
Morning Reading 晨读

Grade 11 · AS · 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。

Who pays for the streetlight? When it shines, it shines for everyone: my using it takes nothing from you. Economists call this **non-rivalry**. And nobody can be stopped from using it: **non-excludability**. Goods with both properties are **public goods**, and they create the **free-rider problem**: since people benefit without paying, no private firm wants to supply them. That is why street lighting and **national defence** are paid for by the state. A **merit good** like education is different: markets do supply it, but less than society would like.

Meanwhile, tiny computers hide all around you. An **embedded system** is a small computer inside another machine: a rice cooker, a lift, a traffic light. Its program, the **firmware**, is written once into memory. It reads a **sensor**, decides, and acts, millions of times without a screen or keyboard.

In mechanics, a thrown basketball is a **projectile**: gravity curves its path into a parabola. When two players collide, the total momentum just before equals the total just after; each **collision** obeys this law.

Talk about it 说一说:

1. Is a park a public good? Test it: non-rivalry, non-excludability.
2. Count the embedded systems you met before school this morning.

Physics

Topics 2-3 · Kinematics, Dynamics

⚡ electrostatic 静电

↑ normal contact force 支持力

✈ thrust 推力

⊕ gravitational field 重力场

🔥 friction 摩擦力

💧 viscous 黏性

⇌ drag 阻力

💧 fluid 流体

× 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

🔫 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

Chemistry

Topics 2-3 · Atoms, molecules and stoichiometry, Chemical bonding

🧪 titration 滴定

significant figures 有效数字

⚡ electronegativity 电负性

⚡ Pauling electronegativity 鲍林电负性

🔄 ionic bonding 离子键

⚡ electrostatic attraction 静电引力

📊 lattice 晶格

⋮ metallic bonding 金属键

🔄 delocalised electrons 离域电子

🔗 covalent bonding 共价键

[] expand the octet 扩展八隅体

→ coordinate bond 配位键

— sigma bond σ 键

≡ overlap 重叠

= pi bond π 键

🔄 hybridisation 杂化

🔄 bond energy 键能

📏 bond length 键长

Biology

Topic 2 · Biological molecules

∞ covalent bond 共价键

∞ glycosidic bond 糖苷键

∞ condensation 缩合

∞ hydrolysis 水解

∞ amylose 直链淀粉

∞ amylopectin 支链淀粉

≡ glycogen 糖原

∞ insoluble 不溶

∞ water potential 水势

∞ osmosis 渗透

∞ hydrogen bond 氢键

∞ microfibril 微纤丝

∞ triglyceride 甘油三酯

∞ non-polar 非极性

∞ hydrophobic 疏水

∞ glycerol 甘油

∞ fatty acid 脂肪酸

∞ ester bond 酯键

○ saturated 饱和

= double bond 双键

∞ unsaturated 不饱和

∞ insulation 隔热

⊗ phosphate 磷酸

Mathematics

Topic 1 · Pure Mathematics 1

⊖ segment 弓形

∧ sine 正弦

∧ cosine 余弦

≈ tangent function 正切

⌘ principal value 主值

= identity 恒等式

∧ trigonometric equation
三角方程

[] binomial expansion 二项
展开式

⊞ binomial coefficient 二项
式系数

≡ progression 数列

Further Mathematics

Topic 1 · Further Pure Mathematics 1

⌚ polar curves 极坐标曲线

□ plane 平面

× vector product 向量积

↗ vectors 向量

∞ skew lines 异面直线

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

 **flip-flop** 触发器

 **cache** 高速缓存

 **DRAM** 动态

 **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

 **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

Economics

Topics 1–2 · Basic economic ideas and resource allocation, The price system and the microeconomy

 **consumer goods** 消费品

 **free good** 免费物品

 **economic good** 经济物品

 **private good** 私人物品

 **rivalry** 竞争性

 **excludability** 排他性

 **public good** 公共物品

 **non-rivalry** 非竞争性

 **non-excludability** 非排他性

 **free-rider problem** 搭便车问题

 **national defence** 国防

 merit good 优值品			
 demerit good 劣值品			
 information failure 信息 失灵			
 demand 需求			