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The Student Learning Service and the PeerWise Self Directed Learning Assignment

Dr Lesley Nicolson

Biomolecular Sciences

and

Dr Amanda Sykes

Student Learning Service

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PeerWise Assignment

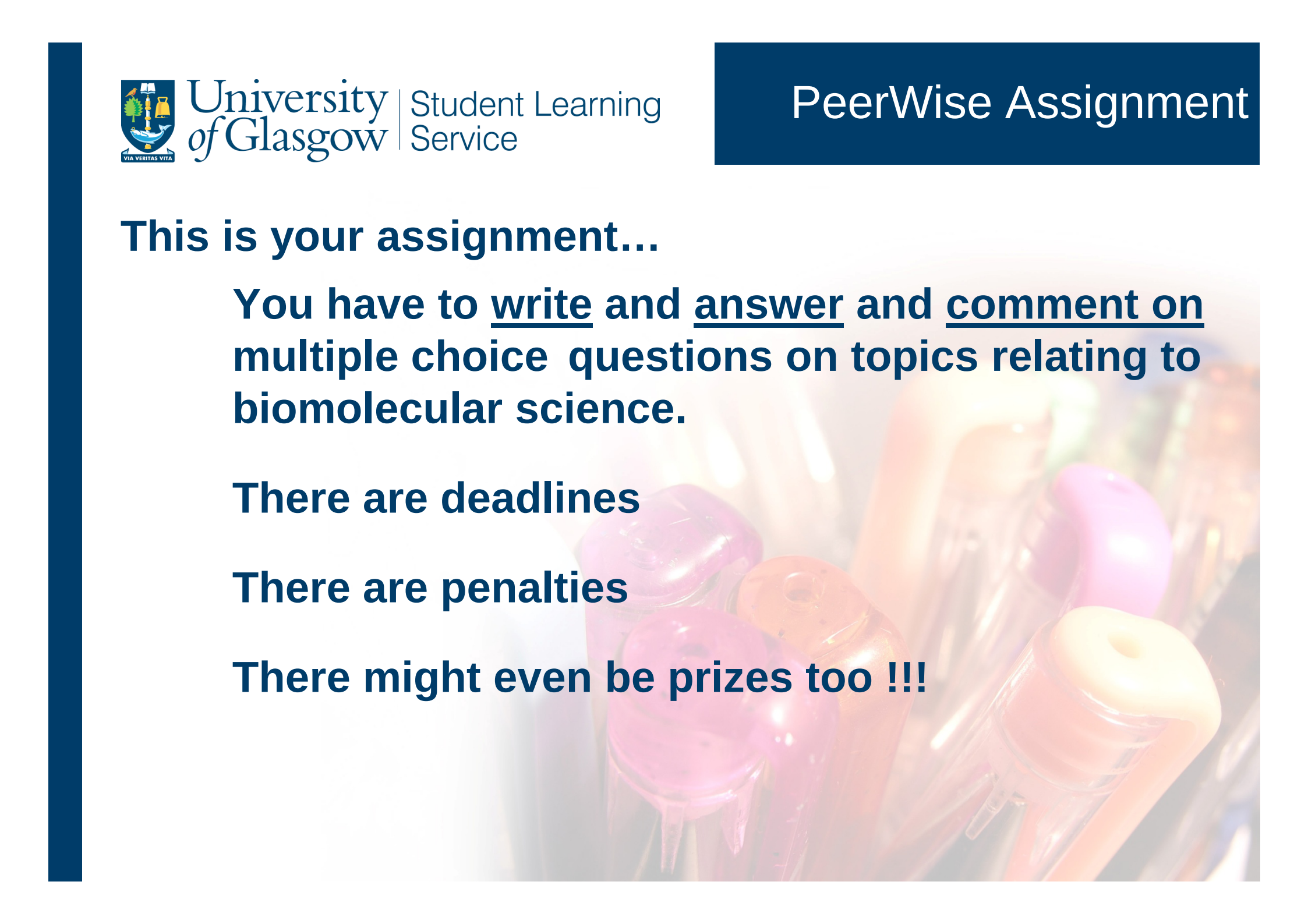
This is your assignment…

You have to write and answer and comment on multiple choice questions on topics relating to biomolecular science.

There are deadlines

There are penalties

There might even be prizes too !!!



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Have you ever…

…answered MCQ questions…?

…written MCQs?

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A Quiz

Eight questions, and you should be able to get them all right… just think about how MCQs are written

Nora Mogey, Phil Race and Roger Lewis

1. **The usual function of a Grunge-prowker is to remove:**

   A: Grunges

   B: Snarts

   C: Trigs

   D: Grods

Nora Mogey, Phil Race and Roger Lewis

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Question two:

Antigrottification occurs…

A: on summer mornings

B: on summer evenings provided there is no rain before dusk

C: on autumn afternoons

D: on winter nights

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Question three:

Lurkies suffer from trangitis because…

A: their prads are always underdeveloped

B: all their brizes are horizontal

C: their curnpieces are usually imperfect

D: none of their dringoes can ever adapt

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Question four:

Non-responsive frattling is usually found in an:

A: Gringle

B: Janket

C: Kloppie

D: Ukerpod

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Question five:

Which are exceptions to the law of lompicality?

A: The miltrip and the nattercup

B: The bifid pantrip

C: The common queeter

D: The flanged ozzer

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Question six:

Which must be present for parbling to take place?

A: Phlot and runge

B: Runge

C: Stuke and runge

D: Runge and trake

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Question seven:

One common disorder of an overspragged ukerpod is:

A: Copious vezzling

B: Intermittent weggerment

C: Non-responsive frattling

D: Uneven yurkation

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Question eight:

Which is the correct answer?

A

B

C

D

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The Answers

How do you think you got on?

Swap with your neighbour…

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The usual function of a grunge-prowker is to remove:

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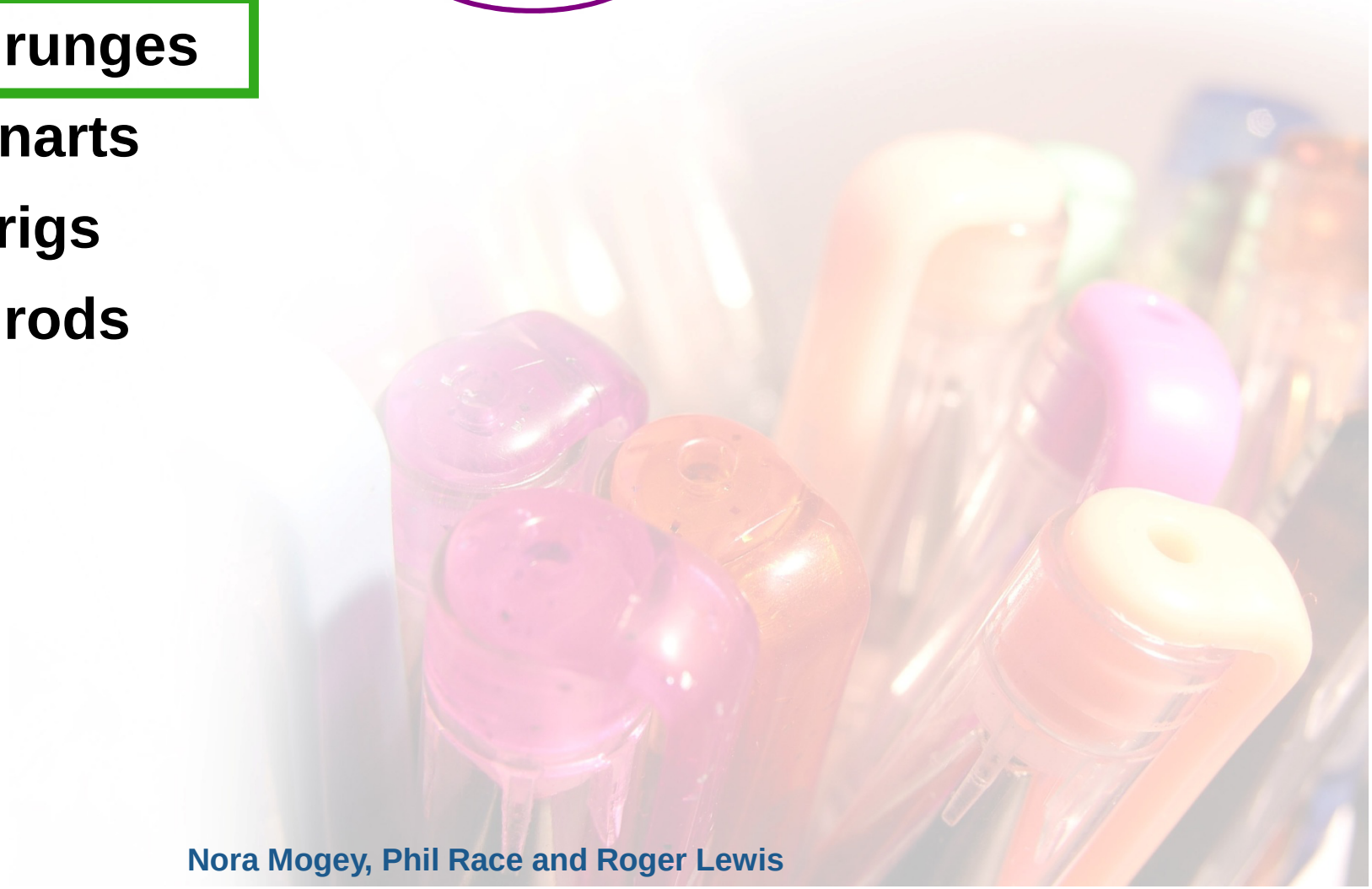

