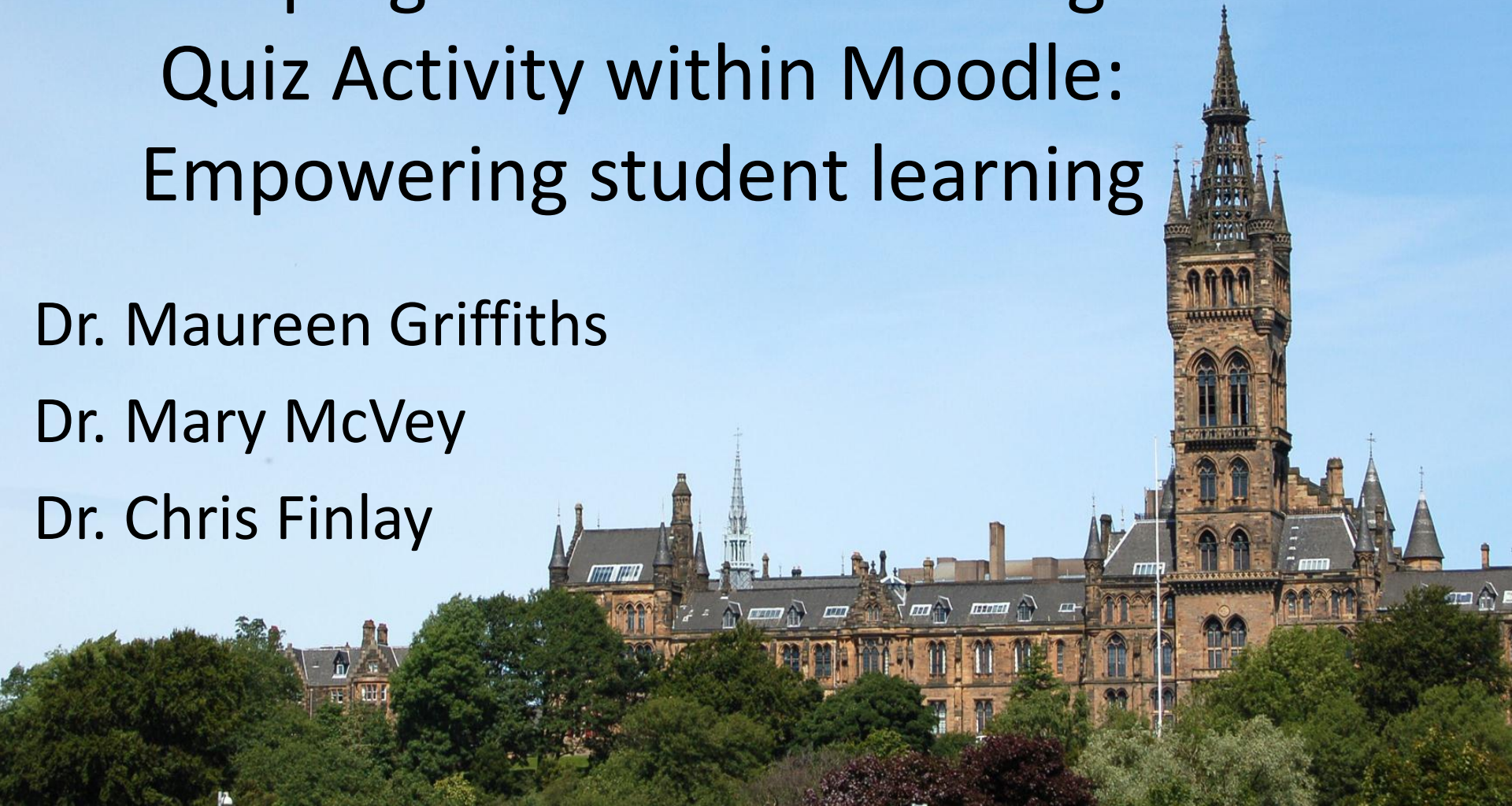# Developing e-assessment using the Quiz Activity within Moodle: Empowering student learning

Dr. Maureen Griffiths

Dr. Mary McVey

Dr. Chris Finlay

Why use Moodle assessments? - Advantages

Advantages for students

- Student engagement – evidence relating participation to final exam grades. (Bryson, C,2007)
- Developing self-directed learners. (Williams, P. 2004; Ley, k. 2001)
- Improved accessibility in terms of time and place.
- Targeted and timely feedback available to students. (one of the criteria highlighted in the NSS as being poor (Feedback on my work has been prompt- 59 % agree, unistats.direct.gov.uk/nStudentSurvey.do.)
- An online test can be inclusive for all (in terms of timing) complying with Universities' disability policy. (University of Glasgow, Human Resources Webpage. [online] http://www.gla.ac.uk/services/humanresources/policies/ag/disabilitypolicy/#d.en.73313 (accessed 23/8/10). This includes students with poor eyesight and is also suitable for students who require separate rooms – can choose their own location.
- Helps reduce exam stress?

Advantages for staff

- Time saved as assessments are marked immediately and require minimal moderation.
- Questions can be re-used and adapted.
- Including random questions from categories ensures each student gets a different quiz.
- Many question types can be included, we will show examples later.
- Easy to accommodate extra time for students with this provision.
- Correct spelling can be included or disregarded depending on the question or the student.
- Don't require an exam hall.

Williams, P. E. & Hellman, C. M. 2004. Differences in self-regulation for on-line learning between first and second generation college students. *Research in Higher Education*. 45. p71-82.
Ley, k & Young, D.B. 2001. Instructional principles for self-regulation. *Educational Technology Research and Development*. 49. p93–103
Bryson, C. & Hand, L. 2007. The role of engagement in inspiring teaching and learning. *Innovations in Educational and Teaching International*. 44, 4, p349-362

Why use Moodle Assessments? - Disadvantages

- Initial set-up can be time consuming especially if including appropriate feedback for individual answers.

- Some question types cannot be re-graded on a whole class basis e.g. matching questions.

- Some question types are not included in item analysis e.g. embedded answer cloze questions. To retrieve student responses for these detailed responses is used – export into excel and do all analysis there.

- Browser issues, e.g. Google Chrome.

- Computer crashing – have to re-sit the test.

- The timing of opening and closing of the quiz has to be carefully considered.

- Staff have to be available online for the duration of the test (within reason).

- Greater potential for cheating – but easier to detect?

Formative Quizzes Level-1Biology (1A & 1B)

One mathematical based quiz
– Open all semester, students introduced to this in the first Biology lab of the course.

Four Content based Self Assessment (SAE) quizzes
- MCQ questions identified by staff as appropriate for the course, mainly imported from a large bank of online questions.
- Each quiz opens for one week only throughout the semester, directly after teaching of the specific content.
- 3 attempts allowed for each student.
- 10 questions selected randomly from a larger bank of questions.

These quizzes are made available during the revision period before the end of semester exam
- all the questions are available, not a random selection.
- One quiz had to be split into 3 to accommodate a manageable No of questions.
- Unlimited number of attempts can be made.

