
Morning Reading 晨读

Grade 11 · AS · 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。

A skydiver 跳伞员 steps out of the plane. At first she accelerates: gravity wins. But as she speeds up, air resistance grows, until it exactly balances her weight. From then on she falls at a steady **terminal velocity**. Opening the parachute increases the air resistance enormously, so she slows to a new, safe terminal velocity. When she lands softly, bending her knees, she is using **deformation** to extend the stopping time and reduce the force.

Computers make a similar trade between speed and safety. **RAM** is fast but **volatile**: switch off the power and everything in it is gone. **ROM** is **non-volatile**, keeping its contents forever, so the start-up program lives there. The **cache** keeps the busiest data closest to the processor.

Why does the third slice of pizza taste worse than the first? Economists say the extra satisfaction from each unit, the **marginal utility**, falls as you consume more. This law of **diminishing marginal utility** helps explain why the **demand curve** slopes downwards.

Talk about it 说一说:

1. Why does a parachute have to be large? Explain using forces.
2. Give your own example of diminishing marginal utility from this week.

Physics

Topics 3-4 · Dynamics, Forces, density and pressure

 stationary 静止			
 mass-flow rate 质量流率			
 centre of gravity 重心			
 centre of mass 质心			
 free-body diagram 受力图			
 moment 力矩			
 perpendicular distance 垂直距离			
 line of action 作用线			
 lever arm 力臂			
 pivot 支点			
 clockwise 顺时针			
 anticlockwise 逆时针			
 couple 力偶			
 torque 力偶矩			
 translation 平动			
 equilibrium 平衡			
 angular acceleration 角加速度			
 principle of moments 力矩原理			
 vector triangle 矢量三角形			

📐 sine rule 正弦定理

Chemistry

Topic 3 · Chemical bonding

📐 VSEPR theory 价层电子
对互斥理论

⊙ lone pair 孤对电子

↻ bonding pair 成键电子对

△ bond angle 键角

— linear 直线形

△ trigonal planar 平面三角
形

⬆ tetrahedral 四面体形

△ pyramidal 三角锥形

↷ bent 角形

◇ trigonal bipyramidal 三
角双锥形

⬡ octahedral 八面体形

↻ intermolecular forces 分
子间作用力

⚡ polarity 极性

↔ dipole 偶极

→ dipole moment 偶极矩

↻ van der Waals' forces 范
德华力

⚡ London dispersion
forces 伦敦色散力

⚡ instantaneous dipole 瞬时偶极

Biology

Topic 2 · Biological molecules

💧 hydrophilic 亲水

🌀 polar 极性

⊕ amino group 氨基

🧪 carboxyl group 羧基

🔗 side chain 侧链

🔗 peptide bond 肽键

🔗 polypeptide 多肽

— primary structure 一级结构

🌀 secondary structure 二级结构

🌀 helix 螺旋

📄 pleated sheet 折叠片

🧩 tertiary structure 三级结构

🧩 quaternary structure 四级结构

🔗 hydrophobic interactions 疏水作用

🔗 ionic bond 离子键

🔗 disulfide bond 二硫键

🔗 globular protein 球状蛋白质

 soluble 可溶			
 fibrous protein 纤维状蛋白质			
 haemoglobin 血红蛋白			
 oxygen 氧气			
 haem group 血红素			
 iron 铁			

Mathematics

Topic 1 · Pure Mathematics 1

+ arithmetic progression 等差数列			
— common difference 公差			
 term 项			
× geometric progression 等比数列			
÷ common ratio 公比			
 converges 收敛			
∞ sum to infinity 无穷和			
 Differentiation 微分			
 gradient of a curve 曲线斜率			
→ limit 极限			

Further Mathematics

Topic 1 · Further Pure Mathematics 1

🔑 **mathematical induction**
数学归纳法

💡 **conjecture** 猜想

✓ **inductive proof** 归纳证明

[:] **symmetric functions** 对称函数

√ **discriminant** 判别式

Computer Science

Topics 3–4 · Hardware, Processor Fundamentals

🏠 **Von Neumann architecture** 冯·诺依曼体系结构

📁 **stored program** 存储程序

⚙️ **control unit** 控制单元

🕒 **clock speed** 时钟频率

⏱️ **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

🚩 **Status Register** 状态寄存器

 flags 标志			
# Index Register 变址寄存器			
 General-purpose registers 通用寄存器			
 buses 总线			
 address bus 地址总线			
 data bus 数据总线			
 control bus 控制总线			
 cores 核心			
 word size 字长			
 page 页			
 port 端口			
 peripheral 外围设备			
 fetch-execute cycle 取指-执行周期			
 interrupt 中断			
 interrupt service routine 中断服务程序			
 machine code 机器码			
 Assembly language 汇编语言			

Economics

Topic 2 · The price system and the microeconomy

 price 价格			
# quantity demanded 需求量			

↘ demand curve 需求曲线			
↔ shift 移动			
≡ determinants 决定因素			
💰 income 收入			
↔ substitute 替代品			
🔗 complement 互补品			
👤 market demand 市场需求			
😊 utility 效用			
+ marginal utility 边际效用			
↘ diminishing marginal utility 边际效用递减			
📦 supply 供给			
# quantity supplied 供给量			
↗ supply curve 供给曲线			