
Morning Reading 晨读

Grade 10 · 十年级

Complete Volume · 18 Weeks

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

$\div$ measure many and divide 测多个再相除			
 pendulum 摆			
 period 周期			
 uncertainty 不确定度			
 magnitude 大小			
 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			
$\rightarrow$ force 力			
 resultant force 合力			
 resultant 合矢量			
$\downarrow$ weight 重力			
 stopwatch 秒表			
 digital timer 数字计时器			
 reaction time 反应时间			

Chemistry

Topic 1 · States of matter

⋮ particles 粒子

⊗ atoms 原子

⬡ 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

I 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			
0101 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			
$\times_2$ 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			
$\gg$ logical binary shift 逻辑二进制移位			
$\rightarrow$ least significant bit 最低有效位			
$\ggg$ two's complement 补码			
$\leftarrow$ 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

Topics 1-3 · Motion, forces and energy, Thermal physics, Waves

⊙ **scalar quantity** 标量

→ **vector quantity** 矢量

⚡ **electric field strength** 电场强度

▦ **uniform** 均匀

 circular motion 圆周运动			
 radius 半径			
 stability 稳定性			
 renewability 可再生性			
 availability 可用性			
 reliability 可靠性			
 scale 规模			
 environmental impact 环境影响			
 lattice 晶格			
 thermometer 温度计			
 insulating material 隔热材料			
 potassium permanganate 高锰酸钾			
 Leslie cube 莱斯利立方体			
 atmosphere 大气			
 radiator 散热器			
 vacuum flask 保温瓶			
 peak 峰			
 ray box 光线盒			
 principal axis 主光轴			

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

$\square$ universal set 全集			
$\complement$ complement 补集			
$\emptyset$ empty set 空集			
$\subset$ subset 子集			
$\cup$ union 并集			
$\cap$ intersection 交集			
$\odot$ Venn diagram 维恩图			
$\uparrow$ power 幂			
$\#$ index 指数			
$\sqrt{\quad}$ square root 平方根			
$\sqrt[3]{\quad}$ cube root 立方根			
$\times_2$ base 底数			
$\rightarrow$ standard form 科学记数法			
$\sqrt{\quad}$ surd 根式			

Computer Science

Topics 1-2 · Data representation, Data transmission

$\mathbb{T}$ character set 字符集			
emoji emoji 表情符号			
storage storage 存储			
sound wave sound wave 声波			
sampling sampling 采样			
sample rate sample rate 采样率			
sample resolution sample resolution 采样分辨率			

↕ amplitude 振幅			
□ pixel 像素			
田 resolution 分辨率			
🧠 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			

 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 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

Topics 3–5 · Waves, Electricity and magnetism, Nuclear physics

 **enlarged** 放大的

 **diminished** 缩小的

 **upright** 正立

 **inverted** 倒立

 **short-sightedness** 近视

 retina 视网膜			
 long-sightedness 远视			
 artificial satellites 人造卫星			
 low orbit 低轨道			
 geostationary orbit 地球静止轨道			
 analogue 模拟			
 digital 数字			
 loudness 响度			
 pitch 音调			
 Ultrasound 超声波			
 repulsion 排斥力			
 attraction 吸引力			
 ranges 量程			
 Fleming's right-hand rule 弗莱明右手定则			
 Fleming's left-hand rule 弗莱明左手定则			
 deflected 偏转			
 absorbed 吸收			
 medical tracer 医用示踪剂			

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

 **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			
 neurons 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			
$\surd$ denominator 分母			

^	numerator	分子			
☉	proper fraction	真分数			
☉	improper fraction	假分数			
🍷	mixed number	带分数			
⊙	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			
×	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			

→ serial 串行			
= parallel 并行			
→ simplex 单工			
↔ half-duplex 半双工			
↔ 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			
Σ 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

Topic 1 · Motion, forces and energy

↻ **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			
 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			
 gravitational potential 重力势能			
 balance 天平			
 regular solid 规则固体			
 irregular solid 不规则固体			
 displacement method 排水法			
 floats 漂浮			
 shape 形状			

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

⚡ 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

② 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 1 · Motion, forces and energy

📌 **limit of proportionality**
比例极限

🔗 **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			
 Sankey diagram 桑基图			
 wasted 浪费			
 work done 做功			
 joule 焦耳			
 power 功率			

Chemistry

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

 metallic bonding 金属键			
 malleability 展性			

$\leftrightarrow$ ductility 延性			
⚖ stoichiometry 化学计量			
⚗ formula 化学式			
⬡ molecular formula 分子式			
$\div$ 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			
$\div$ ratio 比例			
⊙ spectator ions 旁观离子			
$=$ ionic equation 离子方程式			
T word equation 文字方程式			
Σ symbol equation 化学方程式			
$\rightarrow$ 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			

