



# On-Screen Testing with Cambridge

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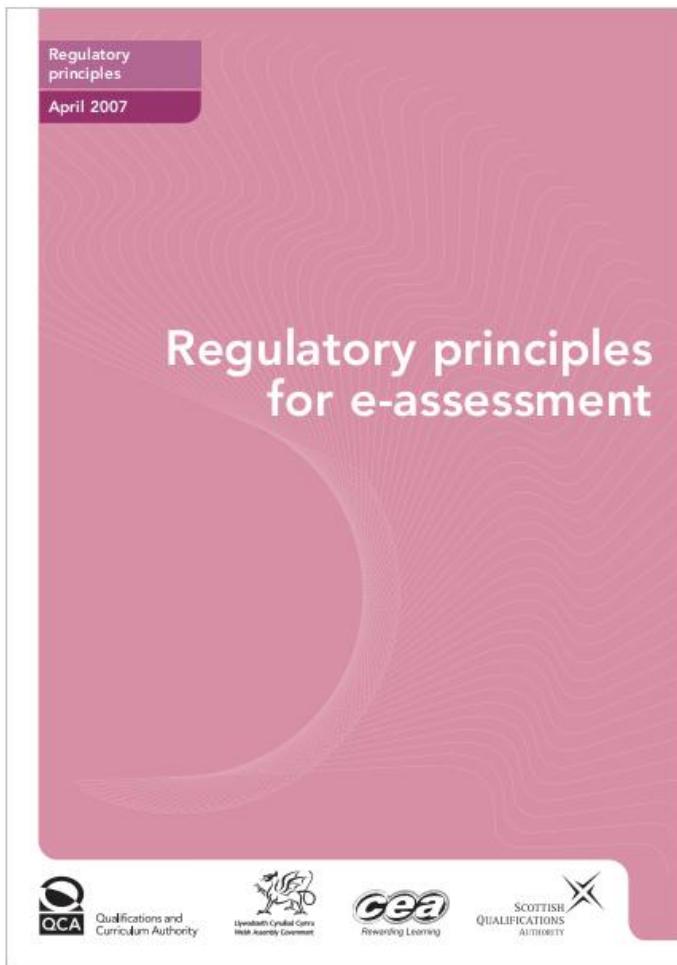
**Innovation & Development  
December 2015**

# In summary

*We will explore in what way Cambridge International Examinations is driving innovation in computer-based testing. In this session you will learn about what we have done so far and what we propose to do.*

- Introduction
- The role of on-screen testing within e-Assessment
- What have we done so far?
- Demonstration session – your thoughts on an example on-screen test
- Where is on-screen testing going?
- Questions

# On-screen testing is part of e-Assessment



*“The term ‘e-assessment’ denotes any type of assessment that has an electronic component and incorporates one or more of e-testing, e-portfolios and e-marking.”*

In this context, ‘on-screen testing’ focuses on assessments conducted on a PC, laptop, tablet or smartphone.

# What have we done so far?

We have focused on live on-screen testing with candidate and school focused international school trialling.



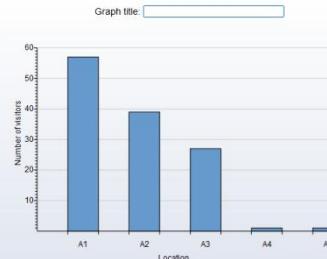
Question 15

The students needed to present the results they collected on a graph.

The results of the visitor survey are shown in the table below. Complete the graph below by dragging the bars for locations A4 and A5 to show the correct number of visitors. Add a title to the graph.

