



Saint David's Secondary School, Greystones

Instructional Leadership Programme

2nd Year

Bloom's Taxonomy Workshop

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Bloom's Taxonomy

A Taxonomy of thinking assists the student in determining the type and level of thinking which he/she requires to fully answer any question which may be asked in various learning situations. Simply put it is an organiser of thinking levels in terms of their complexity.

For example, in classrooms and exam situations teachers and examiners frame questions at different levels of depth. Some are simple questions and require relatively little effort to answer. Others may be more complex and demanding and will require a lot of effort on the student's part to fully answer.

The challenge is for the student to be able to recognise at what level the question is framed and know immediately what particular level of complex thinking is required on his/her part in order to fully answer the question posed.

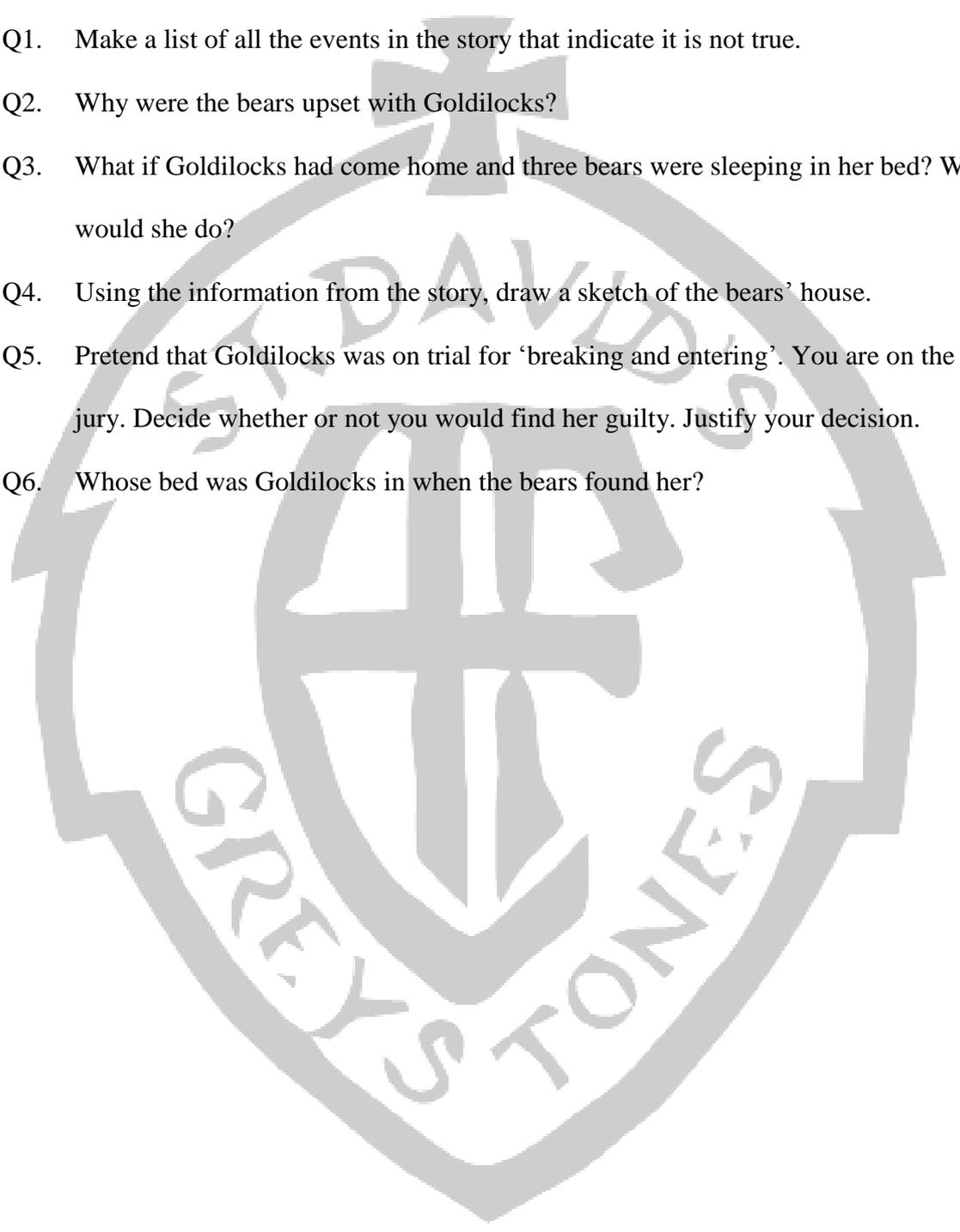
If a student is unable to determine the level of complex thinking at which he/she is required to respond, then he/she more than likely responds at a lower level of complex thinking than is required on his/her part in order to fully answer the question posed.