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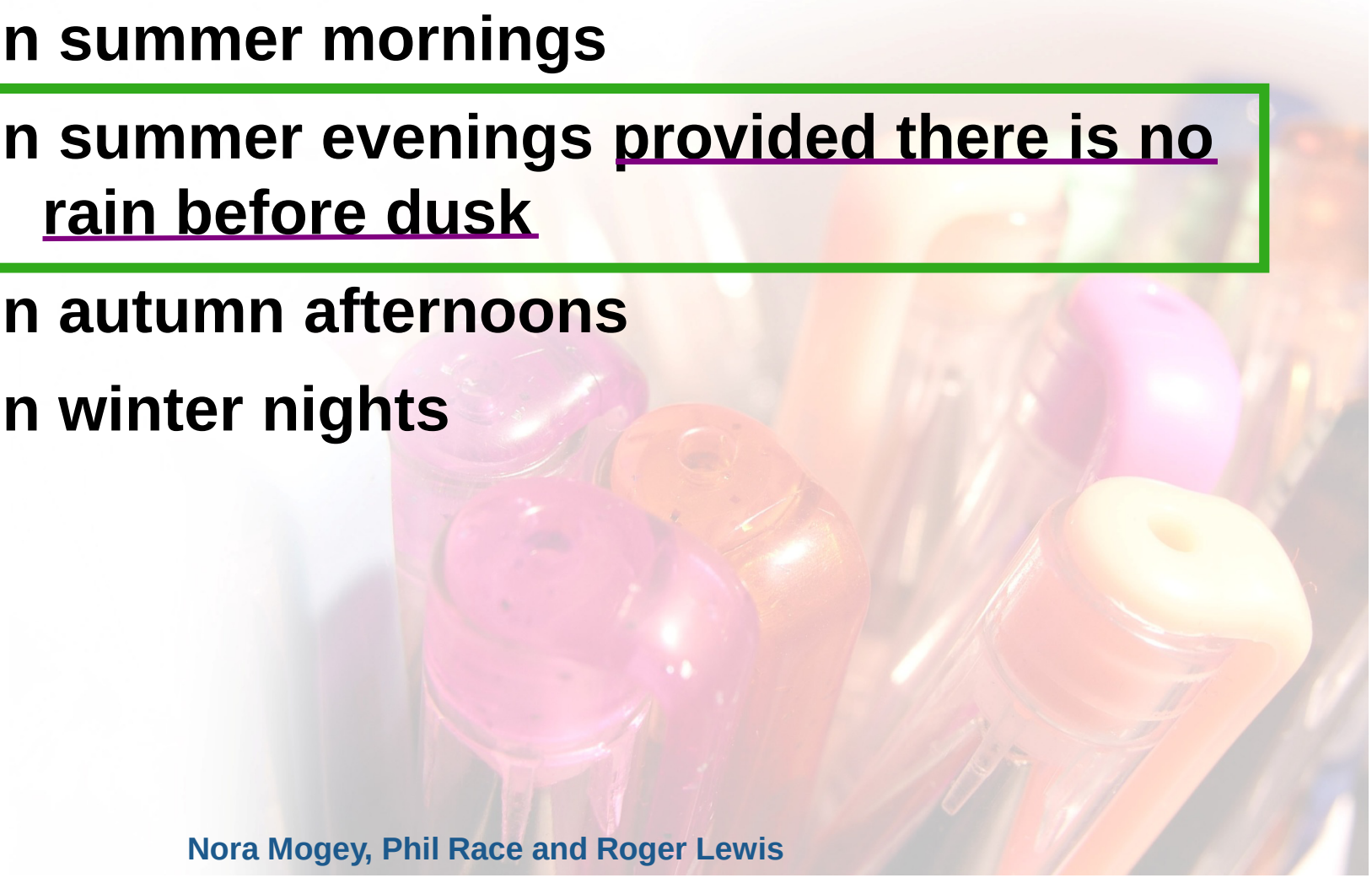

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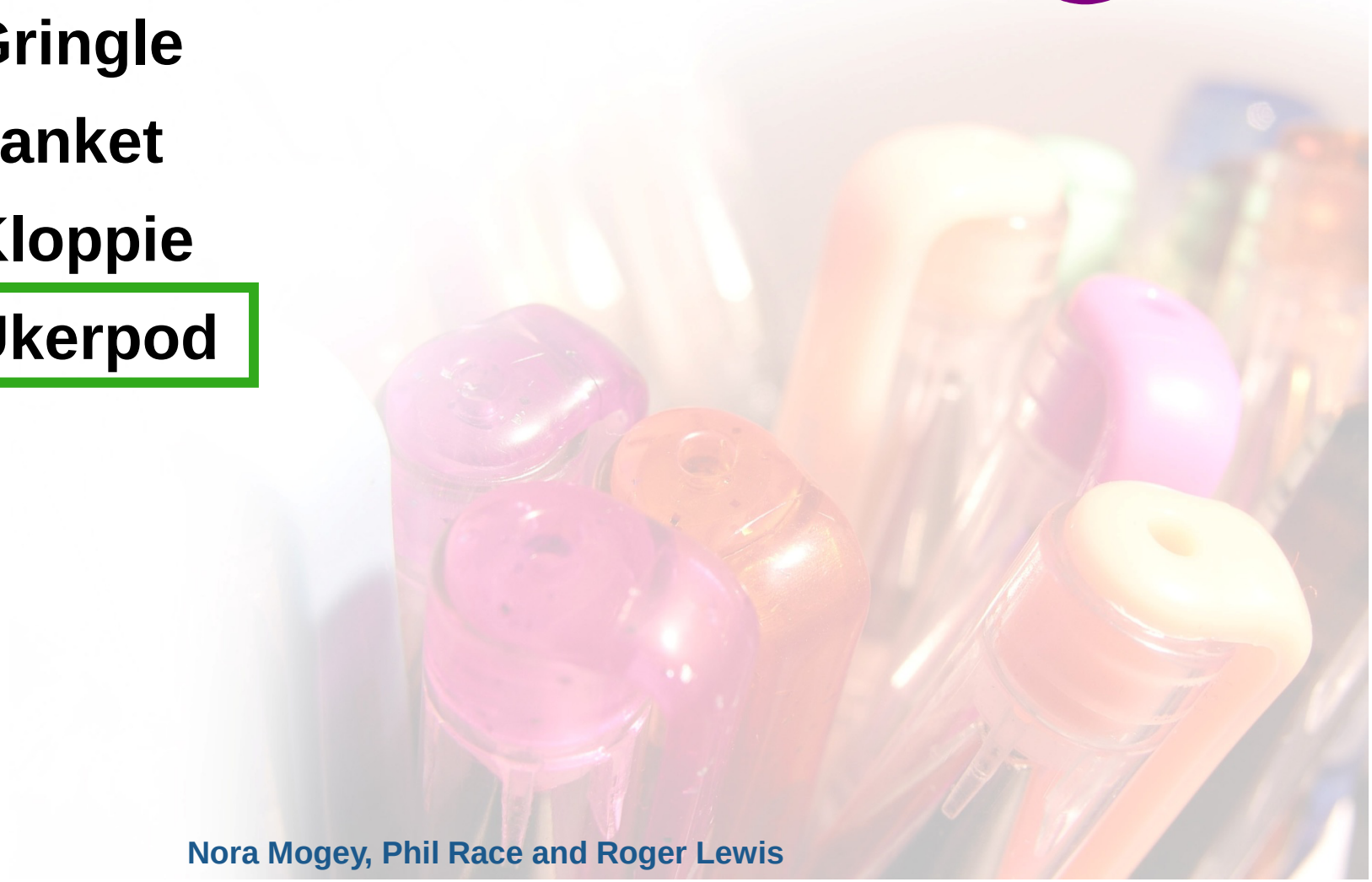

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Question eight:

Which is the correct answer?

A

B

C

D

(ABCDABCD)

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What to learn from the answers…

Don’t give a clue in the stem (an, plural)

Don’t give the answer in another question

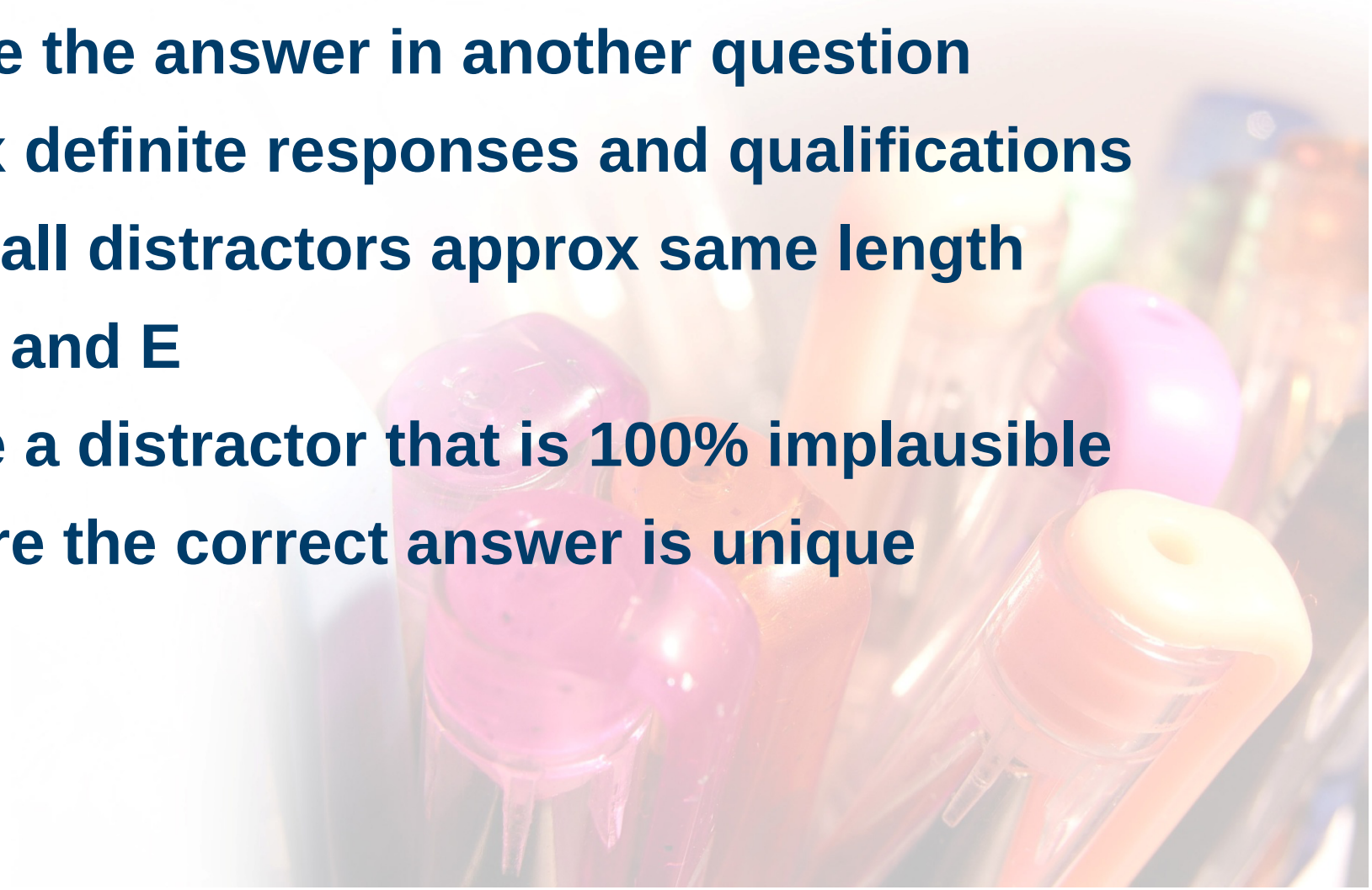
Don’t mix definite responses and qualifications

