



Examiner's Report  
Principal Examiner Feedback  
Summer 2022

Pearson Edexcel International Achievement  
Test – iPrimary (JSC11) Paper 01 Year 6

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## General comments

Overall, candidates worked hard on this paper, demonstrating a good level of scientific knowledge and understanding and attempting to answer most questions. Candidates answered most of the questions, showing they had sufficient time to answer questions and managing their time well during the exam. Work presented was generally neat and well presented, mainly keeping their answers within the space provided.

Centres and teachers had clearly taken the time to prepare candidates for the exam. Candidates showed a good understanding of scientific terminology needed to be able to access some of the more challenging questions, and to provide complete answers, while this is an area for improvement for P1 level candidates.

Most candidates were able to effectively answer multiple-choice, short answer questions and those requiring a longer answer. Some candidates still need to be encouraged to read questions carefully, particularly the lower achieving students, and to provide a more detail in questions worth 2 marks.

Candidates achieving P3 demonstrated ability across the specification, as well as in Section B. They provided detailed answers for questions of 2 marks and could link ideas. They were also able to draw conclusions, and this capability has begun to develop in those of P2 standard. Those borderline candidates aspiring to P3 could focus on ensuring their understanding of fair testing, reliability and accuracy in investigations.

## Comments on individual questions

### Section A

Multiple choice questions are marked by computer, so it is not possible to comment on how candidates achieved on these.

#### Question 11

Some candidates did not understand that they needed to have a circle in both columns of the answer box, and so could only achieve a maximum of one mark. Candidates were more able to correctly identify materials that were solid at room temperature rather than being able to state which materials were magnetic. A common error was that many candidates thought iron was not magnetic.

#### Question 12

- (a) Many candidates found difficulty in working out the amount of time the student exercised for, with many giving 15 minutes, or 5 minutes.
- (b) The majority of candidates knew it was the heart, while some stated heartbeat, which is not an organ, and a few stating 'the lungs'.
- (c) Many candidates were able to achieve this mark, with the most common error being candidates linking 'blood' to 'increasing pulse rate'.

#### Question 18

(b) Some P2 candidates would make statements such as 'it cuts through the air' rather than using scientific vocabulary, i.e. streamlining and reduced air resistance. The P3 candidates were generally able to accurately use the appropriate terminology.

(c) Many candidates were able to make a statement about using a rougher tyre, while others said to increase the grip, which was not quite giving the change required to achieve that aim.

### **Question 19**

Many P3 candidates were accurate in their use of the terms solute and solution. Many P1 candidates would use 'dissolving' for either one of the answers, while P2 candidates could state that the liquid produced was a solution, they often mixed-up solvent and solute.

### **Question 20**

P1 candidates often found this question difficult, sometimes scoring one mark. P2 candidates usually identified two of these methods of seed dispersion, often linking the bottom photograph to the 'dispersed by wind' rather than 'dispersed by being attached to animals', or the middle photograph to 'dispersed by explosion'.

### **Question 21**

This question required a clear comparison of the voltages in the circuits. Many candidates across the ability levels would state 'the higher the voltage the brighter the bulb', which is a correct statement, but does not answer the question which required a conclusion to be made.

### **Question 26**

This was a challenging question for candidates. Whilst many recognised that Dish A would not be suitable due to its temperature, many gave B as the correct answer, with some only mentioning temperature, and others thinking the clear plastic cover on C would stop air getting to the plant. Of those who did select dish C, many again only mentioned temperature, with fewer gaining the second mark for the lack of evaporation, or the continued presence of water in that dish.

### **Question 27**

(a) While many candidates knew the Sun and Earth were in each other's accepted locations, candidates often found it difficult to express this, as they needed to make it clear which model they were talking about. P1 candidates rarely scored on this question, with many P2 candidates only stating that Neptune and Uranus were absent, which was given in the stem of the question and so did not score. Some candidates did also recognise that the Sun appears to orbit Earth in the Ptolemy model, which is not the case in the current model.

(b) Many candidates stated the planets were a long way away, rather than understanding that because they are a long way off, they are difficult to see, and that when the Ptolemy model was developed, it was not possible to see them.

### **Question 28**

(a) Candidates would often only give a single answer, rather than looking more carefully at the graph to identify both answers.

(b) More candidates were able to give two answers here, with some P2 candidates scoring on this question.

### **Question 29**

Candidates needed to recognize the component and state how the component would change with an increased voltage. While some of the P1 candidates would mention the component, they did not explain the effect of the increased voltage, so would state 'it would make a sound' or 'it will start to buzz'. P2 candidates were more likely to recognize that the sound would become louder, but often stated for the motor 'it will work more' which did not demonstrate that they knew it was a motor.

### **Question 30**

Most candidates across the ability ranges were able to give at least one adaptation, mentioning the thorns or small leaves, while the P2 and P3 candidates usually correctly identified the reason for the adaptation, with many giving both visible adaptations and the reason for them.

## Section B

In section B candidates demonstrated their knowledge and skills they have developed in undertaking practical scientific studies and applied some of the scientific principles of fair testing and reliability to new situations, or to practical's they may have undertaken in the classroom.

P1 candidates continue to find this a very challenging section, as they have difficulty in applying a theoretical concept to a new situation. These candidates generally scored few marks in this section, although some were able to achieve on 32 c.

### Question 31

(a) Some candidates were able to state two correct ways the investigation was made a fair test, but a significant number would state 'keep everything the same except the size of the seed'.

(b) Many candidates would state 'the size of the wing' which was not quite accurate enough, as it was the length that changed rather than the width of the wings.

(c) Many P2 and most P3 candidates were able to state that they repeated their test several times.

(d) Many candidates could identify which result looked odd, but many P2 candidates found it more difficult to explain why it looked odd.

### Question 32

- (a) Many did identify question 4 as being the one that could be tested, while a common error was to choose question 3. This question required careful reading of the options to select the correct option.
- (b) A common error was to give the answer as 10.5 g rather than 15 g.
- (c) Most candidates, including many P1 candidates, could accurately draw the bar for 300 on the graph, but often drew the bar for 120 at 140, so candidates needed to look carefully at the graph axes to work out how much each line on the Y-axis of the graph paper was worth before drawing their bar.
- (d) Most candidates correctly stated 'decreases'.

### Question 33

- (a) Many candidates, including P1's, did state 'ruler'. A few stated 'scale' or stated what needed to be measured.
- (b) This was a challenging question across the board, with few candidates understanding the idea of 'systematic observations'. Many would give ways in which it was made a fair test rather than considering how the test needs to be done precisely the same each time, and how that would be achieved.
- (c)
  - (i) Many candidates would state 'distance' but forgot to add the unit, which was required for the mark.
  - (ii) Stronger candidates often drew in a line of best fit to read their answer from. Weaker candidates often drew a cross in a position near to the correct answer and read that from their graph.



## Summary section

Based on their performance on this paper, students should:

- aim to undertake a variety of practical work on a regular basis, taking care to choose appropriate safety equipment for that particular investigation or experiment, and be able to name the equipment they are using
- continue to develop their understanding of the terms fair test, accuracy and reliability and be able to apply these to different investigations
- develop their skills in being able to accurately read scales from a variety of pieces of equipment, including points between two major scale lines
- develop their understanding of methods of dispersal of fruits, and how the fruits look different for each method of dispersal
- ensure candidates read questions carefully before answering them
- P1 standard candidates would benefit from further support during their practical work to understand how some of the concepts can transfer to other investigations