Location	Number of visitors
A1 (point X)	57
A2	39
A3	27
A4	31
A5 (point Y)	35

Graph title: \_\_\_\_\_



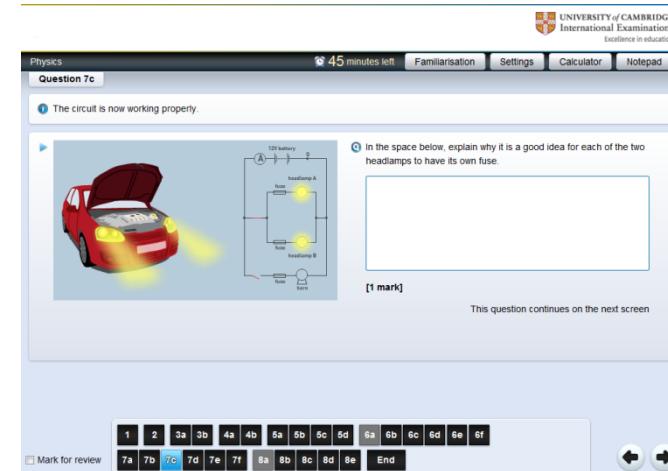
Number of visitors

Location

A1 A2 A3 A4 A5

Mark for review End

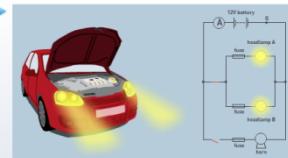
**IGCSE Geography Paper 5**  
 Live testing 2006 to 2014



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Physics Question 7c

The circuit is now working properly.



In the space below, explain why it is a good idea for each of the two headlamps to have its own fuse.

[1 mark]

This question continues on the next screen

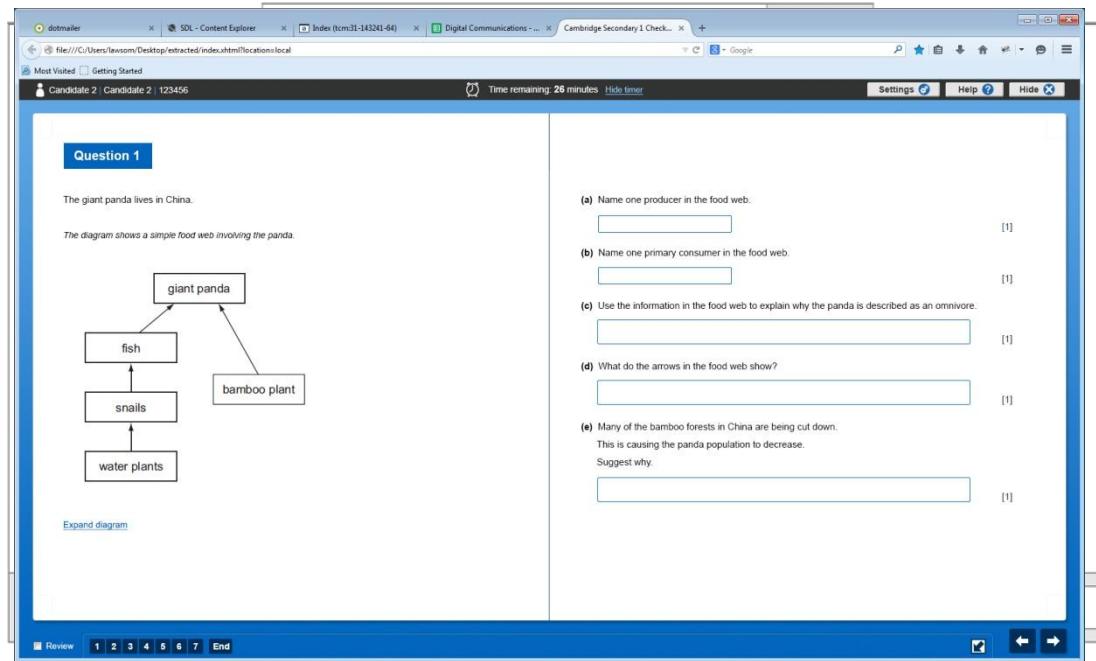
Mark for review

1 2 3a 3b 4a 4b 5a 5b 5c 5d 6a 6b 6c 6d 6e 6f  
 7a 7b 7c 7d 7e 7f 8a 8b 8c 8d 8e End

**Extensive school trialling**, including partnerships with other assessment organisations and platform providers.

# What have we done so far?

We have are also looking at the ‘look and feel’ of our on-screen tests.