Do make all distractors approx same length

Do use A and E

Don’t use a distractor that is 100% implausible

Do be sure the correct answer is unique



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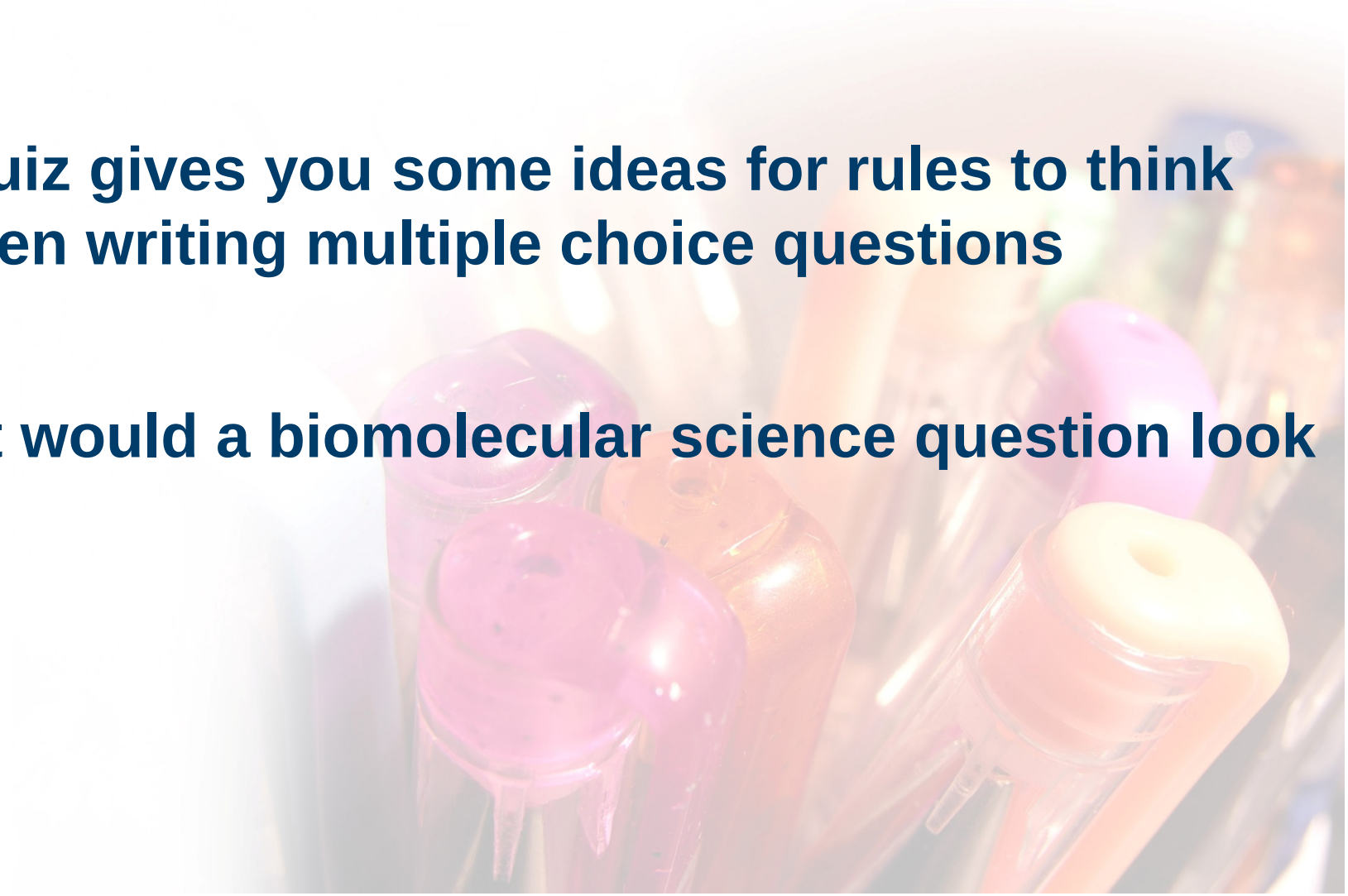
MCQs for Vets

So, the quiz gives you some ideas for rules to think about when writing multiple choice questions

But, what would a biomolecular science question look like…?



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Biomolec' question one…

Which amino acid is formed by modification after its parent amino acid has been incorporated into a peptide linkage?

a) threonine

b) arginine

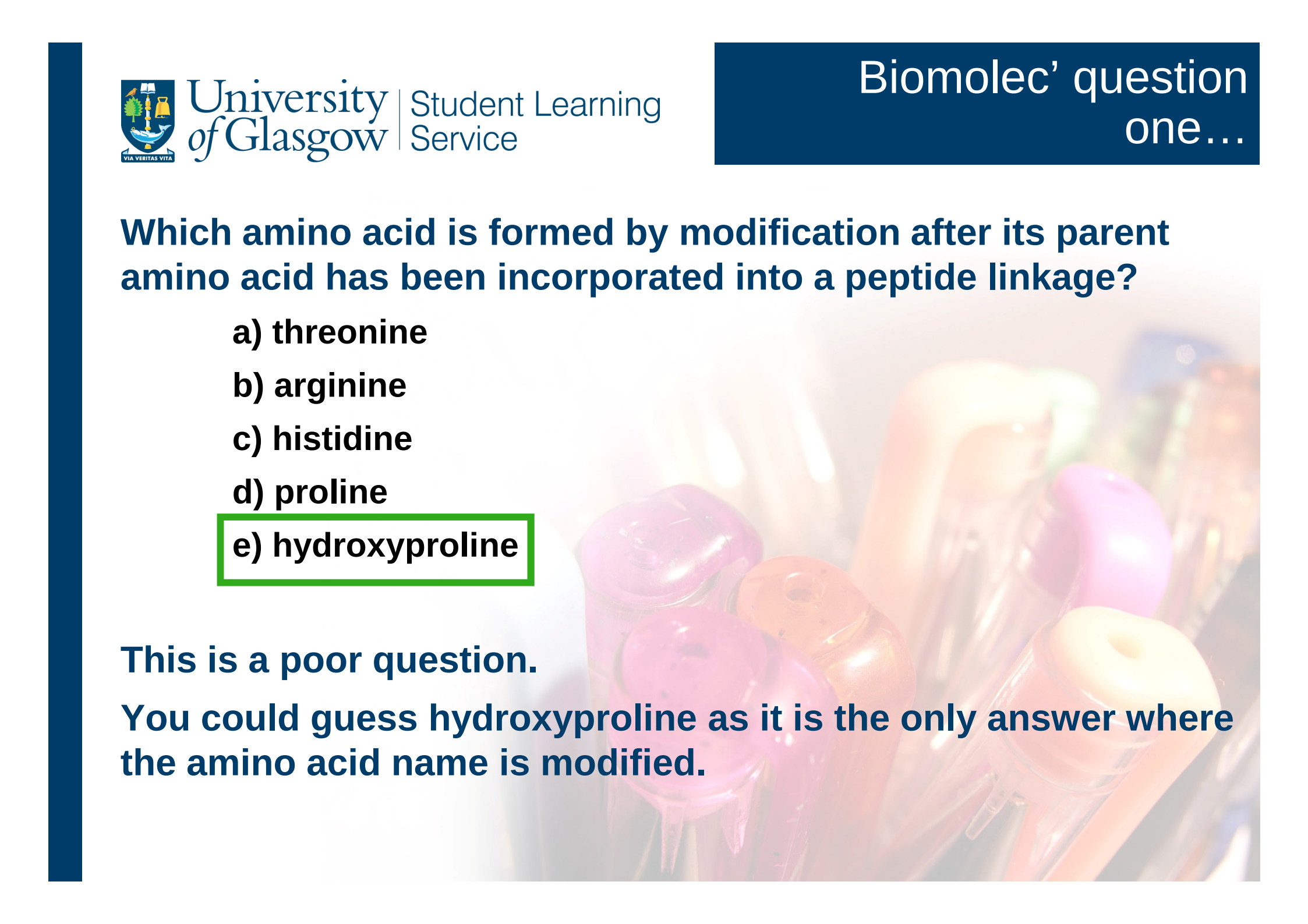
c) histidine

d) proline

e) hydroxyproline

This is a poor question.

You could guess hydroxyproline as it is the only answer where the amino acid name is modified.



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Biomolec' question two…

In serum protein electrophoresis at pH 7, albumin moves to the anode and immunoglobulin moves to the cathode. Which of the following correctly explains this phenomenon?

a) Immunoglobulin has more hydrophobic amino acids than albumin

b) Albumin has more hydrophobic amino acids than immunoglobulin

c) Albumin is a larger protein than immunoglobulin

d) Albumin has more basic amino acids than acidic amino acids

e) Immunoglobulin has more basic amino acids than acidic amino acids

This question requires you know the feature of proteins that fractionates them during electrophoresis (charge) AND what type of charge would propel a protein to the cathode.