Immediately after the attempt is submitted students:
- See their answers
- Receive feedback for correct and incorrect answers
- Receive their score for the quiz attempt

Completion can be linked to the 'Early warning system' and hence student retention.

Correlation between students attempting the formative SAE's on Moodle and their final course grade
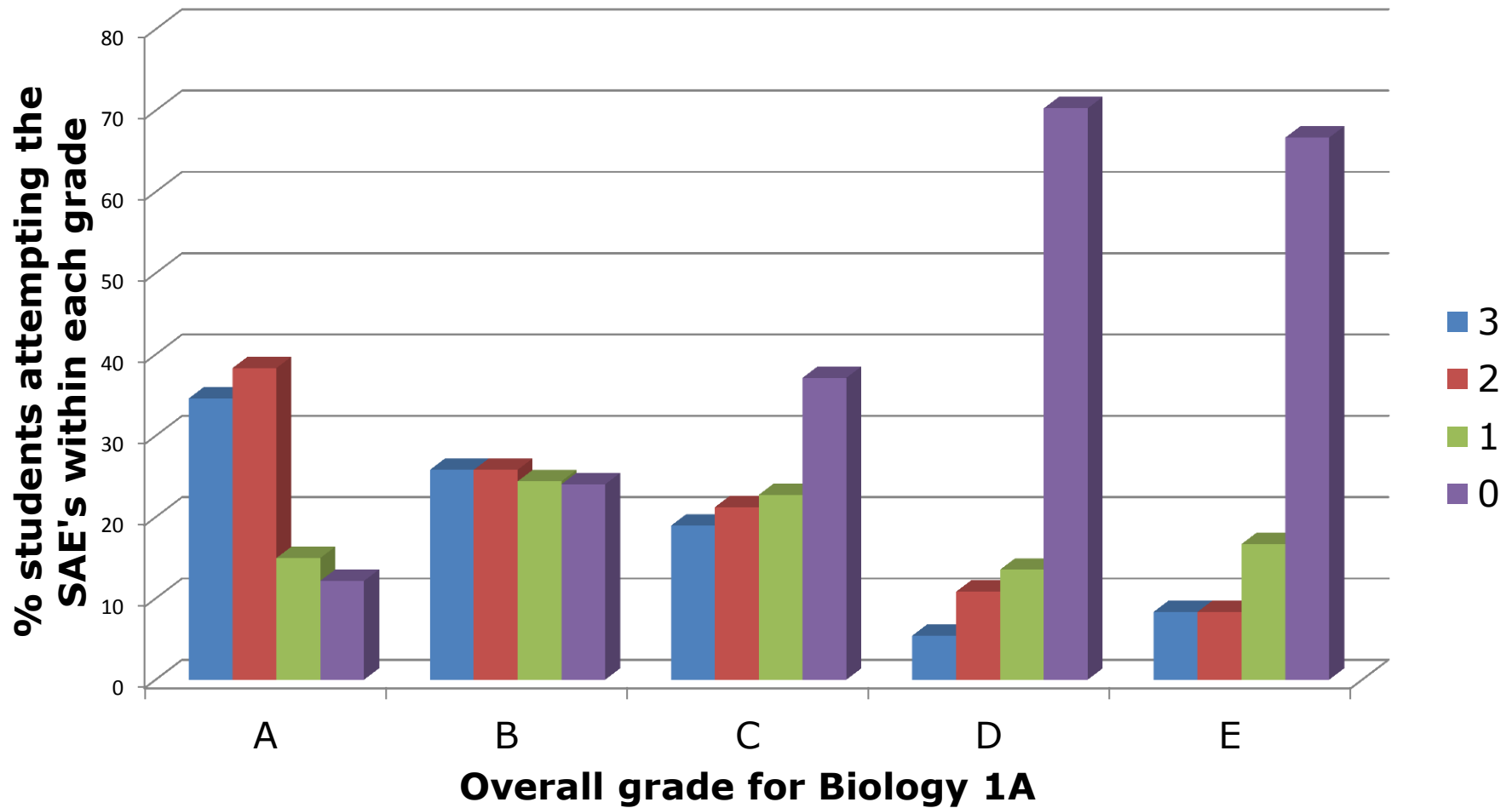
Summative Assessment Quizzes – Level 1 Biology

Prior to this year: Skulls assessment and Plants assessment.
These were both paper assessments (scanned sheets).

They were: Transferred to Moodle.
Minimal changes required to questions.
Photographs used, not the skulls within the lab.

Plants assessment

Initial set up -   A different quiz set up for each lab.
(13 over the week) mimicked the paper exercise.

Present set up -   Password protected, sat during the scheduled lab slot, with the password being changed between quiz sittings.

This is much easier to export and analyse the class results.

Summative Assessment Quizzes – Level 1 Biology

This year

- Summative quizzes relating to laboratory teaching, including images from practical work e.g. from dissections. (Edwards, S.M. 2010)

- Open access for 1 week.

- Students do not receive feedback or scores via Moodle to allow for moderation.

- General feedback on the quiz was e-mailed to all students. This highlighted both positive and negative aspects from the quiz as well as suggestions for improvement

  - e.g. calculation questions were poorly answered by students. The students were then directed to a further Moodle quiz set up for Biology by the effective learning adviser Shazia Ahmed.

Some students requested more specific feedback and were told individually on the questions that they did well or did poorly with.

S.M. & Edwards, A. 2010. Online Pre-laboratory Exercises Enhance Student Preparedness for First Year Biology Practical Classes. *International Journal of Innovation in Science and Mathematics Education.* 18. p1-9.