$\rightleftarrows$ exchange rate 汇率			
(x) algebra 代数			
(x) variable 变量			
$\hookrightarrow$ substitute 代入			
$\diamond$ term 项			
() expression 表达式			
$\square$ like terms 同类项			
$\times$ coefficient 系数			
[] expand 展开			
[] brackets 括号			
$\nearrow$ factorise 因式分解			
$\square$ difference of two squares 平方差			
$\square$ perfect square 完全平方			

Computer Science

Topic 3 · Hardware

$\cup$ control bus 控制总线			
$\equiv$ program counter 程序计数器			
$\odot$ memory address register 内存地址寄存器			
$\boxplus$ memory data register 内存数据寄存器			
$\equiv$ 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 1-2 · Motion, forces and energy, Thermal physics

⚡ **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 熔化			
👨‍🔬 boiling 沸腾			
💧 condensation 凝结			
❄️ 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			

Chemistry

Topics 3-4 · Stoichiometry, Electrochemistry

◇ state symbols 状态符号

mole 摩尔

♁ amount of substance 物质的量

Σ 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

x^2 quadratic 二次			
 completing the square 配方法			

÷ algebraic fraction 分式

÷ rational expression 有理式

×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			
 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

 **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

Aa 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 2-3 · Thermal physics, Waves

☼ 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

📡 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			

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

Topic 3 · Waves

^ crest 波峰			
v 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			
 diffraction 衍射			
 light 光			
 normal 法线			
 plane mirror 平面镜			
 refractive index 折射率			
 optical fibre 光纤			
 converging lens 凸透镜			
 diverging lens 凹透镜			
 principal focus 焦点			
 focal length 焦距			
 real image 实像			

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			
Δ differentiation 微分			
$\nearrow$ tangent 切线			
$\nearrow$ derivative 导数			
$\square$ stationary point 驻点			
$\wedge$ maximum 最大值			
$\vee$ minimum 最小值			
f function 函数			
$\hookrightarrow$ domain 定义域			
$\updownarrow$ range 值域			
$\boxminus$ inverse function 反函数			
$\boxplus$ composite function 复合函数			
+ axes 坐标轴			

Computer Science

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

$\langle \rangle$ programming language 编程语言			
$\langle \rangle$ high-level language 高级语言			
01 low-level language 低级语言			
$\boxtimes$ machine code 机器码			
$\langle \rangle$ assembly language 汇编语言			
$\oplus$ 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

Topics 3-4 · Waves, Electricity and magnetism

 **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

 **ultraviolet** 紫外线

 **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** 永磁体

↑ north pole 北极			
↓ south pole 南极			
🧲 magnetic material 磁性材料			

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

田 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

 **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

🎓 **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

 **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

⊕ **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

Chemistry

Topic 7 · Acids, bases and salts

☁ carbon dioxide 二氧化碳

☹ indicator 指示剂

☺ universal indicator 通用指示剂

□ 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

🦠 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			
$\pm$ 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			
$\downarrow$ inhaling 吸气			
$\uparrow$ 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

H 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

🌀 **electron** 电子

⚡ **charging by friction** 摩擦起电

🔌 **conductor** 导体

🛡️ **insulator** 绝缘体

$\oplus$ coulomb 库仑			
$\pm$ ion 离子			
A ampere 安培			
A ammeter 电流表			
$\odot$ free electrons 自由电子			
M mains supply 市电			
P power supply 电源			
P electrical power 电功率			
W electrical energy 电能			
V volt 伏特			
$\mathcal{E}$ electromotive force 电动势			
$\square$ circuit 电路			
Δ potential difference 电势差			
P.D. potential divider 分压器			
V voltmeter 电压表			
R resistance 电阻			
Σ total resistance 总电阻			
Ω ohm 欧姆			
$\propto$ directly proportional 成正比			

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

Topics 2-4 · Thermal physics, Electricity and magnetism

↘ **inversely proportional**

成反比

⊙ **cross-sectional area** 横截

面积

⊞ **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

 **transformer** 变压器

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

Topic 4 · Electricity and magnetism

≡ **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			
 loudspeaker 扬声器			
 electromagnetic induction 电磁感应			
 a.c. generator 交流发电机			

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:

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

Physics

Topics 4-5 · Electricity and magnetism, Nuclear physics

⊙ **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			
Σ nucleon number 核子数			
# proton number 质子数			
+ proton 质子			
↯ relative 相对			
○ neutron 中子			

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			
Σ totalling 求和			
# counting 计数			
^ maximum 最大值			
✓ minimum 最小值			
— average 平均值			
(x) 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

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

☒ **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			
 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			

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

(☞) **electromagnetic wave** 电
磁波

☞ **lead** 铅

→ **penetrating** 穿透

📄 **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			
 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			

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			
T text/alphanumeric 文本			
T 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

 **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

 **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

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, Electricity and magnetism, Space physics

☆ **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			
 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			
 poles 磁极			

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			