You are required to deduce the answer based on the information provided in the stem and your knowledge of electrophoresis.

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Biomolec' question three…

What is the reverse complement of DNA sequence 5'-ATTGGCTCT -3'?

a) 5'-CTCTAACCT -3'

b) 5'-GCCAATCTC-3'

c) 5'-TCTCGGTTA- 3'

d) 5'-AGAGCCAAT -3'

e) 5'-TAACCGAGA- 3'

This question is good. Concepts covered: 1) base pairing is A:T and G:C 2) DNA double strand is antiparallel so 5'-3' top strand, 3'-5' bottom strand 3) reverse complement means opposite strand sequence AND the distractors deal with common misconceptions

d) is the correct answer:

the sequence that would base pair with stem sequence

5'-ATTGGCTCT -3'

3'-TAACCGAGA-5' so the answer is: 5'-AGACCAAT-3'

a) and b) Misconception – A:G pairs and C:T pairs (sequence is 'reverse complement'/'reverse')

c) Reverse of stem sequence – not complementary

e) Each base is complement of base in stem sequence BUT would not base pair with it as direction is 5'-3' (not 3'-5')

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So, bad questions and distractors…

Bad Questions…

- **…are too simplistic**
- **…don't explore complex subjects**
- **…don't anticipate topics/nuances others find tough**

Bad Distractors…

- **…signal what the answer is (think quiz)**
- **…are too different**
- **…aren't plausible enough**
- **…cannot be explained**

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Why are good questions, distracters & explanations important?

For you as author:

- **Check your understanding**
- **Highlight confusions**
- **Increases your learning**

For someone else as student:

- **Check their understanding**
- **Explain their confusions**
- **Increases their learning**

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How does it work…?

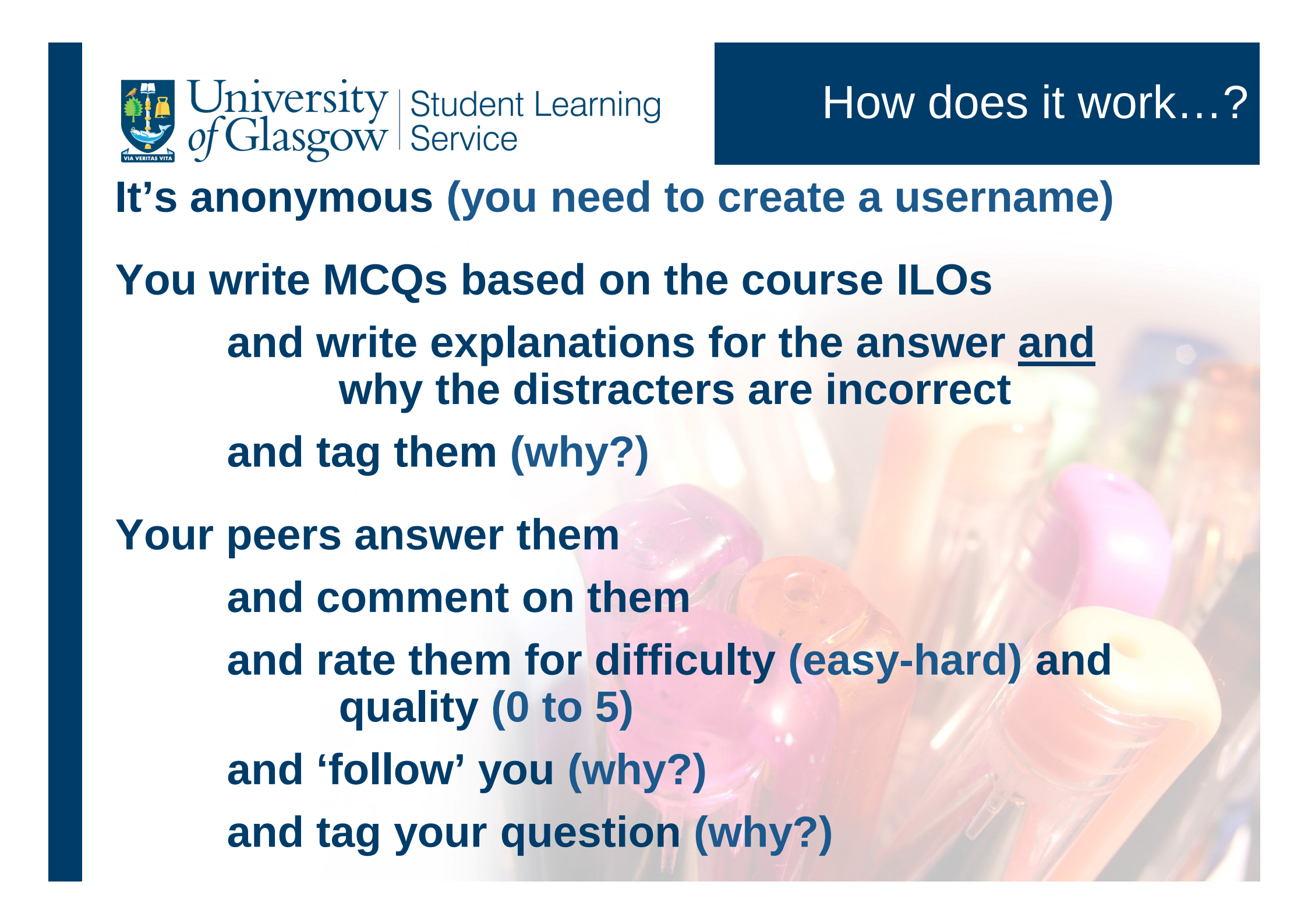
It's anonymous (you need to create a username)

You write MCQs based on the course ILOs

- **and write explanations for the answer and why the distracters are incorrect**
- **and tag them (why?)**

Your peers answer them

- **and comment on them**
- **and rate them for difficulty (easy-hard) and quality (0 to 5)**
- **and 'follow' you (why?)**
- **and tag your question (why?)**



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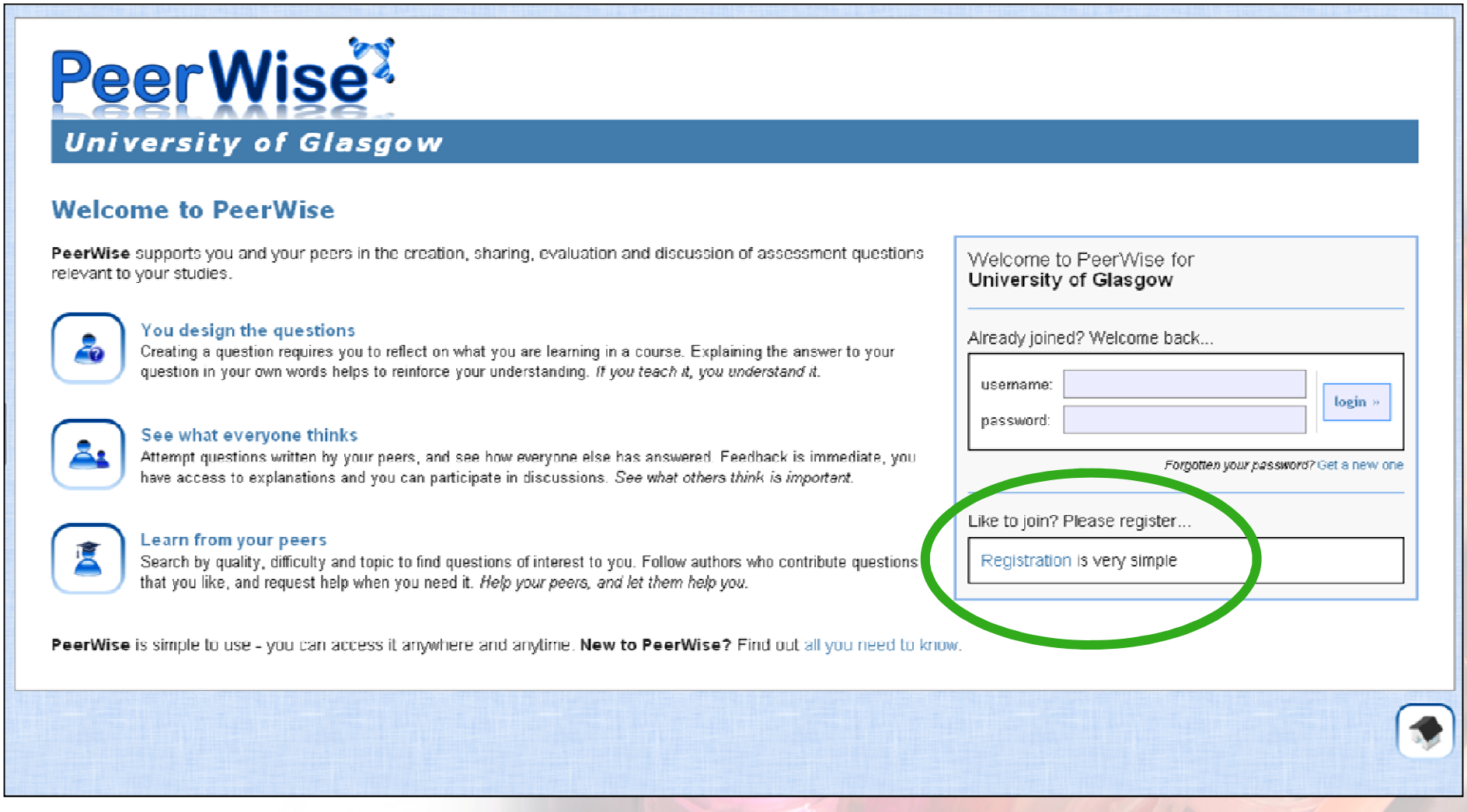
Front screen



http://peerwise.cs.auckland.ac.nz/at/?gla_uk

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Registering

PeerWise

University of Glasgow

Registration

Welcome to PeerWise! Registration is very simple, and consists of the following 4 steps:

- **Step 1:** choose a name
- **Step 2:** choose a password
- **Step 3:** enter the "Course ID" for the course you would like to join
- **Step 4:** enter your "Identifier" to join the course

What do I need to know before I start?

Before you start the registration process, you need to know details of the first course that you are going to join. Make sure you know the following **two** things. Your course instructor should have given you this information.