Correlation between Assessment Quiz Grades and Final Course grades

Assessment Quiz 1 & 2 Compared to Overall Course Grade
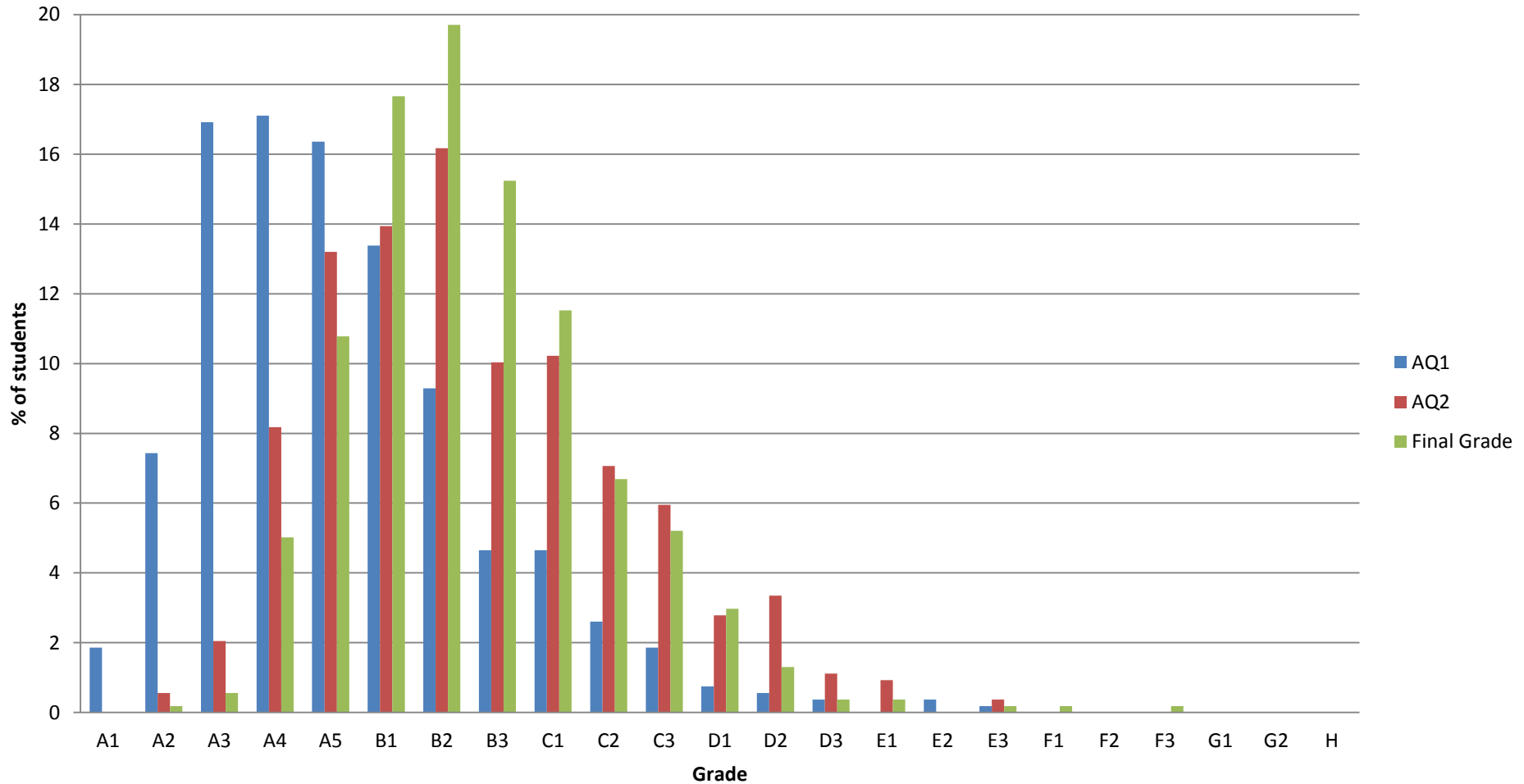
Summative Assessment Quizzes – Level-2 Biology

Prior to this year: Class tests in exam hall / lecture theatre

- Molecules of Life class test   30 MCQs and 4 short calculations (15% of overall grade). 40 minute test

- Microbiology class tests   MCQs (12% and 8% of overall course)
- Immunology class test   MCQs (10% of overall grade)

These were transferred to Moodle with minimal changes required to questions.
All quizzes were open for 24 hours. Do NOT set the start at midnight!

Molecules of Life class test   25 MCQs including 1 short calculation and 1 multi-part question in 30 mins - 27 marks in total. (15% of overall grade).

Microbiology   3 class tests with 25q / 20 min : 25q / 20 min : 45q / 35 min (5% each)

Immunology class test   35 MCQs in 40 minutes (15% of overall grade).

This year – straight transfer of questions to allow comparison, but a mixture of set and random questions were used so that students had different questions.

Students could finish at any time but..........

Grade vs time taken (n=239)
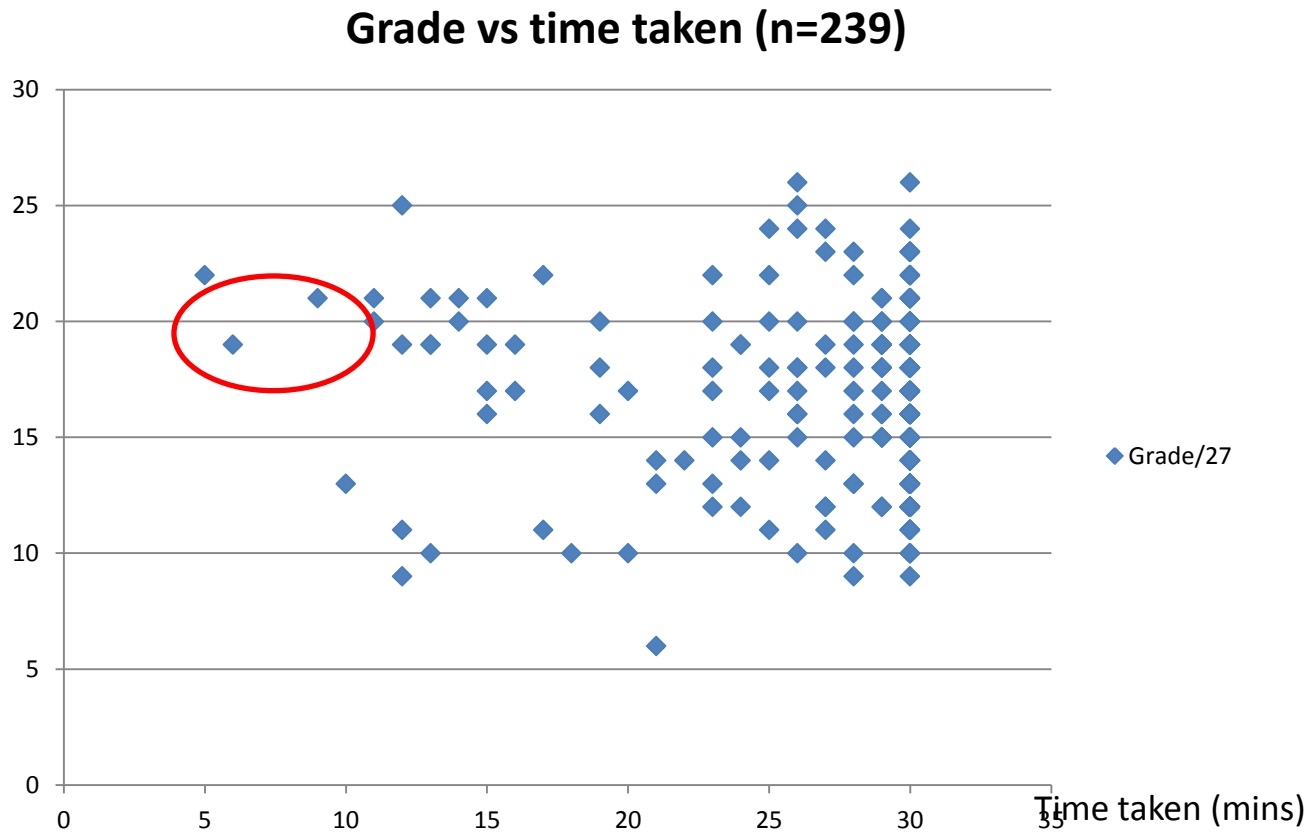
......most will expand to fit the time available

