
Morning Reading 晨读

Grade 11 · AS · 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。

Stretch a spring gently and it returns to its original length when you let go: the behaviour is **elastic**. **Hooke's law** says the **extension** is proportional to the **load**, and the **spring constant** measures the stiffness. Pull too far, past the **limit of proportionality**, and finally the spring deforms permanently: it has become **plastic**. Springs hide everywhere: in pens, mattresses, keyboards and car suspensions.

A factory beside a river makes cheap paint but releases waste into the water. The firm counts only its **private cost**; the fishermen downstream carry the **external cost**. Economists call the fishermen a **third party**, and the pollution a **negative externality**. Add private and external together and you get the true **social cost** of the paint, which the market price ignores. This is why governments tax pollution.

Programmers met translators this week. A **compiler** converts the whole program into machine code once, producing a fast **executable**; an **interpreter** translates line by line, which is slower but easier for testing.

Talk about it 说一说:

1. Name three objects you used today that contain a spring.
2. A neighbour plays loud music at midnight. Explain this as an externality.

Physics

Topics 5–6 · Work, energy and power, Deformation of solids

⚡ **voltage** 电压

🌀 **spring** 弹簧

✕ **compression** 压缩

 spring constant 劲度系数			
 tensile 拉伸			
 extension 伸长量			
 load 负载			
 Hooke's law 胡克定律			
 limit of proportionality 比例极限			
 elastic 弹性			
 plastic 塑性			
 series 串联			
 parallel 并联			
 strain 应变			
 Young modulus 杨氏模量			
 pulley 滑轮			
 micrometer 螺旋测微器			
 elastic limit 弹性极限			

Chemistry

Topics 5–7 · Chemical energetics, Electrochemistry, Equilibria

 specific heat capacity 比热容			
 Hess's law 盖斯定律			
 energy cycle 能量循环			
 redox 氧化还原			
 oxidation 氧化			

↓ reduction 还原			
⇌ electron transfer 电子转移			
↗ disproportionation 歧化			
↑ oxidising agent 氧化剂			
↓ reducing agent 还原剂			
⇌ reversible reaction 可逆反应			
→ forward reaction 正反应			
← reverse reaction 逆反应			
🔒 closed system 封闭系统			
⚖ dynamic equilibrium 动态平衡			
⚖ Le Chatelier's principle 勒夏特列原理			
⚖ equilibrium 平衡			
⚡ catalyst 催化剂			

Biology

Topic 4 · Cell membranes and transport

🍬 glycoprotein 糖蛋白			
🚩 antigen 抗原			
🛡 stability 稳定性			
🚰 permeability 通透性			
🚰 partially permeable membrane 半透膜			
📡 cell signalling 细胞信号传递			

🔑 ligand 配体			
⚡ hormone 激素			
🎯 target cell 靶细胞			
👂 receptor 受体			
🚫 passive 被动			
⇌ diffusion 扩散			
⇌ simple diffusion 简单扩散			
↘ concentration gradient 浓度梯度			
☁ carbon dioxide 二氧化碳			
± ion 离子			
🚪 facilitated diffusion 易化 扩散			
⬆ active transport 主动运 输			
📦 endocytosis 胞吞作用			
📤 exocytosis 胞吐作用			
📦 volume 体积			
📐 surface area 表面积			
◯ agar 琼脂			

Mathematics

Topic 2 · Pure Mathematics 2

× ² degree 次数			
÷ quotient 商			
% remainder 余数			

% remainder theorem 余数定理

× factor theorem 因式定理

×² indices 指数

📖 laws of logarithms 对数定律

📊 natural logarithm 自然对数

— linear form 线性形式

↗ secant 正割

Further Mathematics

Topic 3 · Further Mechanics

+ Cartesian equation 直角坐标方程

📍 trajectory 轨迹

🔄 moment 力矩

🎯 centre of mass 质心

[:] symmetry 对称

Computer Science

Topics 5–6 · System Software, Security, privacy and data integrity

🗑 disk defragmenter 碎片整理

💾 backup 备份

🛡 antivirus 杀毒软件

📚 program library 程序库

 subroutines 子程序			
 static library 静态库			
 dynamic library 动态库			
 translator 翻译器			
 compiler 编译器			
 executable 可执行文件			
 interpreter 解释器			
 bytecode 字节码			
 virtual machine 虚拟机			
 just-in-time compilation 即时编译			
 integrated development environment 集成开发环境			
 syntax highlighting 语法高亮			
 auto-complete 自动补全			
 debugger 调试器			
 breakpoints 断点			
 version control 版本控制			
 refactoring 重构			
 unit test 单元测试			
 security 安全			
 unauthorised 未授权			

Economics

Topics 2–3 · The price system and the microeconomy, Government microeconomic intervention

 factor market 要素市场			
 wage 工资			
 foreign exchange market 外汇市场			
 exchange rate 汇率			
 consumer surplus 消费者 剩余			
 producer surplus 生产者 剩余			
 welfare 福利			
 market failure 市场失灵			
 externality 外部性			
 third party 第三方			
 negative externality 负 外部性			
 external cost 外部成本			
 social cost 社会成本			
 private cost 私人成本			
 positive externality 正外 部性			