Course ID this number identifies the course that you are going to join

Identifier this is the information about you that will help your instructor identify you

5679

Your registration number

I'm ready!

Begin registration »

Also, register your student email account

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What does it look like?

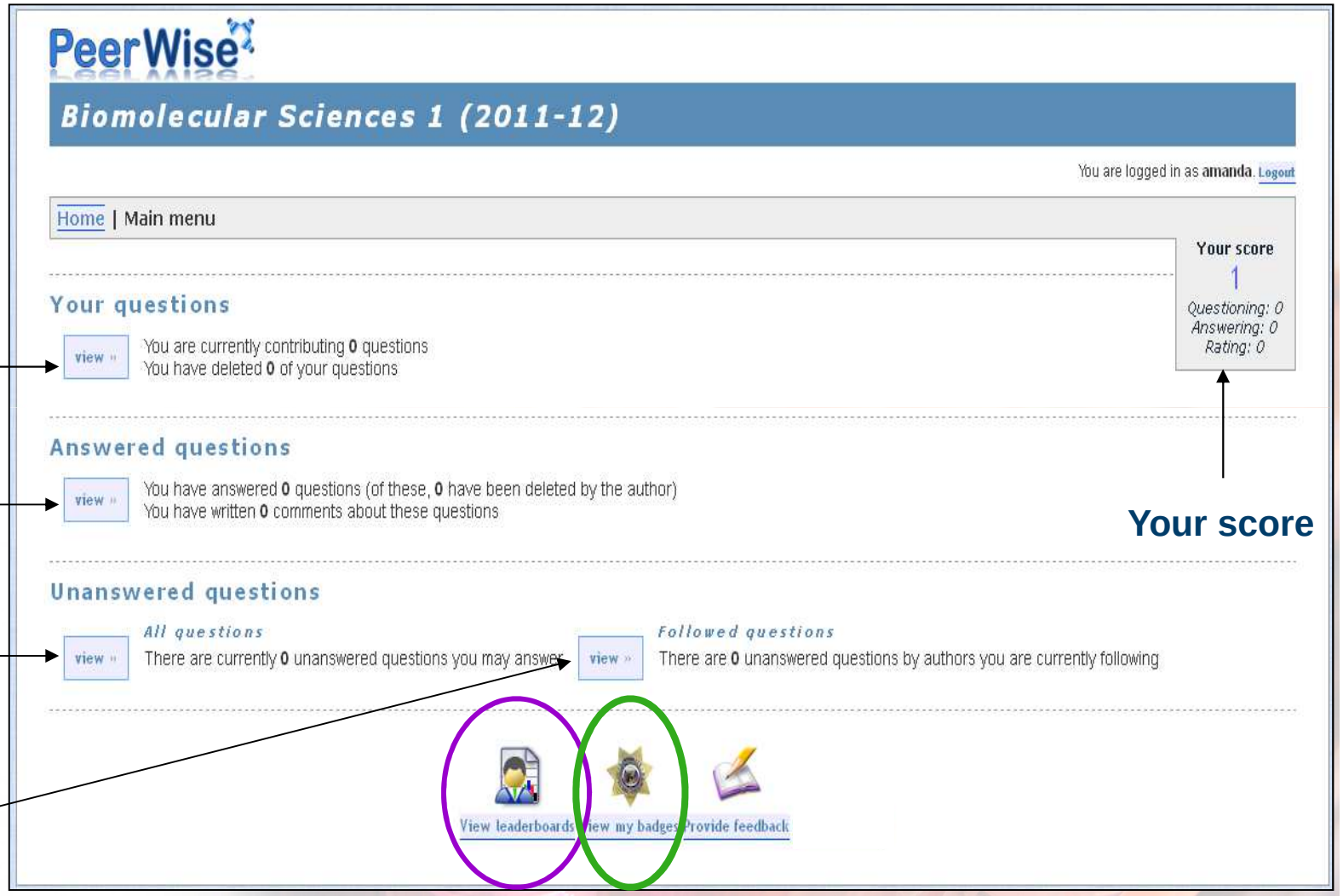
Main Menu

Questions you've contributed

Questions you've answered

Questions you've not answered yet

Questions by authors you're following



Denny, P. (2009) PeerWise: A guide for students. *Using PeerWise*

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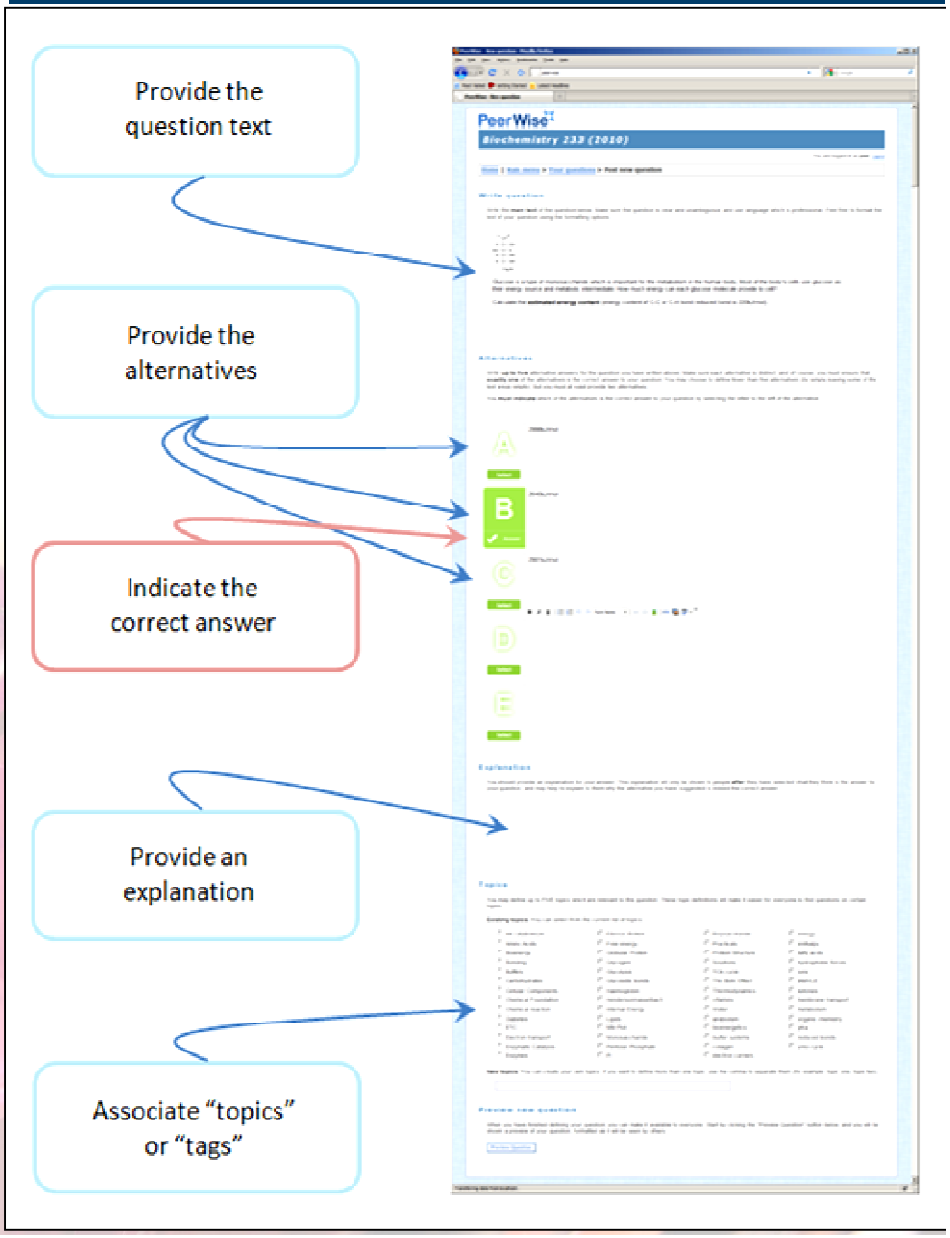
Writing questions

Provide the following:

1. **Question text (ILO-based)**
2. **Correct answer (only one!!!)**
3. **Four plausible distracters**
4. **Explanations for all answers**
5. **A tag**



Denny, P. (2009) PeerWise: A guide for students. *Using PeerWise*

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Use diagrams too…

A cross of two homozygous lizards produces a pedigree shown in figure 1 in this black scales are:

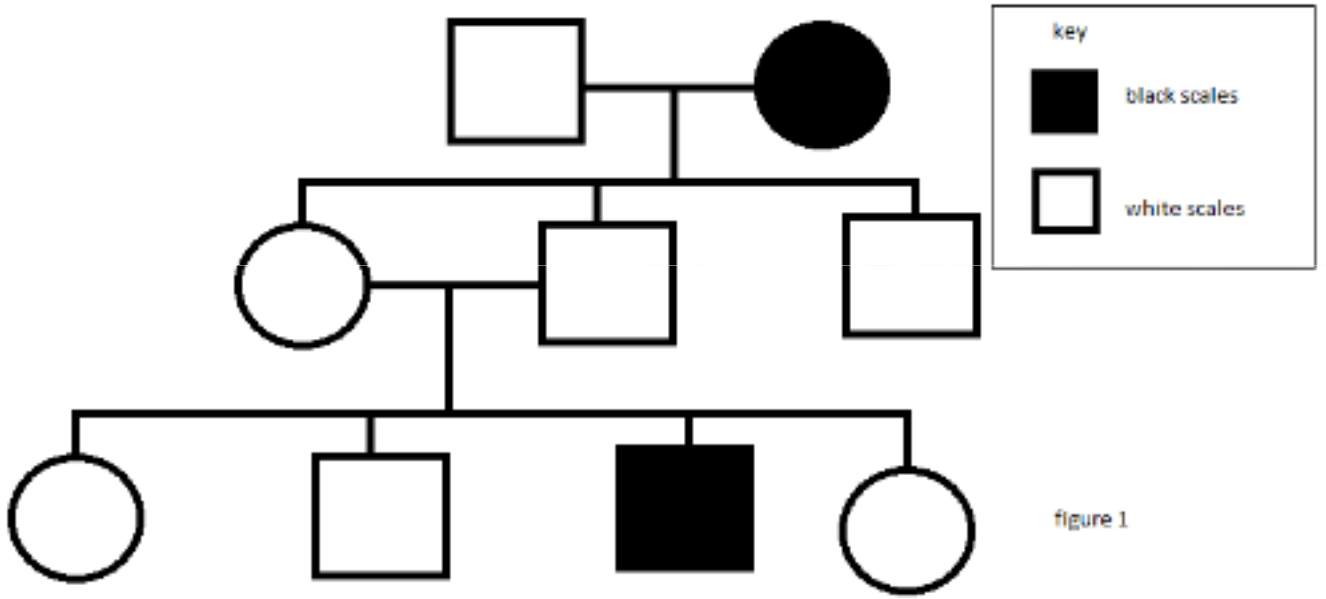

figure 1

NB: max size 50k

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Questions you've answered

Alternatives

*You selected **B** when answering this question*
*The contributor suggests **E** is the correct option*

