SAMPEL PERCUMA

# Cambridge Checkpoint Stage 7 Science Practice Paper + Mark Scheme

## Set penuh: Cambridge Primary

Maths & Science Checkpoint

**Sampel ini: 8 muka surat. Set penuh ada:**

- 7 fail PDF
- Maths & Science Year 1–6 topical practice + answer key · 26 muka surat
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CAMBRIDGE LOWER SECONDARY

# Checkpoint Practice Papers

## Mathematics (0862) & Science (0893)
## Stage 7 & Stage 8 — with full mark schemes

**Updated August 2026 — Aligned to Cambridge Lower Secondary Framework**

### WHAT IS INSIDE

- **8 full practice papers** — Maths & Science, Stage 7 & Stage 8, Paper 1 and Paper 2 each
- Written in **English**, the language of the real Checkpoint tests
- Real Cambridge structure: **50 marks** a paper — Maths 1 hour, Science 45 minutes — with a non-calculator Maths Paper 1
- Every strand covered — Number, Algebra, Geometry & Measure, Statistics & Probability; Biology, Chemistry, Physics, Earth & Space
- **Thinking and Working Mathematically** and **Thinking and Working Scientifically** questions built in
- Cambridge command words: *work out, show that, explain, suggest, describe, predict*
- **Full mark schemes** in the real Cambridge five-column format, with part-mark ladders, accept lists and the official `oe` / `cao` / FT / `isw` abbreviations

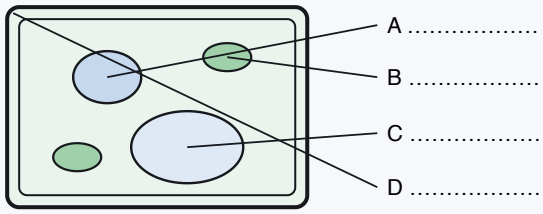
Nightmew Studios · Original practice material written to the published Cambridge Lower Secondary curriculum frameworks for Mathematics (0862) and Science (0893).
Not endorsed by or affiliated with Cambridge Assessment International Education.

## Science (0893) — the four content strands

| Strand | Stage 7 in this book | Stage 8 in this book |
|---|---|---|
| **Biology** | Cell structure and function, specialised cells, levels of organisation, the human skeleton and movement, plant reproduction | Photosynthesis and plant nutrition, the human digestive system and a balanced diet, gas exchange and breathing, respiration, drugs and health |
| **Chemistry** | Particle model of solids, liquids and gases, changes of state, elements, compounds and mixtures, separating mixtures, acids and alkalis, the pH scale | Chemical reactions and word equations, conservation of mass, reactions of acids, neutralisation in everyday life, the Periodic Table, metals and non-metals, rates of reaction |
| **Physics** | Forces and their effects, mass and weight, friction, energy stores and transfers, sound and hearing, light, reflection and shadows | Speed and distance–time graphs, pressure, density, electric circuits, current and voltage, magnetism, thermal energy transfer |
| **Earth and Space** | Structure of the Earth, rocks and the rock cycle, the water cycle, the Solar System, day and night, the seasons | Climate and weather, the carbon cycle, human impact on the atmosphere, stars and galaxies, gravity in space, satellites and the Moon |

**Thinking and Working Scientifically (TWSc)** is a strand in its own right and appears in every Checkpoint paper. It covers **models and representations**; **scientific enquiry: purpose and planning** (asking a question, choosing variables, making a fair test); **carrying out scientific enquiry** (taking readings, recording results, safety); and **analysis, evaluation and conclusions** (spotting patterns, judging whether the evidence really supports the claim, saying how to improve the method). Questions tagged TWSC target these.

**1** The diagram shows a plant cell. BIOLOGY




(a) **Name** the parts labelled **A** and **C**. **[2]**

A .....

C .....

(b) **State** the function of part **A**. **[1]**

.....

(c) **Tick** (✓) the **two** parts in the table that are found in plant cells but **not** in animal cells. **[1]**

| Part | Nucleus | Cell wall | Cell membrane | Chloroplast |
|---|---|---|---|---|
| Tick | | | | |

**2** Living things are organised in levels. BIOLOGY

(a) **Complete** the sequence. **[2]**

cell → ..... → organ → ..... → organism

(b) **Give** one example of a tissue found in an animal. **[1]**

.....

**5** A student tests four liquids with universal indicator. CHEMISTRY

| Liquid | Lemon juice | Pure water | Soap solution | Oven cleaner |
|---|---|---|---|---|
| pH | 3 | 7 | 9 | 13 |

(a) **Identify** which liquid is the strongest acid and which is the strongest alkali. **[2]**

Strongest acid .....

Strongest alkali .....

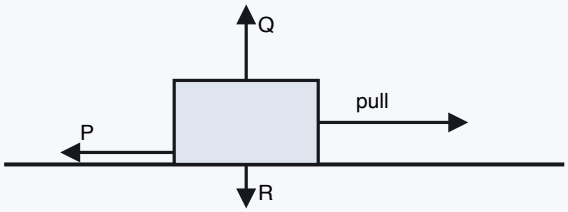
(b) **State** the colour of blue litmus paper when it is dipped into lemon juice. **[1]**

.....

(c) **Suggest** why oven cleaner must be handled with gloves. **[1]**

.....