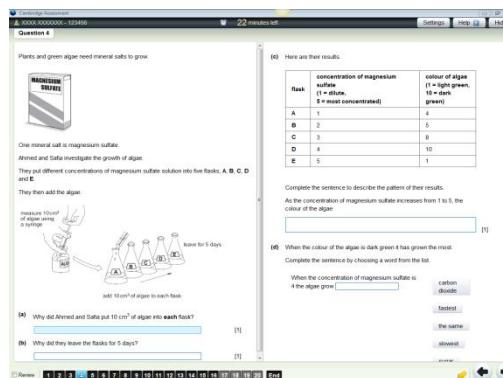


The screenshot shows a digital test interface with a blue header bar. The main content area has a white background. On the left, there is a question titled "Question 1" with the following text:  
  
The giant panda lives in China.  
  
The diagram shows a simple food web involving the panda.  
  
A food web diagram is shown with boxes for "giant panda", "fish", "bamboo plant", "snails", and "water plants". Arrows point from "bamboo plant" to "giant panda", from "water plants" to "snails", and from "snails" to "fish".  
  
On the right, there are five questions labeled (a) through (e), each with a text input field and a "[1]" indicating one mark:  
  
(a) Name one producer in the food web.  
(b) Name one primary consumer in the food web.  
(c) Use the information in the food web to explain why the panda is described as an omnivore.  
(d) What do the arrows in the food web show?  
(e) Many of the bamboo forests in China are being cut down.  
This is causing the panda population to decrease.  
Suggest why.

Checkpoint What  
phenomena  
could it look like? Biology

# Demonstration session

A chance for us to show you a range of tests and give us your thoughts and feedback



Plants and green algae need mineral salts to grow.

One mineral salt is magnesium sulfate.

Anirudh and Sitala investigate the growth of algae.

They put different concentrations of magnesium sulfate solution into five flasks: A, B, C, D and E.

They then add the algae.

Measure 10 mL of algae into each flask.

Add 10 mL of salt to each flask.

Wait 5 days.

Mark for review: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 End

Question 4

(e) Here are their results:

flask	concentration of magnesium sulfate (in % ethone)	colour of algae (1 = light green, 5 = dark green)
A	1	4
B	2	5
C	3	8
D	4	10
E	5	1

Complete the sentence to describe the pattern of their results.

As the concentration of magnesium sulfate increases from 1 to 5, the colour of the algae:

[1]

(f) When the colour of the algae is dark green it has grown the most.

Complete the sentence by choosing a word from the list.

When the concentration of magnesium sulfate is 4 the algae grows [ ] faster... [ ] the same... [ ] slower... [ ]

[1]

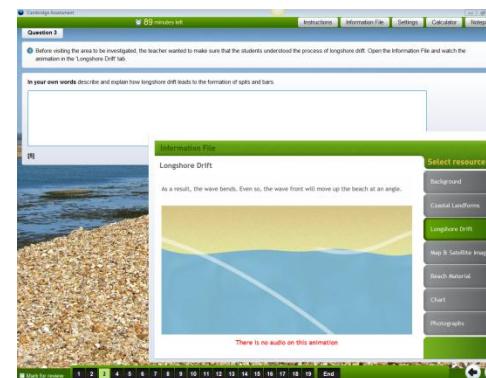
(g) Why did Anirudh and Sitala add 10 cm<sup>3</sup> of algae into each flask?

[1]

(h) Why did they leave the flasks for 5 days?

[1]

Settings Help Hide



Instructions Information File Settings Calculator Hide

Question 3

Before visiting the area to be investigated, the teacher wanted to make sure that the students understood the process of longshore drift. Open the Information File and watch the animation in the Longshore Drift tab.

In your own words describe and explain how longshore drift leads to the formation of spits and bars.

[1]

Information File

Longshore Drift

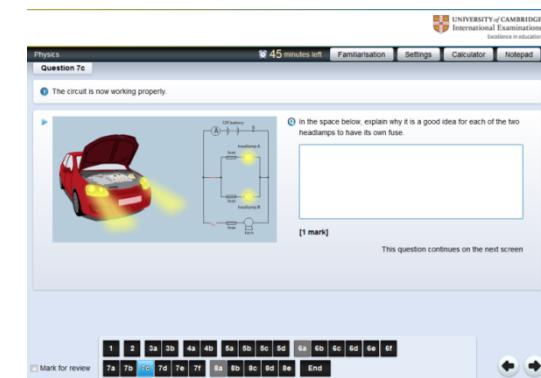
Select resource

Background Coastal Landforms Longshore Drift Map & Satellite Image Beach Material Chart Photographs

As a result, the wave front will move up the beach at an angle.