Questions that require low levels of complex thinking to fully answer generally carry relatively few marks in an exam and questions that require deep levels of complex thinking to fully answer generally carry relatively high marks in an exam. This is important in the context of exam time management. Students often spend too much time answering, recall type, lower order questions because they 'like them' or they 'are easy'. Usually not enough time is given to the deeper, 'higher order', questions that require much more involved complex thinking to fully answer.

Bloom's Taxonomy assists the student in recognising what particular level of complex thinking is required in order to fully answer any given question in any learning situation, and/or engage in any prescribed activity in any learning situation. To keep it simple our example is based on the story of Goldilocks and the Three Bears.

Bloom's Taxonomy

Examination on Goldilocks and the three Bears

- 
- Q1. Make a list of all the events in the story that indicate it is not true.
- Q2. Why were the bears upset with Goldilocks?
- Q3. What if Goldilocks had come home and three bears were sleeping in her bed? What would she do?
- Q4. Using the information from the story, draw a sketch of the bears' house.
- Q5. Pretend that Goldilocks was on trial for 'breaking and entering'. You are on the jury. Decide whether or not you would find her guilty. Justify your decision.
- Q6. Whose bed was Goldilocks in when the bears found her?

Bloom's Taxonomy

Complex Thinking Road Map [Page 2]