Time taken and overall correlations

average

score / 25

24 hour period

Final grade v class test

Class test

Immunology results

Final grade for course
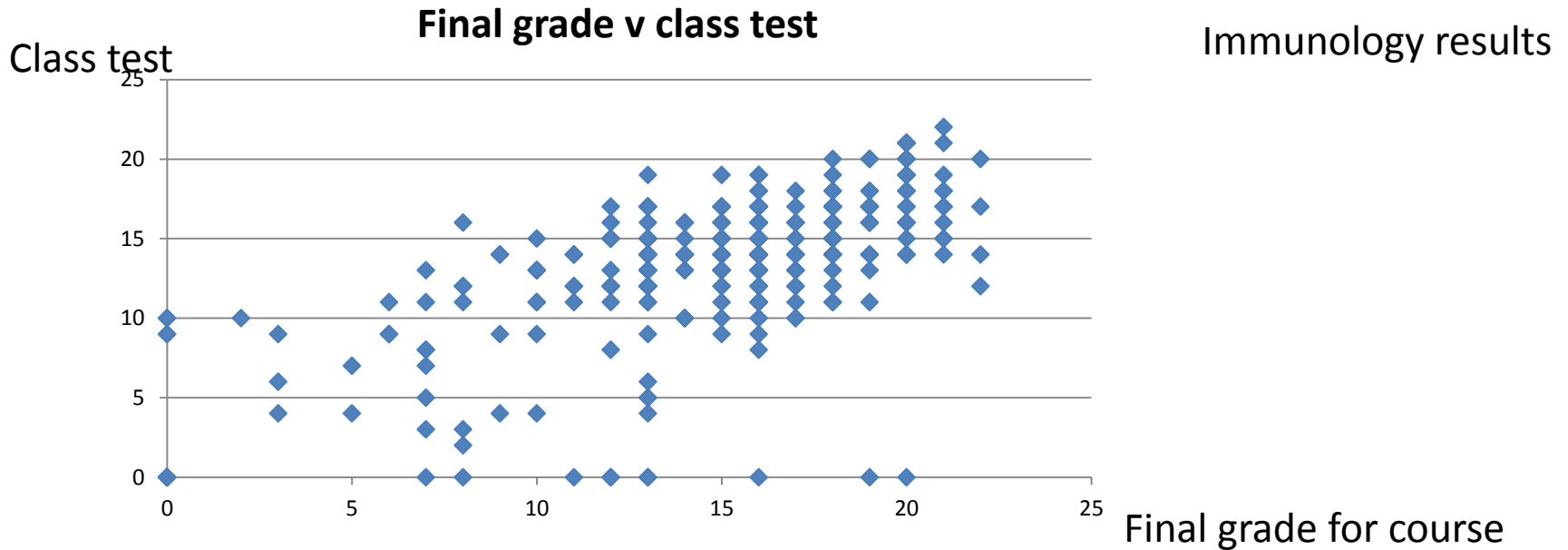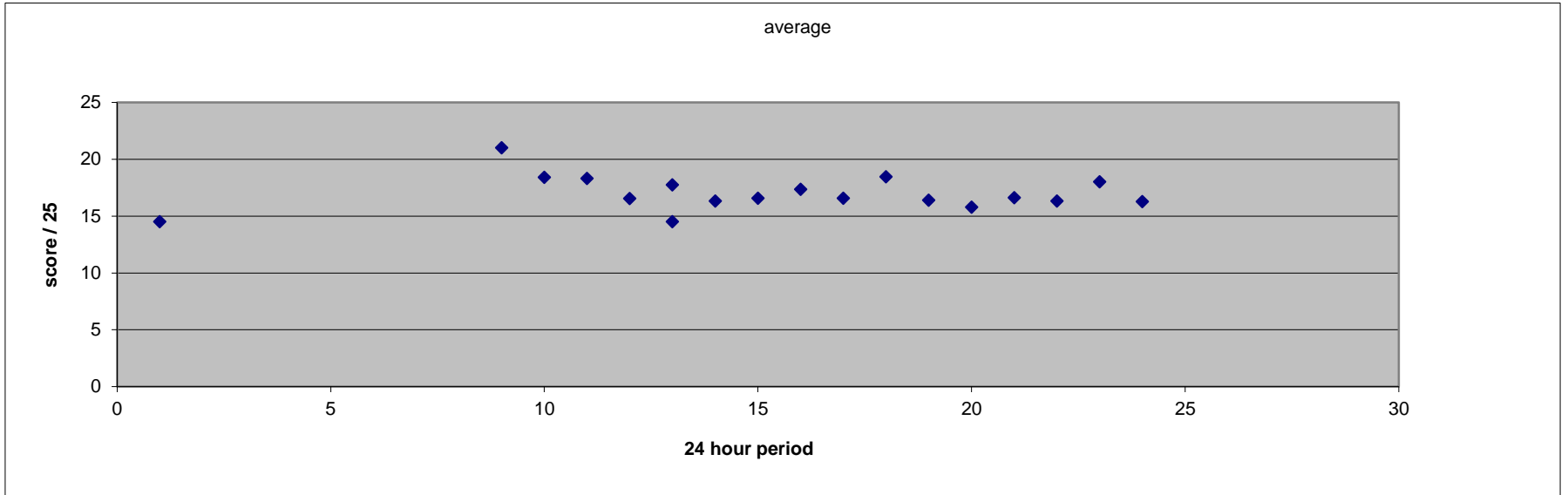
How can students "cheat" ?

Time of test	Computer IP	Test	"group "
17/11/2011 16:50	172.20.220.31	3c duplicate	1
17/11/2011 17:04	172.20.220.31	3c duplicate	1
17/11/2011 17:11	172.20.220.31	3c duplicate	1
17/11/2011 17:17	172.20.220.31	3c duplicate	1
17/11/2011 19:20	86.0.197.154	3c duplicate	2
17/11/2011 19:48	86.0.197.154	3c duplicate	2
17/11/2011 20:05	86.0.197.154	3c duplicate	2

Time of test	Computer IP	Test	"group "
2011 October 24 14:24	130.209.68.114	13a duplicate	10
2011 October 24 13:37	130.209.68.115	13a duplicate	10
2011 October 24 13:37	130.209.68.114	13a duplicate	10
2011 October 24 9:37	172.20.220.71	13a duplicate	11
2011 October 24 9:15	172.20.220.71	13a duplicate	11
2011 October 24 9:49	172.20.220.71	13a duplicate	11

Is this any worse than "take-home" tests where we know that students collaborate?

Questions and answers were in random order, and the selection of questions varied.