There is no audio on this animation.

Mark for review: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 End



University of Cambridge International Examinations Excellence in education

Instructions Familiarisation Settings Calculator Notepad

Physics 45 minutes left Question 7c

The circuit is now working properly.

[1]

In the space below, explain why it is a good idea for each of the two headlamps to have its own fuse.

[1 mark]

This question continues on the next screen

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 80 End

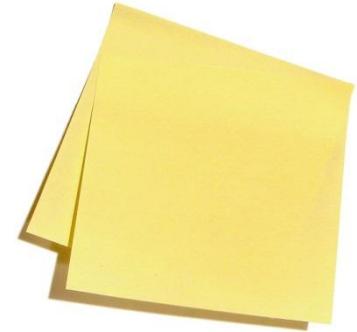
**Checkpoint**  
**Example items**  
**Aimed at ca 13 year olds**

**IGCSE Geography**  
**Live test 2014**  
**Aimed at ca 16 year olds**

**Physics**  
**Example trial test**  
**Aimed at ca 16 year olds**

# Feedback

- Did the test look easy to use and navigate?
- Which tools are:
  - Most useful?
  - Least useful?
- Which other tools would you like to see?
- What did you like/dislike about the test in general?
- What would you change?
- What would you like to see in a Cambridge on-screen test?



# How does your feedback align with our trials?

-  The test was easy to start and navigate
-  Candidates could complete the test in the time (although there appeared to be some guesswork on the last question)
-  Liked sound and animations – “more fun than tests on paper”
-  Few candidates hid the timer
-  Candidates liked the on-screen customisation, and wanted more
-  Some higher ability candidates felt animations got in the way
-  Some found animations confusing to use – particularly question 8
-  Some found it difficult to read the graphs (question 8), which could also be linked to some suggestion of eye strain
-  The ‘end’ button terminology was confusing. “Can’t I go back?”
-  Candidates generally preferred rough paper for working instead of the notepad

# Our immediate plans for on-screen testing

We are looking to provide on-screen tests from 2016:

- **Checkpoint** (summative) in English and Science
- **Progression Tests** (diagnostic on-demand)

Both tests provide a more appropriate assessment for digital learners.

On-screen Progression Tests will **significantly reduce the administrative overhead** for teachers.

In the future, we are considering optional on-screen tests for IGCSE and A Level where they are appropriate.

# So where is on-screen assessment going?

Question 1 of 50

The left-hand lane

**TRAFFIC**

Here is a map of a system of roads that links the suburbs within a city. The map shows the travel time in minutes at 7.00 am on each section of road. You can add a road to your route by clicking on it. Clicking on a road highlights the road and adds the time to the Total Time box.

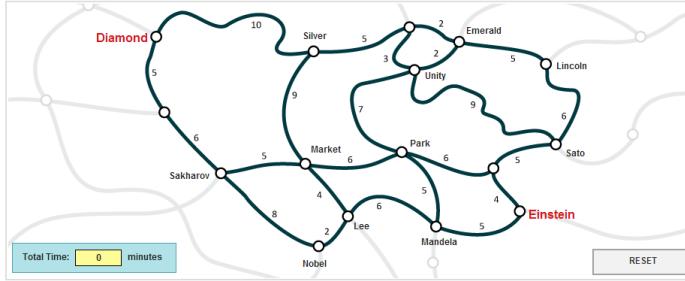
You can remove a road from your route by clicking on it again. You can use the RESET button to remove all roads from your route.