OPTION	ALTERNATIVE	RESPONSES
A	I. homozygous, phenotype cannot fly II. heterozygpus, phenotype cannot fly	5 (11.36%)
B	I. heterozygous, phenotype can fly II. heterozygous, phenotype cannot fly	4 (9.09%)
C	I. homozygous, phenotype can fly II. homozygous, phenotype cannot fly	3 (6.82%)
D	I. heterozygous, phenotype can fly II. homozygous, phenotype can fly	3 (6.82%)
E	I. heterozygpus, phenotype can fly II. heterozygous, phenotype can fly	29 (65.91%)

Explanation

The following explanation has been provided relating to this question:

Heterozygous refers to any genotype consisting of two different alleles. This will hide any recessive traits in the pair.
Homozygous refers to any genotype consisting of two identical alleles. This will allow a pair of recessive traits to be expressed.

The vestigle wing was coded for by a recessive allele, thus required a homozygous genotype i.e gg for it to be expressed.

Request help
Improve explanation

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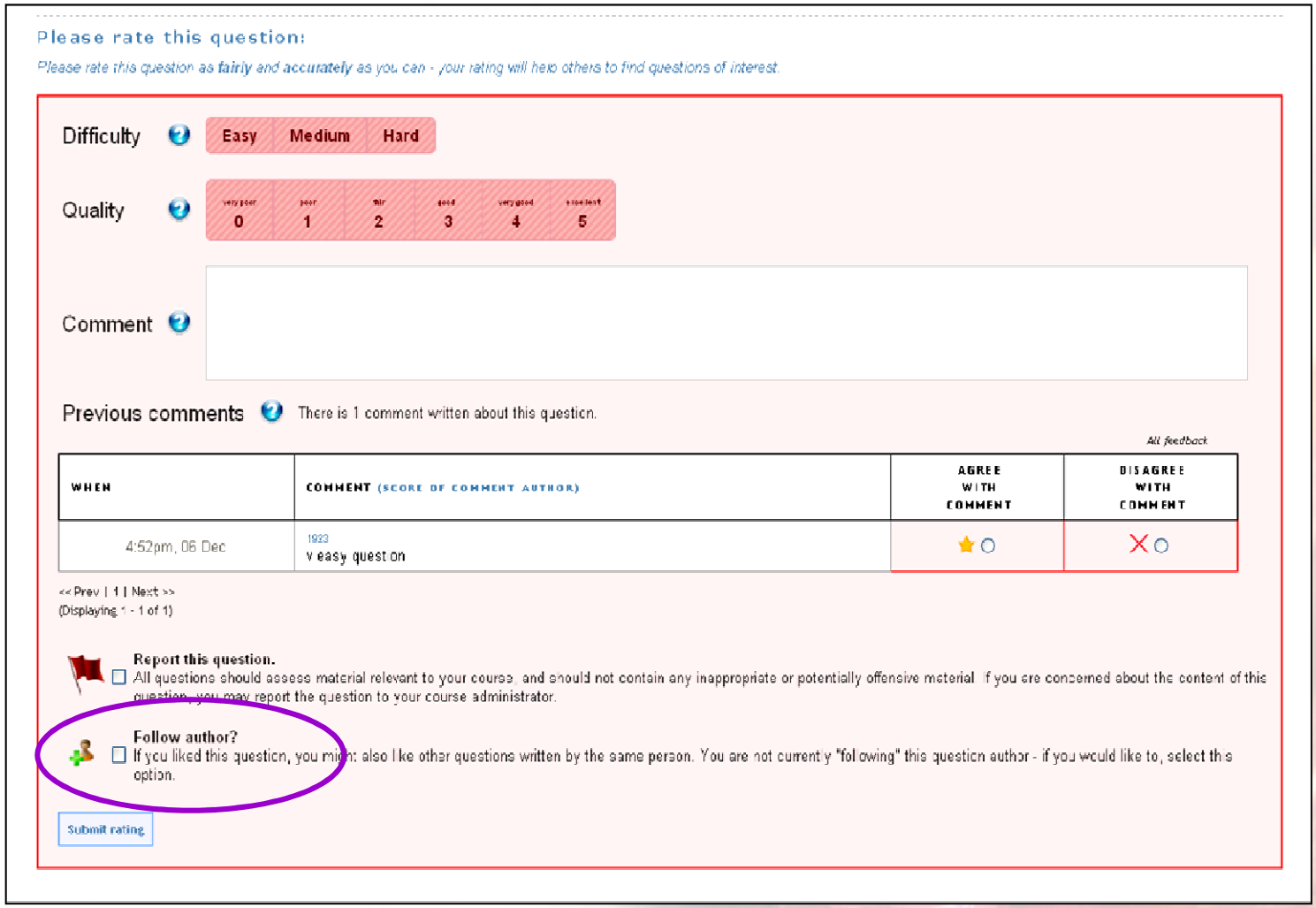
Difficulty, rating and commenting on questions



Rating:

Is it good enough for the final exam?

Is the explanation enough that someone who got it wrong would understand why?

Things to remember:

1. **An easy question can still be excellent**
2. **Rate fairly**
3. **Justify poor ratings with comments**
4. **Comments must be constructive**
5. **Usual online etiquette applies**
6. **It's anonymous BUT we can track your contributions**

Previous comments

There are 29 comments written about this question.

All feedback

WHEN	COMMENT (SCORE OF COMMENT AUTHOR)	AGREE WITH COMMENT	DISAGREE WITH COMMENT
8:37pm, 10 Jan	★★★★★★★★★★★★★★★★ 316 Good queastion, made me think twice wether the head or tail was hydrophilic or hydrophobic.	★ ○	✕ ○
5:24pm, 11 Jan	★★★★★★★★★★★★ 4660 Good question! I always think of the head being hydrophilic as it enjoys getting its hair washed :L, just a wee memory aid there :) <3	★ ○	✕ ○
8:20pm, 10 Jan	★★★★★★★★ 5150 C and D don't answer the question, don't seem related to 'why' they form bilayers. Do phospholipids do disulfide bonds? Explanation is good for answers A and E, which were great answers to make you doubt- that's good in multi choice.	★ ○	✕ ○
5:42pm, 11 Jan	★★★★★★ 3795 Keeping E as the 'phosphate' head like in A would have made me think even more about hydrophobic and hydrophilic, because I wouldn't have been able to make the link between water being attracted to polar. Good question and explanation!	★ ○	✕ ○
7:53pm, 10 Jan	★★★ 2944 Good question, made me doubt which one was hydrophobic and which was hydrophilic. ***Author's reply:*** that was my intention :P	★ ○	✕ ○
7:58pm, 10 Jan	★★★ 5119 Good question, really good test of accurate knowledge.	★ ○	✕ ○
8:54pm, 10 Jan	★★★ 3739 Interesting question, agreed that C and D seem most irrelevent	★ ○	✕ ○
10:20pm, 10 Jan	★★★ 2760 Good question to make you think about your answer. I liked the way the question made me think about the structure of a phospholipid! Well done!	★ ○	✕ ○
2:12pm, 11 Jan	★★★ 4456 Good question with having both suggested hydrophillic & hydrophobic.	★ ○	✕ ○
	★★★		

4 »	The cell signalling pathway usually involves how many steps?	5:14pm, 28 Feb	54	NO	0	7:17pm, 03 May	9	easy / medium	1.61
5 »	What is GSH's role in the red blood cell?	4:56pm, 28 Feb	78	YES	0	3:38pm, 07 Mar	16	easy / medium	2.87
6 »	Which of these molecules needs a transporter?	4:56pm, 28 Feb	94	YES	0	12:20pm, 07 Mar	14	easy	2.68
7 »	Which enzyme is incorrectly matched to its secretion and function?	4:50pm, 28 Feb	58	YES	0	4:02pm, 07 Mar	10	easy / medium	2.40
8 »	Haemoglobin is the heme-containing oxygen and iron bindin protein ...	4:29pm, 28 Feb	73	YES	0	7:20pm, 17 Jun	16	easy / medium	2.49
9 »	Whis of the following IS true about vitamin E?	4:25pm, 28 Feb	63	YES	0	3:42pm, 07 Mar	9	easy	2.63
10 »	Which of the following is not true for adult ...	3:58pm, 28 Feb	90	YES	0	8:20pm, 22 Mar	15	easy	2.51

<< Prev | 1-10 | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91-100 | 101-110 | 111-120 | 121-130 | 131-140 | 141-150 | 151-160 | 161-170 | 171-180 | 181-190 | 191-200 | 201-210 | 211-220 | 221-230 | 231-240 | 241-250 | 251-260 | 261-270 | 271-280 | 281-290 | 291-300 | 301-310 | 311-320 | 321-330 | 331-340 | 341-350 | 351-360 | 361-370 | 371-380 | 381-390 | 391-400 | 401-410 | 411-420 | 421-430 | 431-440 | 441-450 | 451-460 | 461-470 | 471-480 | 481-490 | 491-500 | 501-510 | 511-520 | 521-530 | 531-540 | 541-550 | 551-560 | 561-570 | 571-580 | 581-590 | 591-600 | 601-610 | 611-620 | 621-630 | 631-640 | 641-650 | 651-660 | 661-670 | 671-680 | 681-690 | 691-700 | 701-710 | 711-720 | 721-730 | 731-740 | 741-750 | 751-760 | 761-770 | 771-780 | 781-785 | Next >>