Multiple Choice Question

1

Marks: 1

Which one of the following correctly describes the type of epithelium illustrated?
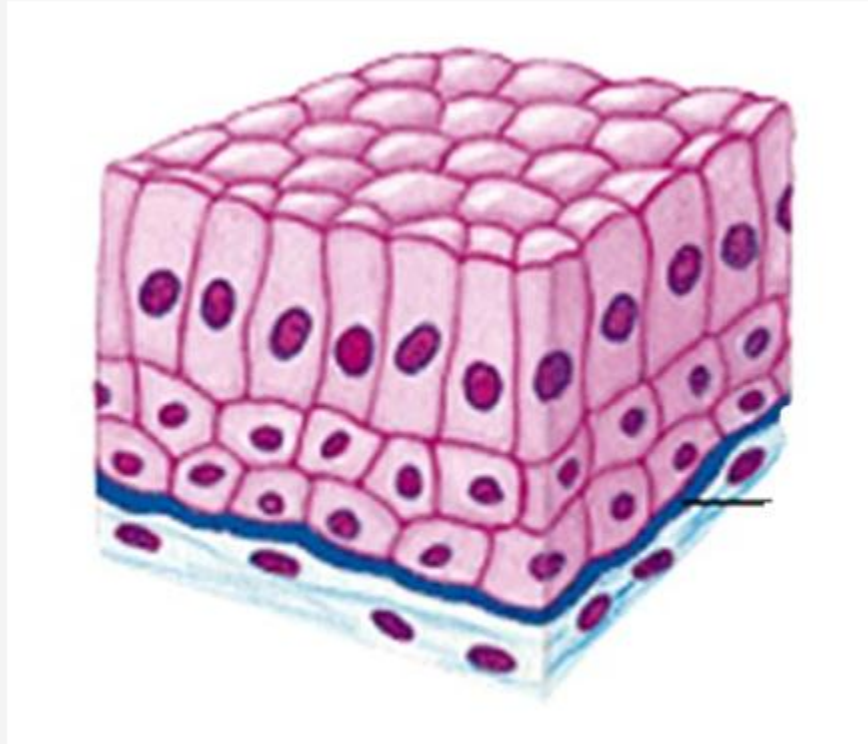
Choose one answer.

- ○ a. simple cuboidal
- ○ b. stratified columnar
- ○ c. pseudostratified
- ○ d. stratified squamous

Matching Question
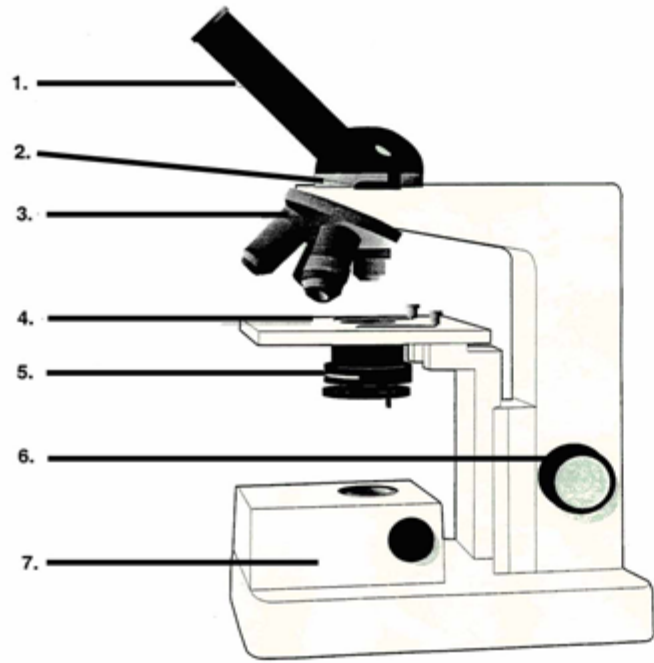
In the figure above select the correct identifier for the components labelled 1, 3 and 6.

Component 6:   Choose...   ▼

Component 1:   Choose...   ▼

Component 3:   Choose...   ▼

Choose...
Object stage
Focusing control
Revolvable nosepiece
Condenser
Built-in illuminator/ illumination control
Tube change lever
Eyepiece tube(s)

Submit page   Submit all and f

Fill with correct   Start again   C

Embedded Answers (Cloze)

1

Marks: 3
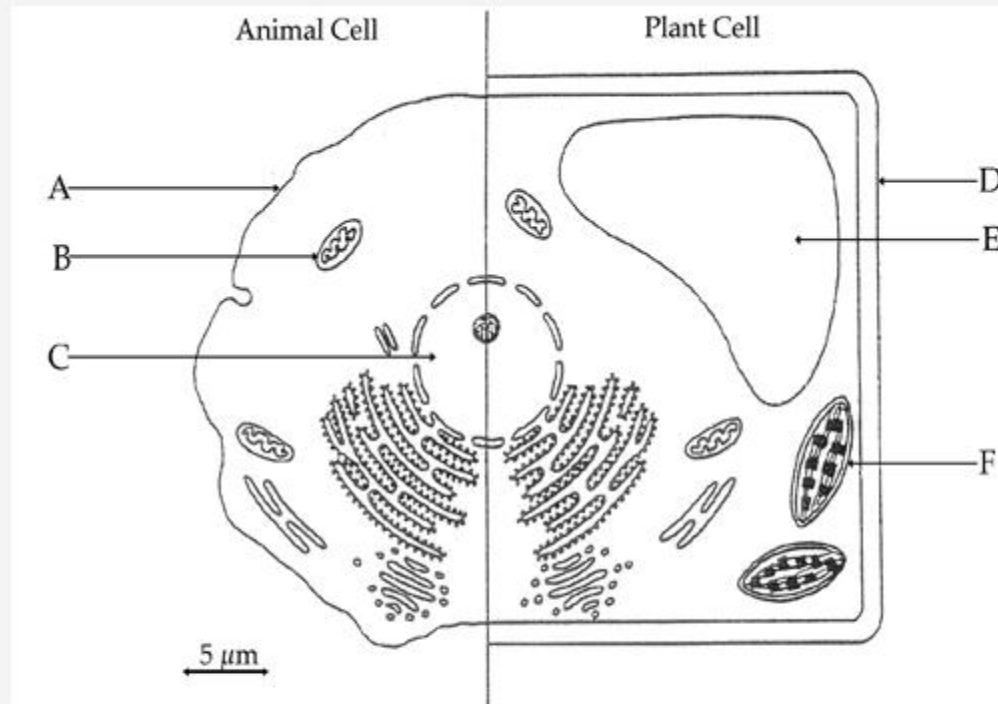
Type your answers into the appropriate boxes.

From the diagram above identify the following cell components.

A =

E =

F =

Embedded Answers (Cloze)

1

Marks: 6

From the skull shown above some deductions can be made about the way of life of that animal.

The **vision** of this animal can be considered as [____ ▼] this indicates that the animal is [____ ▼].

From the position of the foramen magnum the animal is [____ ▼]

From the teeth of this animal the animal is likely to be [____ ▼]

As a tentative identification I have considered the size of the skull which is [____ ▼] I think that the animal could be [_____]

Numerical Question

1

Marks: 1

If 10 eyepiece units (e.u.) cover a distance of 2 stage units (s.u.) and 1 s.u. is known to be 100μm, calculate the conversion factor.

Your answer should only include whole numbers with no commas, e.g. 2500, not 2,500. Include the decimal point only if necessary.

Answer: [   ]

True or False Question

1

Marks: 1

Basal Metabolic Rate (BMR) is the amount of energy needed to support basal metabolic processes.

Answer:

○ True

○ False

Short Answer Question

1

Marks: 1

Human DNA contains 3×10^9 base pairs.
If 10 base pairs corresponds to 3.4 nm in the double helix model, what is the length of DNA in a single human cell?

Express your answer in mm to two decimal places, do not include the units in your answer.

