
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

× **coefficient** 系数

↓ **terminal velocity** 收尾速度

☯ **parachutist** 跳伞者

 gravitational potential
energy 重力势能

 thermal energy 热能

 conservation of
momentum 动量守恒

 explosion 爆炸

 recoil 反冲

 elastic collision 弹性碰撞

 relative speed 相对速率

 inelastic collision 非弹性
碰撞

 deformation 形变

 head-on 正面

 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

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

 accelerometer 加速度计			
 gyroscope 陀螺仪			
 RAM 随机存取存储器			
 volatile 易失性			
 ROM 只读存储器			
 non-volatile 非易失性			
 SRAM 静态 RAM			
 flip-flop 触发器			
 cache 高速缓存			
 DRAM 动态 RAM			
 refreshed 刷新			
 monitoring 监控			
 control system 控制系统			
 sensor 传感器			
 thermistor 热敏电阻			
 actuator 执行器			
 feedback 反馈			
 logic gate 逻辑门			
 Boolean 布尔			
 truth table 真值表			
 logic circuit 逻辑电路			
 Von Neumann architecture 冯·诺依曼体系结构			
 stored program 存储程序			

 **arithmetic and logic**
unit 算术逻辑单元

 **control unit** 控制单元

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