Level 1

Level 2

Level 3

Level 4

Level 5

Level 6

Question matches in your estimation

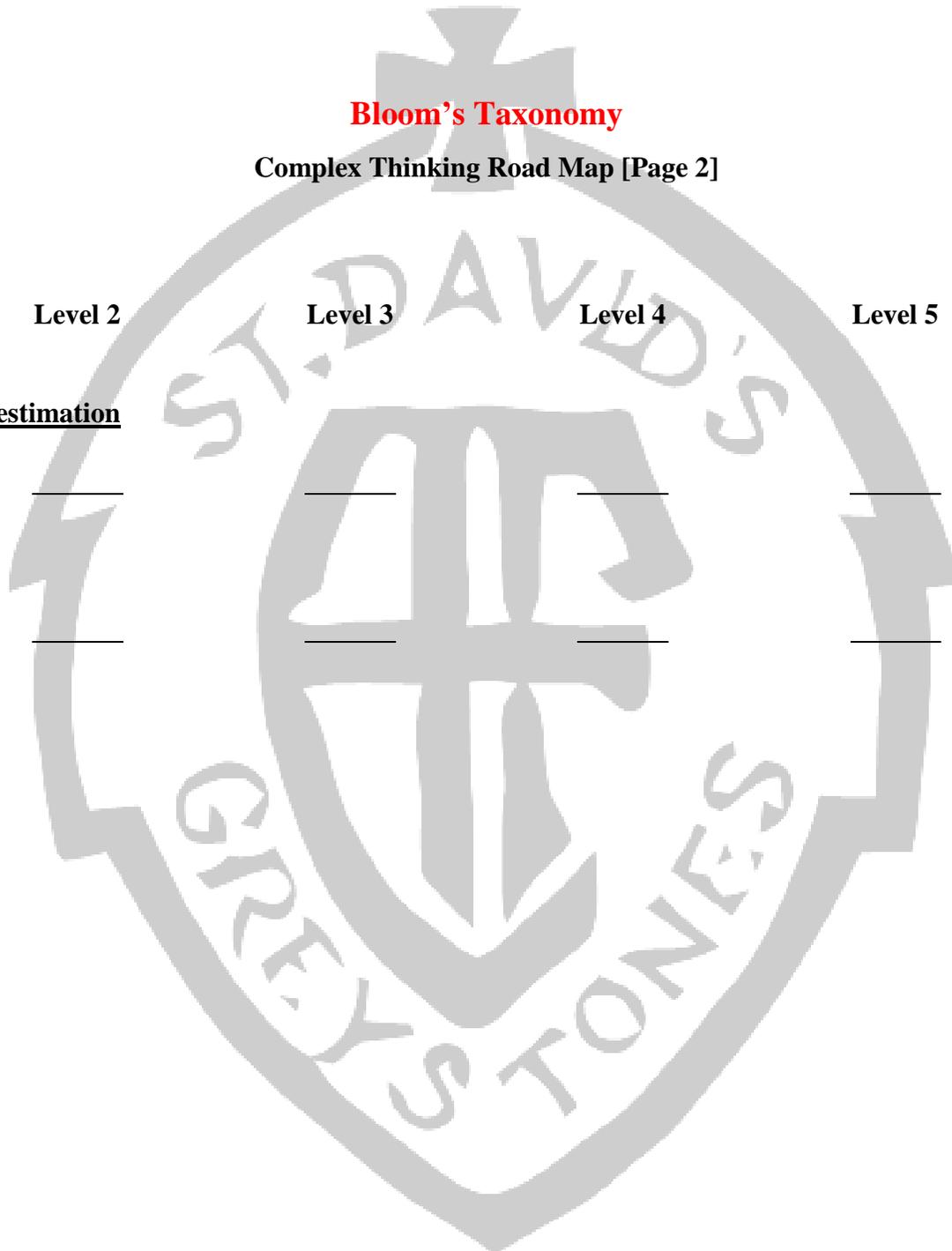
Actual Question matches

Least amount
of deep thought
(Complex Thinking)
required to
answer.

Greatest amount
of deep thought
(Complex Thinking)
required to
to answer.