(Displaying 1 - 10 of 785)

Topics

There are currently questions on the following topics that you may answer (darker topics are more popular):

"Allosteric Effects" **"Amino Acids"** "Beta Oxidation" Biostatistics **Blood** "Carnitine Shuttle" **"cell biology"** **"Cell Cycle"** "Cell Death" "Cell Division" **"Cell membranes"** **"Cell Signaling"** "cell signalling" "Cell Structure" **"Cellular Organelles"** Cholesterol ChromosomalDisorder **Chromosomes** "Citrate shuttle" Classification correlation cytogenetics Digestion Disease "Disruption Ox Phos" **"DNA replication"** **"DNA RNA"** "Endocrine System" endocrinology **"enzyme inhibitors"** **"Enzyme Kinetics"** **Enzymes** "Fatty Acid Breakdown" "Fatty Acid Synthesis" **Genetics** Gluconeogenesis **Glycolysis** **"Glycolysis and GNG"** **Hemoglobin** Heritability **Hormones** Karyotypes **"Ketone Bodies"** "lipid bilayer" **Lipids** "lipids metabolism" **Lipoproteins** Meiosis **Metabolism** Minerals **Mitosis** **"Mode of Inheritance"** Myoglobin **nitrogen** **"Nitrogen Metabolism"** **Nutrition** **"Ox Phosphorylation"** "Peptide Bonds" Phosphofructokinase **"Phospholipid bilayer"** Plasma "Primary Structure" Prions "Prophase I" "Protein Separation" **"Protein Trafficking"** **Proteins** Proteomics Receptors **"Red Blood Cell"** regression "structural proteins" **"TCA cycle"** Telomeres "Trace Elements" **Transcription** Translation Translocation Transportation **"Urea cycle"** Vitamins "X ch inactivation"

Select a topic to see all the questions on that topic only.

Show questions on all topics

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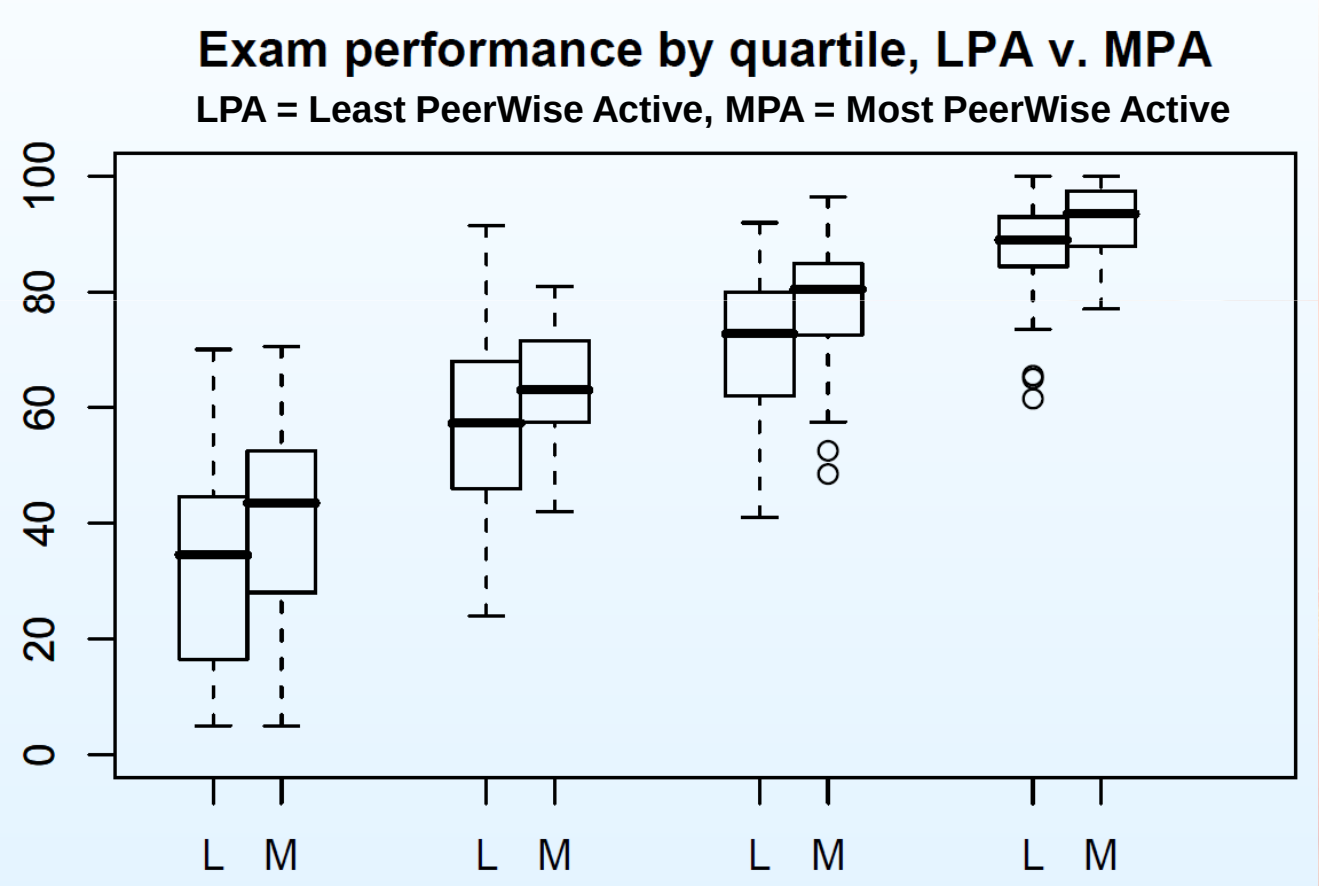
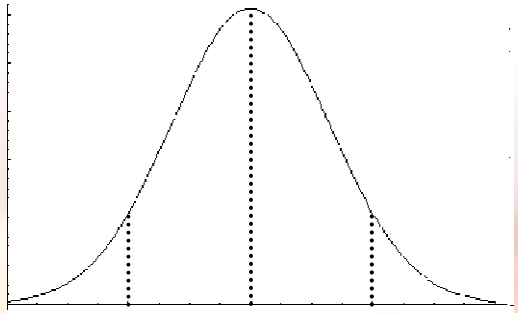
Sounds different, but what's the point?

Participation improves grade:





Denny, P. and Luxton-Reilly, A. (2008) PeerWise: Collaborative development of assessment questions.

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PeerWise course details…

Things you need to know to register:

Address: http://peerwise.cs.auckland.ac.nz/at/?gla_uk

Course ID: 5679

Your identifier: your registration (matriculation) number

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Term One Assignment Deadlines

Mon 24th Oct **17:00**	**Submit 1 good quality question (minimum)** **cell biology / proteins / enzymes / molecular biology**
Mon 31st Oct **17:00**	**Answer 10 questions (minimum)**
Mon 21st Nov **17:00**	**Submit 1 good quality question (minimum)** **Metabolism / biostatistics / genetics**
Fri 2nd Dec **17:00**	**Answer 10 questions (minimum)**

Minimum requirement: Author two good quality questions
Answer 20 questions

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What do you get?

Timely and (hopefully) useful feedback

Deeper understanding (passing exam/better grade)

Kudos (albeit anonymous!!)

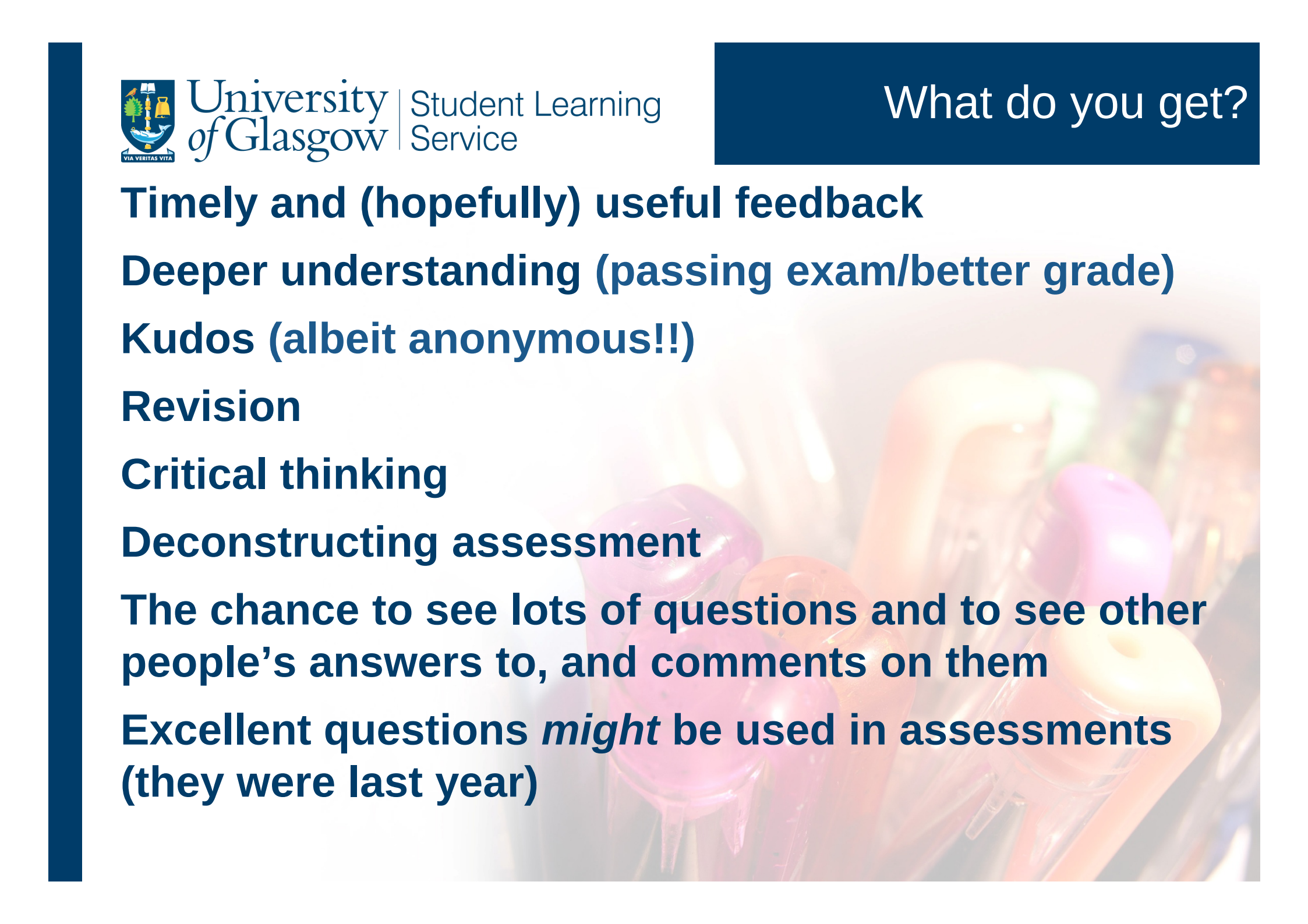
Revision

Critical thinking

Deconstructing assessment

The chance to see lots of questions and to see other people's answers to, and comments on them