Answer: [   ]

Essay Question

1

Marks: 1

Section B Question 2 (14 marks)

In an investigation of human energy metabolism, the following data were obtained for a male student of height 1.8m and body weight 90.2 kg.

Answer the following questions and show your workings.

i. In a spirometer test on the student at rest, lasting 5 minutes, the starting volume of oxygen was 10.0 litres and the final volume was 8.44 litres. What was the oxygen consumption of the student in l / min ?

ii. Assuming that each litre of oxygen consumed produced 4.8 kcal of energy, what was the Resting Energy Expenditure (REE) of the student in kcal / day ?

iii. Assuming that the average daily activity factor for the student was 1.6, what was his Total Energy Expenditure (TEE) in kcal / kg / day ?

iv. The student has a value of 18.7% for his percentage of body fat. What weight of fat does this represent ?

v. What is the Body Mass Index (BMI) of the student?

vi. According to normal interpretations of BMI, is he:

       a underweight

       b healthy

       c overweight

       d possibly obese

Answer:

Path:

Other types of questions are available…………

- Calculated Question

- Description Question

- Maths Skills (GU) Question

- Random Short-Answer Matching Question

- Tagged MC Question

More question types may come on-line in the future.

Question Settings

Question name* | Cell Fig 1

Question text* (?)

| Normal ▼ | Lang ▼ | **B** *I* <u>U</u> S | x₂ x² | 📋 | ↶ ↷ |

| ≡ ≡ ≡ ≡ | ▶¶ ¶◀ | ≟ ≣ ≡ ≡ | T₂ ◈ | — ⚓ ∞ ⚙ ⚓ | 🖼 ▦ ☺ 🎲 📑 | <> | 📭 |

From the diagram above identify the following cell components.

A = {1:SHORTANSWER:~=Cell membrane}

E = {1:SHORTANSWER:~=Vacuole}

F = {1:SHORTANSWER:~=Chloroplast}

Path: **body** » **p**

(? ▦)

Format (?)   HTML format

Image to display   None ▼

Penalty factor* (?)   0

General feedback (?)

| ▼ | Lang ▼ | **B** *I* <u>U</u> S | x₂ x² | 📋 | ↶ ↷ |

| ≡ ≡ ≡ ≡ | ▶¶ ¶◀ | ≟ ≣ ≡ ≡ | T₂ ◈ | — ⚓ ∞ ⚙ ⚓ | 🖼 ▦ ☺ 🎲 📑 | <> | 📭 |

Path:

(? ▦)

Decode and Verify the Question Text

Question Settings – Embedded Answers (Cloze)

Editing an Emb

You ha

- Edit this ques
- Move this que
- Save this as

Current Category   Cell Diagram (

Save in Category   Cell Diagram (3

Question name*   Cell Fig 1

Question text*

Always remember the help buttons!

Embedded answers (Cloze)

This very flexible question type is similar to a popular format known as the Cloze format.

Questions consist of a passage of text (in Moodle format) that has various sub-questions embedded within it, including

- short answers (SHORTANSWER or SA or MW), case is unimportant,
- short answers (SHORTANSWER_C or SAC or MWC), case must match,
- numerical answers (NUMERICAL or NM),
- multiple choice (MULTICHOICE or MC), represented as a dropdown menu in-line in the text
- multiple choice (MULTICHOICE_V or MCV), represented a vertical column of radio buttons, or
- multiple choice (MULTICHOICE_H or MCH), represented as a horizontal row of radio-buttons.

There is currently no graphical interface to create these questions - you need to specify the question format using the text box or by importing them from external files.

Here is an example of the input text used to specify such a question:

Note that for multiple choice vertical or horizontal rendering there is no automatic numbering. It can added at each answer as shown here.

```
This question consists of some text with an answer embedded
right here {1:MULTICHOICE:Wrong answer#Feedback for this
wrong answer~Another wrong answer#Feedback for the other
wrong answer~=Correct answer#Feedback for correct answer~%
50%Answer that gives half the credit#Feedback for half
credit answer} and right after that you will have to deal
with this short answer {1:SHORTANSWER:Wrong answer#Feedback
for this wrong answer~=Correct answer#Feedback for correct
answer~%50%Answer that gives half the credit#Feedback for
half credit answer} and finally we have a floating point
number {2:NUMERICAL:=23.8:0.1#Feedback for correct answer
23.8~%50%23.8:2#Feedback for half credit answer in the
```

Quiz Set-up

General

Name* Assessment Quiz 1 - Week 6

Introduction

This quiz is available from 9am on Monday 24th October until 5pm on Friday 28th October. No late attempts are possible.

Path:

Timing

Open the quiz	11	April	2012	11	05	☑ Disable
Close the quiz	11	April	2012	11	05	☑ Disable

Time limit (minutes) 25 ☑ Enable

Time delay between first and second attempt None

Time delay between later attempts None

Display

Questions per page Unlimited
Shuffle questions Yes
Shuffle within questions Yes

Attempts

Attempts allowed 1
Each attempt builds on the last No
Adaptive mode No

Grades

Grading method Highest grade
Apply penalties No
Decimal digits in grades 0

Review options

Immediately after the attempt	Later, while the quiz is still open	After the quiz is closed
☐ Responses	☐ Responses	☐ Responses
☐ Answers	☐ Answers	☐ Answers
☐ Feedback	☐ Feedback	☐ Feedback
☐ General feedback	☐ General feedback	☐ General feedback
☐ Scores	☐ Scores	☐ Scores
☐ Overall feedback	☐ Overall feedback	☐ Overall feedback

Security

Browser security None
Require password ☐ Unmask
Require network address

Common module settings

Group mode Separate groups
Grouping* Special Sitting
Available for group members only* ☑
Visible Hide
ID number
Grade category Uncategorised

Overall feedback

Grade boundary 100%
Feedback

Creating a Quiz

Testing questions and quiz scoring

- Using a fake student account has been invaluable. As staff even in student view you do not get the full 'student experience'.

- If you wish to check marking of questions:
  - ensure the settings allow a student to see the score.
  - Ensure the number of attempts is unlimited

- Remember to change this again before opening it to the students!

- By setting up a grouping with only the fake student the quiz will only be visible to that student so you can make as many attempts as you like.

Analysis of Questions – Item Analysis

- Item analysis will give you the statistics for how well the students performed for that particular question, usually works well.

- We have an exception –mathematical question

gel loading 5 : You have a protein solution that has a concentration of 1.5ng/nl. you need to load 4 ug to the lane of your SDS page gel. How many ul will you need to load? Express your answer to two significant figures, do not include the units just type the **number.**	2.7 (2.7..2.7)		
		(1.00)	0/60
	6	(0.00)	7/60
7 students gave 2.7 as their answer, no-one was marked correctly...or were they?	2.67	(0.00)	8/60
	26	(0.00)	1/60
→	2.7	(0.00)	7/60
	15	(0.00)	2/60
	20	(0.00)	2/60
	8.7	(0.00)	1/60
	0.0000027	(0.00)	1/60

This is displayed correctly if a range of values is entered, even if that range is zero

Analysis of answers – detailed responses

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13
3	XAXA, XAY	0.857	F: Enzyme, B: Second antibody, E: Substrate	2.7	C	P: chlorophyll b, W: carotenoids, L: chlorophyll a	1: amino group, 4: alpha-Carbon, 3: carboxyl group, 2: side chain	A: Oxidised, E: Blue, F: chloroplasts, B: Reduced	Glutamic acid, Valine	0.05, 0.01	0.5, 0.2	Red

This was actually marked correctly.