EASIEST
QUESTION
TO ANSWER

MOST DIFFICULT
QUESTION
TO ANSWER



Bloom's Taxonomy

Examination on Goldilocks and the three Bears

Where the questions sit in Bloom's Taxonomy

Q1. Level 4

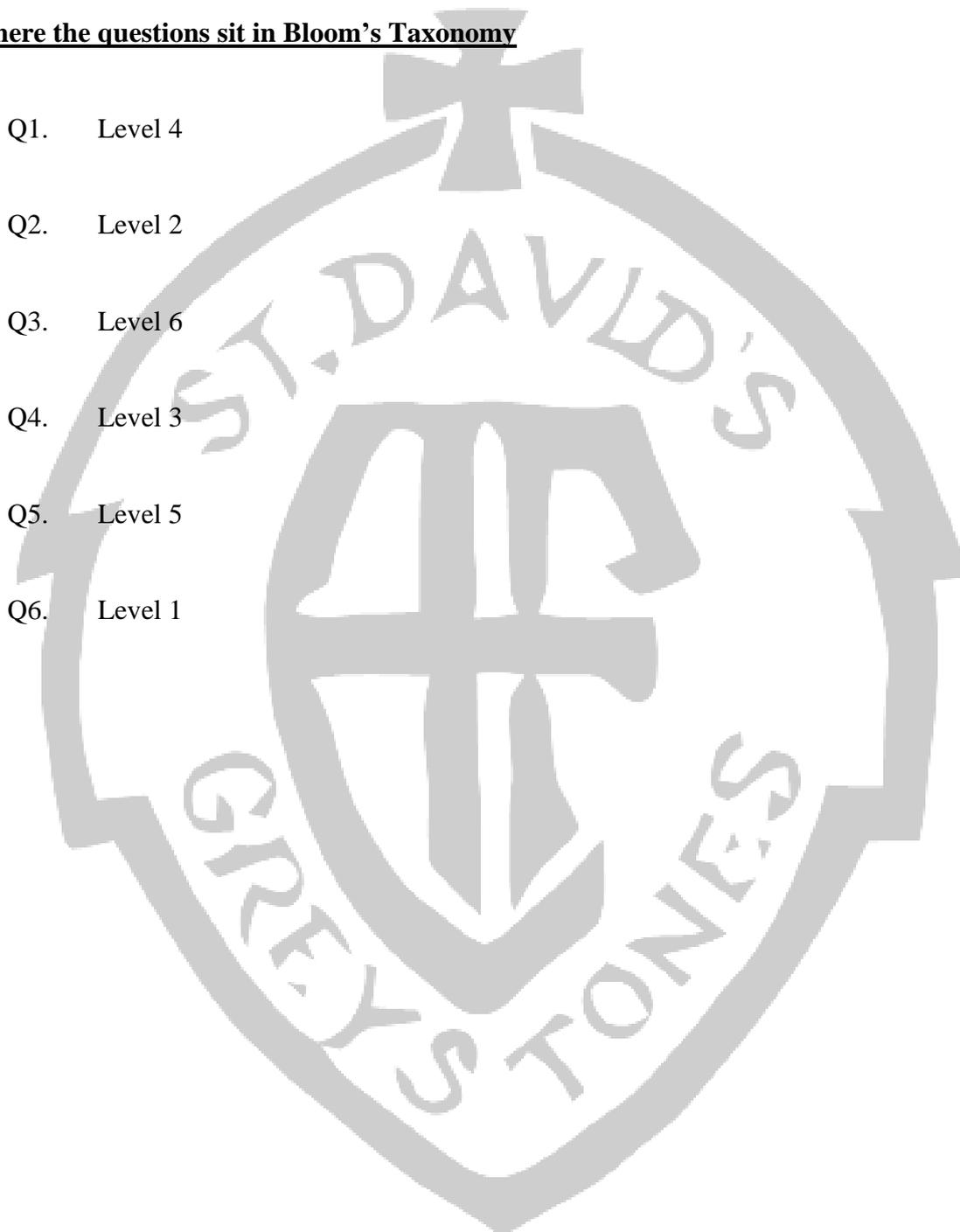
Q2. Level 2

Q3. Level 6

Q4. Level 3

Q5. Level 5

Q6. Level 1



Bloom's Taxonomy (has six levels)

1. **Recall / Remembering** – [Recall, Recite, List]

Base level of thinking – least amount of complex thinking required to answer the question - Remembering specific details, ideas and information from a chapter on a topic.

Possible starter phrases include the following:

What is the definition for ...

List the steps for ...

Name the characteristics of ...

Label the parts of ...

Match the letter with ...

State the assumptions that ...

2. **Comprehension / Understanding** – [Explain, Provide examples, Tell why, Role play what happened]

To appreciate, know or realize the meaning of something

Possible starter phrases include the following:

Tell why these ideas are similar ...

Provide some examples of ... in the course of your answer

Draw a picture to ...

Why were the ...

Summarize the ...

Give examples to ...

In the following passage locate ...

Select the ...

Translate the following ...

3. **Application / Applying** – Demonstrating an ability to act on understanding
[Applying without understanding is not effective Application]

Possible starter phrases include the following:

Tell what might have happened if ...
Graph the data ...
Demonstrate the way to ...
Calculate the ...
Using the information from ... set out ...

4. **Analysis / Analysing** – Comparing, contrasting, pulling apart, a deep study of available options with a view to eventually forming a judgement, carving up

Possible starter phrases include the following:

If ... then ...
Which steps are important in the process of ...
What are the components of ...
The solution would be to ...
What is the relationship between ... and ...
How would you make a ...
Identify parts of the ... that could ...
What is the pattern of ...

5. **Evaluation / Evaluating** – Probing, weighing up, to make judgements based on criteria, taking a stand after deep consideration with your view supported by evidence

Possible starter phrases include the following:

In your opinion ...

What solution do you favour and why ...

Which systems are best ... worst ...

Grade or rank the ...

Appraise the chances for ...

Rate the relative values of these ideas to ...

6. **Synthesis / Creating** – Reinvent, Look at in a new way, Project, Create, imagining different outcomes if certain aspects were different

Highest level of thinking - Greatest amount of complex thinking required to answer the question.

Possible starter phrases include the following:

Devise an original plan or experiment for ...

Finish the incomplete story so that ...

Prescribe a new way to ...

