差			
 current account surplus	顺差			
 competitiveness	竞争力			
 interest rates	利率			
primary sector	第一产业			
secondary sector	第二产业			
tertiary sector	第三产业			
deindustrialisation	去工业化			

English

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

 breathtaking	惊人			
 politely	礼貌			
 revise	复习			
 interrupts	打断			
 spaced review	间隔复习			
blog	博客			