**6** A box is being pulled across a floor. PHYSICS




(a) **Name** the forces labelled **P** and **R**. **[2]**

P .....

R .....

(b) **State** the unit used to measure force. **[1]**

.....

(c) An astronaut has the same mass on the Moon as on Earth, but a smaller weight. **Explain** why. **[2]**

.....

.....

**9** A guitar string is plucked. The sound it makes travels to a listener. PHYSICS

(a) **State** what the guitar string must be doing to produce a sound. **[1]**

.....

(b) The string is tightened and plucked again. **Describe** how the sound changes, and **name** the property of the sound that has changed. **[2]**

.....

.....

(c) **Explain** why sound cannot travel through the vacuum of space. **[1]**

.....

**10** Light travels in straight lines. PHYSICS

(a) A ray of light hits a plane mirror at an angle of incidence of 35°. **State** the angle of reflection and **name** the law you used. **[2]**

Angle of reflection ..... °

.....

(b) **Explain** how a shadow is formed. **[1]**

.....

**11** The Earth is made of layers, and its rocks are constantly recycled. EARTH AND SPACE

(a) **Complete** the names of the Earth's layers, from the outside inwards. **[1]**

crust → ..... → outer core → .....

(b) **Name** the type of rock formed when molten rock cools and solidifies. **[1]**

.....

(c) **Describe** how sedimentary rock is formed. **[1]**

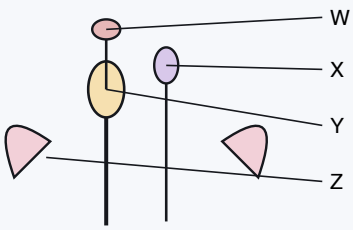
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**1** Cells can be specialised for a particular job. **Complete** the table using the words in the box. One has been done for you. BIOLOGY **[3]**

nerve cell | palisade cell | red blood cell | root hair cell

| Job of the cell | Name of the specialised cell |
|---|---|
| Carries oxygen around the body | red blood cell |
| Absorbs water and minerals from the soil | |
| Carries electrical messages | |
| Makes food using light energy | |

**2** The diagram shows a flower. BIOLOGY




(a) **W** is the stigma and **X** is the anther. **Name** the parts labelled **Y** and **Z**. **[2]**

Y .....

Z .....

(b) **Describe** what happens during pollination. **[2]**

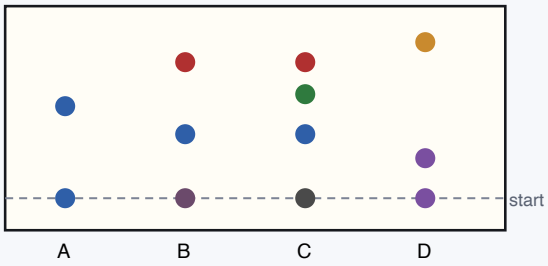
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(c) **Suggest** why brightly coloured petals help a plant to reproduce. **[1]**

.....

**5** A student uses chromatography to investigate four inks. The result is shown below. CHEMISTRY TWSC




(a) **Identify** which ink is a pure substance. **[1]**

(b) **Identify** which ink contains the most different coloured substances. **[1]**

(c) Inks **B** and **C** both contain a red substance and a blue substance. **Explain** how the chromatogram shows this. **[2]**

(d) **Explain** why the starting line must be drawn in pencil and not in ink. **[1]**

**6** Indigestion is caused by too much acid in the stomach. An indigestion tablet contains an alkali. CHEMISTRY

(a) **Name** the reaction that takes place between an acid and an alkali. **[1]**

(b) **Explain** how the tablet relieves indigestion. Refer to pH in your answer. **[2]**

| Question | Answer | Marks | Part marks | Guidance |
|---|---|---|---|---|
| **7(c)** | Distances in space are enormous<br>Measuring them in kilometres would give impractically large numbers, so light years are more convenient | **2** | Award 1 mark for recognising that space distances are extremely large<br>and 1 mark for light years being a more practical unit than kilometres | Accept a comparison of the two travel times as evidence for the first mark. |
| **8(a)** | Strength: any one from — it shows the links between the stores clearly / it makes an invisible process easy to see / it is quick to build and change<br>Weakness: any one from — it does not show how much carbon moves / it does not show the rates / it is not to scale / it leaves out some processes | **2** | Award 1 mark for an acceptable strength<br>and 1 mark for an acceptable weakness | Do not accept "it is not real" as either answer.<br>**TWSC: MODELS AND REPRESENTATIONS** |
| **8(b)** | Any **two** from: use renewable energy instead of fossil fuels / use public transport, cycle or walk / plant more trees / stop deforestation / insulate buildings to use less heating / recycle to reduce manufacturing | **2** | Award 1 mark for each acceptable action, maximum 2 | Do not accept "stop pollution" alone. Do not accept two actions that are the same idea reworded. |
| **9(a)** | Ice melting: physical<br>Iron rusting: chemical | **2** | Award 1 mark for each correct row | Accept any clear indication. Ticking both boxes in a row scores 0 for that row. |
| **9(b)** | Any one from: a new substance is formed / there is a permanent colour change / a gas is given off / there is a temperature change / the change cannot easily be reversed | **1** | | Do not accept "it looks different" alone. |

TAMAT SAMPEL

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