Detailed responses allows you to see every response from **every** student.

Scoring of Questions

- There are two settings for the scoring:

  Score for the individual question – multi-part questions

  Score for the overall quiz - can be mapped to the 22 point scale

Order		#	Question name	Type	Grade	Action
	↓		Random Question (Genetics Lab - DoF)	?	1	✎
↑	↓		Random Question (Genetics Lab - Genotype)	?	2	✎
↑	↓		Random Question (Photosynthesis Lab)	?	1	✎
↑	↓		Random Question (Proteins Lab - Elisa)	?	3	✎
↑	↓		Random Question (Proteins Lab 2)	?	1	✎
↑	↓		Random Question (Proteins Lab 3)	?	1	✎
↑	↓		absorption spectrum	▤	3	🔍 ✎
↑	↓		amino acid	▤	4	🔍 ✎
↑	↓		Hill reaction	▤	4	🔍 ✎
↑	↓		amino acid change	▥	2	🔍 ✎
↑	↓		Random Question (Genetics Lab - Probability)	?	2	✎
↑	↓		Random Question (Genetics Lab - Probability)	?	2	✎
↑	↓		Random Question (Genetics Lab)	?	1	✎
↑	↓		Random Question (Genetics Lab)	?	1	✎
↑	↓		Random Question (Proteins Lab 1)	?	1	✎
↑			Random Question (Proteins Lab 1)	?	1	✎

Total: **30**

Maximum grade: 30

Regrading

Why do we need to regrade in Moodle?

- Sometimes we make mistakes – it has been known.

- Sometimes students surprise us .

- Short answer questions, maybe we decide to accept a different answer from a student that is equally correct as the correct answer in moodle.

- Spelling – you can decide what is acceptable.

Two ways to regrade:

- Manually by regrading a single question score for an individual student.

- By regrading all of the class attempts:
  - go to the question via the item analysis page, add the new answer as another option for a correct answer.
  - Hit the regrade button (I still have to close my eyes here).
  - Any student attempts that have been regraded will be highlighted in blue.

This takes time…lots of it when you have >500 attempts at the quiz

13A: class test 24 October 2011 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

3c.pdf (application/pdf Object) | University of Glasgow :: Learning & T... | 13A: class test 24 October 2011

ibls.moodle.gla.ac.uk/mod/quiz/review.php?attempt=61251&page=0

An Hung hanoi

Most Visited | Getting Started | BBC - Homepage | Clip to Evernote | Moodle LS | Calendar 2011 | save on delicious | Facebook | TurnitinUK | ASC minutes | transfer form | University of Glasgow ... | Course: L & T confere...

Life Sciences ▶ Level-2 ▶ 13A ▶ Quizzes ▶ class test 24 October 2011 ▶ Review of attempt 1

Update this Quiz

| Info | Results | Preview | Edit |

Overview   Regrade   Manual grading   Item analysis   Detailed responses

class test 24 October 2011

Review of attempt 1

Started on	Monday, 24 October 2011, 08:35 PM
Completed on	Monday, 24 October 2011, 09:05 PM
Time taken	30 mins 34 secs
Grade	**35** out of a maximum of 35 (**100%**)

Page: 1 **2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18** ...**35** (**Next**)

Show all questions on one page

1 🖉   MHC class II moleculaes are NOT expressed on

Marks: 1/1

Choose one answer.   ⦿   a. Mast cells ✓

                       ○   b. B cells ✗

                       ○   c. Macrophages ✗

                       ○   d. Dendritic cells ✗

Make comment or override grade

Correct
Marks for this submission: 1/1.
History of Responses:

#	Action	Response	Time	Raw score	Grade
1	Grade	B cells	20:36:08 on 24/10/11	0	0
2	Grade	Macrophages	20:36:20 on 24/10/11	0	0
3	Grade	Dendritic cells	20:36:26 on 24/10/11	0	0
4	Grade	Mast cells	20:36:31 on 24/10/11	1	1
5	**Close&Grade**	**Mast cells**	**20:36:31 on 24/10/11**	**1**	**1**

Page: 1 **2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18** ...**35** (**Next**)

You are logged in as **Maureen Griffiths** (**Logout**)
ⓘ **Moodle Docs for this page**

class test 24 October 2011

Review of attempt 1

ctober 2011, 08:35 PM

ctober 2011, 09:05 PM

cs

ximum of 35 (**100%**)

Show all questions on one page

aes are NOT expressed on

◉	a. Mast cells ✔	
○	b. B cells ✗	
○	c. Macrophages ✗	
○	d. Dendritic cells ✗	

verride grade

on: 1/1.

	Response	Time	Raw score
	B cells	20:36:08 on 24/10/11	0
	Macrophages	20:36:20 on 24/10/11	0
	Dendritic cells	20:36:26 on 24/10/11	0
	Mast cells	20:36:31 on 24/10/11	1
	Mast cells	**20:36:31 on 24/10/11**	**1**

Extracting Scores – Grade Book

Selecting 'Grade' takes you to the Grader Report page.

You can then choose an action, i.e. Export Data as Excel spread sheet.

NOTE: By default this will give you the scores from all scored items in your moodle page.

You can select only the items you want scores for.

This will give you a spread sheet of the scores with the **Student ID Number**.

Student Impressions from SSLM

- Some technical problems with the first Level-1 assessment quiz (18/600 students). This was significantly lower for second quiz.

- The reps reported that due to random ordering of questions some students encountered the most difficult questions first. This was quite off-putting.

- It was agreed that a timer could be added to the revision quizzes to give students experience of completing quizzes in a specified time.

- The reason for the long turnaround before releasing results was down to the high incidence of miss-spelling that needed to be checked. Reps agreed that this could be emphasised in later quizzes explaining that miss-spelling will result in loss of marks.

- The reps asked for more explicit feedback concerning the assessment quizzes. It was agreed that staff would provide more extensive generic feedback from these quizzes in e-mail, e.g. positives as well as negatives.

- Positive response from most L2 students. Only complaints were from students who sat test at home and had internet problems

No specific comments on quizzes in the second semester course.

Let's have a look at an example of a quiz

What's the difference between a Quiz and a Lesson?

- Both can be used formatively and summatively.

- Lessons can be used to identify areas of weakness and lead students to further resources. It often combines new information with questions based on current knowledge.

- Quizzes are linear or random, Lessons can be linear or branched.

- Students have no control over the direction of a quiz, but may be allowed to make choices in lessons.

- Can set up a series of lessons requiring students to achieve a certain grade, complete a certain amount, or spend a minimum amount of time on lesson 1 before accessing lesson 2.