Mark one answer

breakdo only  
 slow ve

Previous

Time remaining



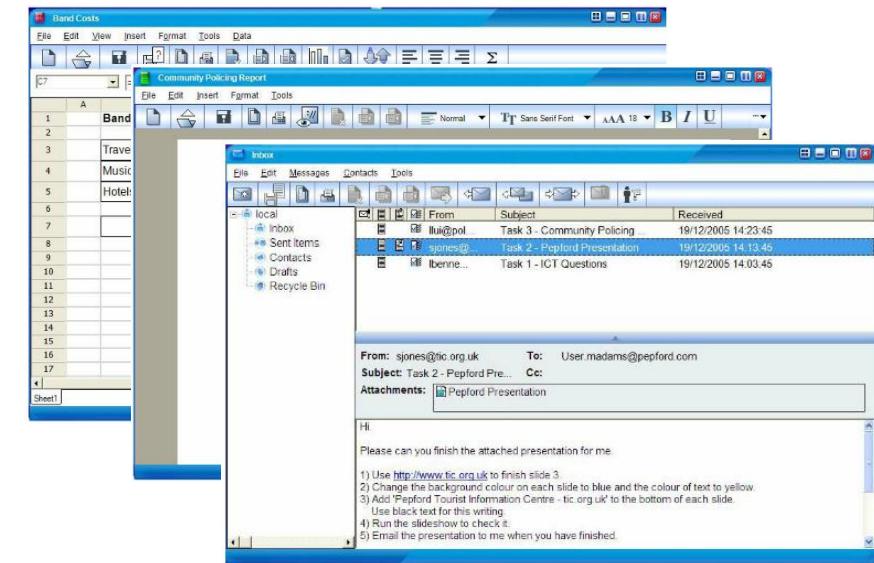
Total Time: 0 minutes

RESULTS

Question : TRAFFIC

Maria wants to travel from Diamond to Einstein. The quickest route takes 31 minutes. Highlight this route.

SUBMIT



UK Driving test

Pisa testing

KS3 ICT tests

While there have been some notable successes, adoption for high-stakes general qualifications has yet to become widespread.

# The Telegraph

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## School trials iPad exam

The traditional pen-and-paper school test could become a thing of the past after a leading exam board successfully trialled the use of iPads for pupils sitting a mock GCSE.

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By Victoria Ward

6:59PM BST 25 May 2012

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Computers have until now been banned during exams but experts have warned that the practice of using written test papers "cannot go on".

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### Education

News » UK News » Victoria Ward »

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### In Education





**Crazeygrazey** • 3 years ago

A level hacking next

^

v

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**hmmmm** • 3 years ago

"We thought it sounded exciting and different,"

Yes! That's what should dictate how we run our education system, by what appeals to



**scaryteacher** • 3 years ago

At the moment, one can't have a computer because there is hardly any tech in schools. I mean, you have a computer because you have to have a computer because there is hardly any tech in schools.



**squarepeg** • 3 years ago

So why are we not teaching all children to type? There must be a huge disparity between those who have access to computers and those who do not. And those who have access to computers and those who do not. And those who have access to a dictionary? I can see that it will tempt ever more children to use computers, which can be both taken and used for other purposes, such as playing games. There is still place, though,



**regniztar** • 3 years ago

Most exams can perfectly well be written on a single side of A4. That costs maybe two pence a copy for the school to run off. Exam fees are in the order of sixty pounds a paper.

You do have to move with the times. That's why handwriting is still taught, even though handwriting, so it should be preferred. It's easier to learn handwriting than to learn foreign characters. Also, there's a tendency to write in cursive script.



**deveydrool** • 3 years ago

Yeah, right that is really gonna help the economy... and children's spelling...



**openmind2010** • 3 years ago

That's nice, because if there's no need to write, then there's no need to learn handwriting. These days, it's staring at screens all day long.

11

^

v

• Share >



**AlastairCompSci** • 3 years ago

I see no problem with this, if the iPads are locked into the application so you can't browse the internet.

I don't think this would effect the rigour of education, you still have to learn the same stuff.

2 ^ | v • Share >



**AlastairCompSci** → openmind2010

Heh, that's adult life for

3

^

v

• Share >

# The tensions surrounding high-stakes on-screen testing

“GCSEs and A Levels are in danger of becoming ‘invalid’ because most children now learnt and researched their subjects online”

**Isabel Nisbet (Ofqual)**

**VS**

“Schools are cautious about implementing on-screen testing for live exam series and will not do anything that may disadvantage their learners.”

**Malaysian school feedback**

# Questions?



**Learn more!**  
Getting in touch with  
Cambridge is easy

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