Excellent questions *might* be used in assessments (they were last year)



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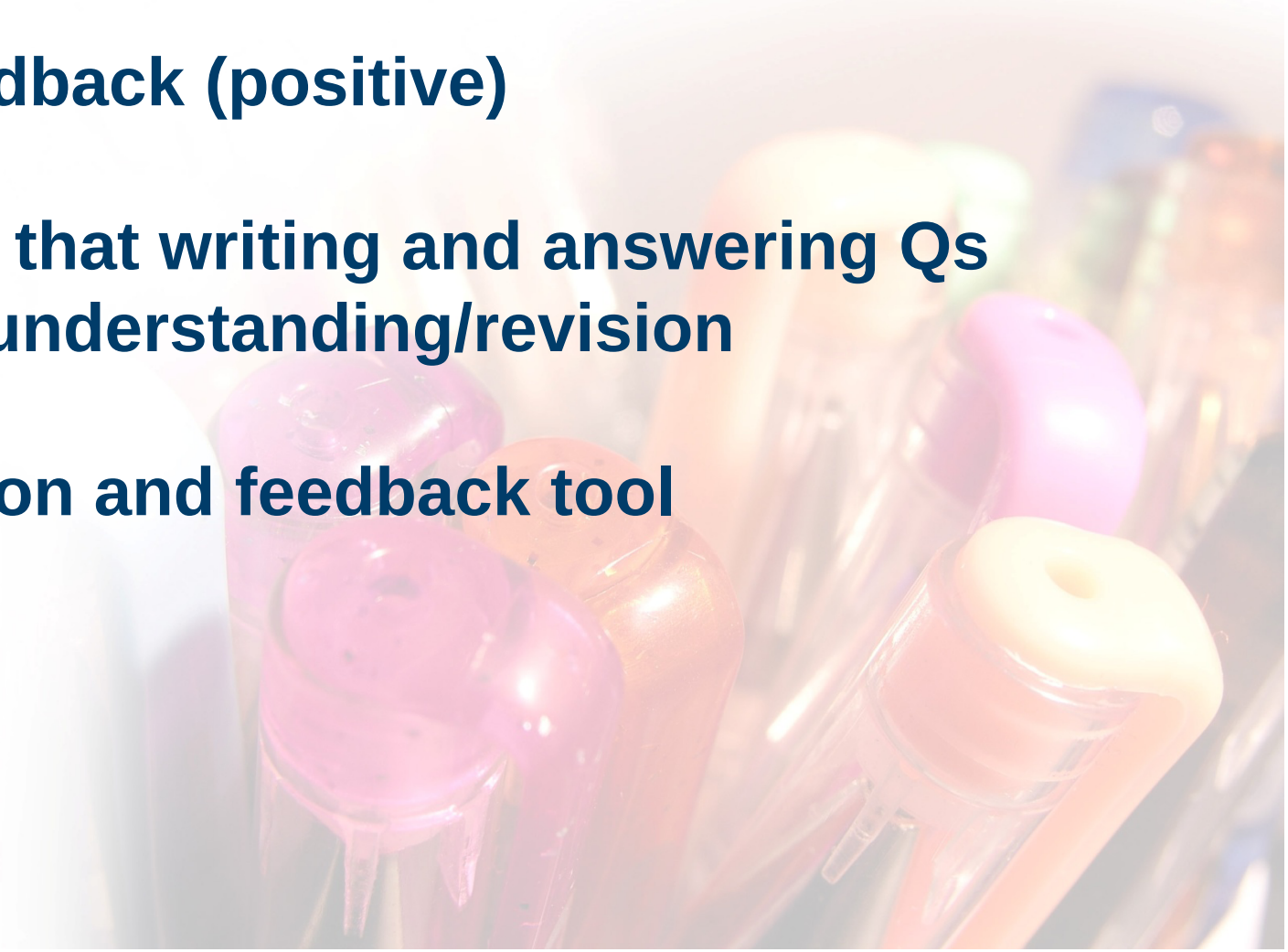
PeerWise with BMS1 students 10/11

Student feedback (positive)

75% agreed that writing and answering Qs aided their understanding/revision

Great revision and feedback tool



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PeerWise with BMS1 students 10/11

Areas identified by students as 'issues' :

1. **Accuracy of database - YOUR responsibility**
   - **commenting on Qs by all, and editing of Q by author**
2. **Relevance of some questions - use ILOs**
3. **'Unconstructive comments' - provide useful feedback to question author/community & BE NICE**
4. **Lack of effort by some students - by the class FOR the class so your effort impacts everyone else**

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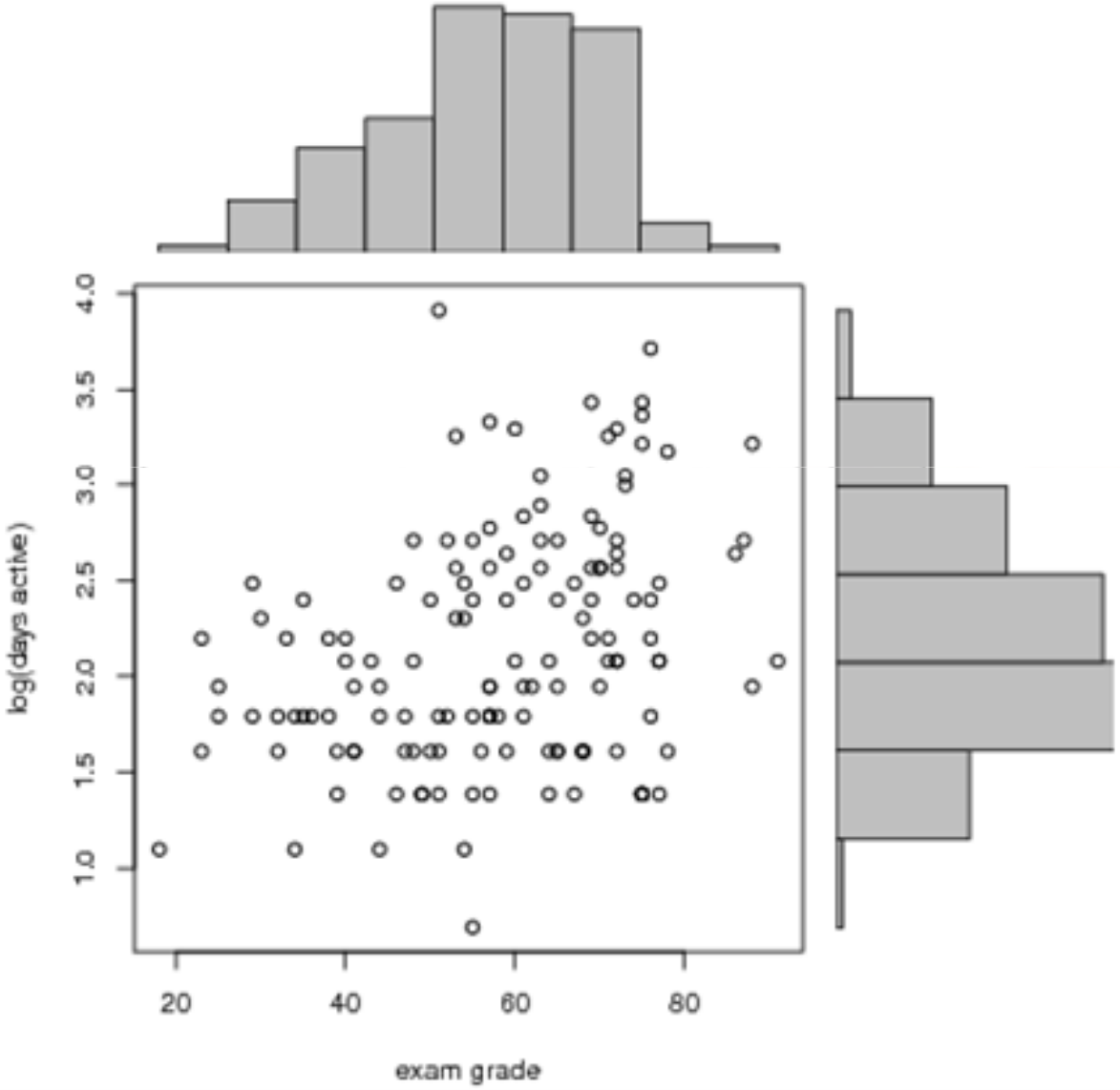
Exam results BMS1 students 10/11



Medium strength relationship between number of PW Qs answered and class exam grade

And between number of days active and grade

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Summary of assignment

Self directed learning assignments :

4 PeerWise deadlines and 2 Aropa deadlines each term

You will receive up to 5% towards your professional mark for Biomolecular Science 1:

2.5% for meeting ALL PW and Aropa deadlines in term 1

2.5% for meeting ALL PW and Aropa deadlines in term 2

If you miss one, or more than one, deadline in term 1 your carryover for term 1 will be 0%.