Lessons – can be used formatively and summatively

- Lessons we have are formative and used for the following:
  - specific lab techniques - microscope calibration, molecular graphics using Pymol (Level-1)
  - Lab procedures (MOL)

- Lessons can be used for:
  - pre-lab information
  - post lab testing
  - Both
  - Training resource for GTAs

- Lessons can incorporate questions with accompanying text / pictures / descriptions and explanations.

- Students can navigate through the lesson in different ways.

- Time consuming to create, can grow arms and legs!

You can choose if a student can proceed without completing a question
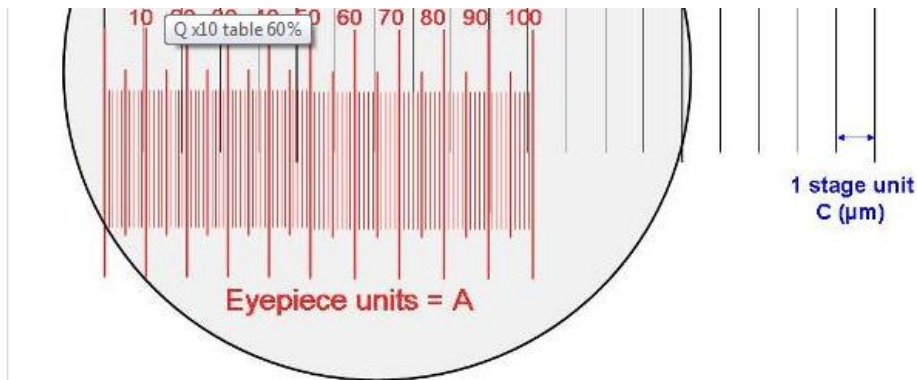
From the figure above the table (which is also found in your lab book) is filled in as follows:

	Medium power x10 objective
Eyepiece units (e.u.)	A = 90
Stage units (s.u.)	B
Size of a stage unit (um)	C
Conversion factor	D
(No of s.u. x size of s.u.) / No of eyepiece units.	(10 stage units x 100um) / 100 eyepiece units =D

Your answer :

A = 10
B = 11.11
C = 90
D = 100

Incorrect try again, you must have all components correct for this question

Students can navigate through lessons differently

Life Sciences ▶ Level-1 ▶ BIOL1001 ▶ Lessons ▶ **Microscope Calibration**

Update this Lesson | Edit page contents

Microscope Calibration ❓

Preview | Edit | Reports | Grade Essays

An Unseen question within a cluster jump or an Unseen question within a branch jump is being used in this lesson. The Next Page jump will be used instead. Login as a student to test these jumps.

lab microscopes

Depending on which laboratory you will be in you will have a particular type of microscope.

Click on the button below that corresponds to your Level 1 Biology Lab number. If you are unsure click either button.

Click here if you are in Lab 924 | Click here if you are in Lab 932

Life Sciences ▶ Level-1 ▶ BIOL1001 ▶ Lessons ▶ **Microscope Calibration**

Update this Lesson | Edit page contents

Microscope Calibration ❓

Preview | Edit | Reports | Grade Essays

An Unseen question within a cluster jump or an Unseen question within a branch jump is being used in this lesson. The Next Page jump will be used instead. Login as a student to test these jumps.

Unit conversion practice

You have the option of practice at Unit conversions now or you can choose to come back and do these later. If you choose to do this later you will be directed to a question page with several unit conversion questions, you must get all of these correct before proceeding in the lesson.

Proceed with Unit conversion questions | Attempt the Unit conversion questions later

Students can navigate through lessons differently

Let's have a look at a lesson

Collapsed view of lesson pages and settings- note the jumps and clusters

Unit conversion description	Multiple Choice		↕ ✎ 🔍 ✖	Add a page... ▾
Unit conversion practice	Branch Table	Cluster 1 ratio table x10	↕ ✎ 🔍 ✖	Add a page... ▾
Cluster 1	Cluster	Unseen question within a cluster	↕ ✎ 🔍 ✖	Add a page... ▾
(1)	Short Answer	End of cluster 1	↕ ✎ 🔍 ✖	Add a page... ▾
(2)	Short Answer	End of cluster 1	↕ ✎ 🔍 ✖	Add a page... ▾
(3)	Short Answer	End of cluster 1	↕ ✎ 🔍 ✖	Add a page... ▾
End of cluster 1	End of cluster	Next page	↕ ✎ 🔍 ✖	Add a page... ▾
Cluster 2	Cluster	Unseen question within a cluster	↕ ✎ 🔍 ✖	Add a page... ▾
(4)	Short Answer	End of cluster 2	↕ ✎ 🔍 ✖	Add a page... ▾
(5)	Short Answer	End of cluster 2	↕ ✎ 🔍 ✖	Add a page... ▾
(6)	Short Answer	End of cluster 2	↕ ✎ 🔍 ✖	Add a page... ▾
End of cluster 2	End of cluster	Next page	↕ ✎ 🔍 ✖	Add a page... ▾
Cluster 3 -MCQ	Cluster	Unseen question within a cluster	↕ ✎ 🔍 ✖	Add a page... ▾
Q6 Units	Multiple Choice	End of cluster 3- MCQ This page This page This page	↕ ✎ 🔍 ✖	Add a page... ▾
Q5 Units	Multiple Choice	End of cluster 3- MCQ	↕ ✎ 🔍 ✖	Add a page... ▾

Each time a student attempts the lesson there can be a different combination of questions.

Data Analysis of Lessons

- Who attempted the lesson and how many attempts were made.

- How many times the lesson was completed.

- Their score for the questions attempted.

- Overall analysis for the quiz how the students performed for each question:
  - All short answers are shown
  - % of class that chose each option

Evaluation of microscope calibration lesson

GTA feedback - positive

'I agree that it would be helpful to either spend some time at the beginning on lab in computer cluster to go over calibration exercise, which i thought was very helpful...'

'...but news didn't seemed to have filtered out that there was a Moodle exercise to help them before they arrived...' It may be obvious to you that the lesson is there but is it obvious to the students?

'I think a bit of time spent on the Moodle calibration exercise, either by emphasising that they   should try this exercise before the lab or by spending 10-15 minutes at the start on this, would help them understand what they should be seeing'.

Student feedback –   Positive in how it improved their learning

wanted a indication of how long the lesson will take them.

want similar images in the lab book - now completed.

Did not like the question that must be completed before proceeding with the lesson.

Evaluation of enzyme pre-lab and post lab lessons (Level-2)

There are 2 labs in this course. For lab 1, we designed a pre-lab to explain the experiment, the equipment involved and the type of calculations that were required.

The post-lab used a sample set of answers and allowed students to check their understanding of the theory behind the lab as well as the analysis of results.

As a set of results were provided, this enabled students who had missed the lab to access a "virtual" version.

 All of this was optional. Students were shown their grade and there was feedback on each question.

2010 Prelab lesson (332 in class, 23 pages in lesson):
- Before lab session, prelab accessed by 293 students av page hits 34 (2 – 112).
- After lab session, accessed by 86 students av page hits 20 (1 – 94).
- Postlab lesson – accessed by 283 students av page hits 26   (2-190).

Student feedback:
- Found the prelab useful and helped with labwork.
- Postlab was most useful for revision.
- Many requests for similar lessons for the second lab in the course.