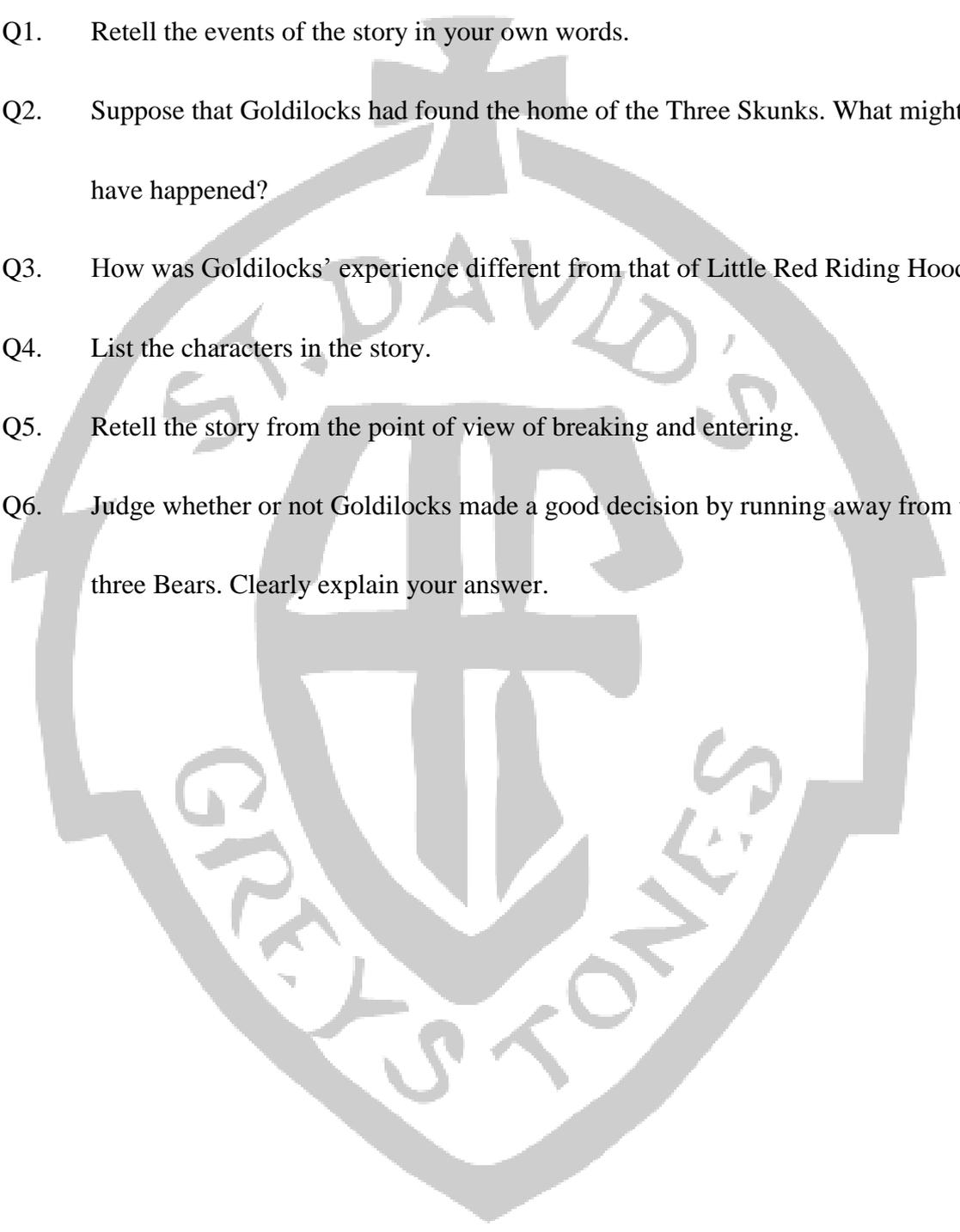
Change ... so that it will ...

Make a hypothesis about ...

Create a model that shows you new ideas ...

Bloom's Taxonomy

Repeat Examination on Goldilocks and the three Bears

- 
- Q1. Retell the events of the story in your own words.
- Q2. Suppose that Goldilocks had found the home of the Three Skunks. What might have happened?
- Q3. How was Goldilocks' experience different from that of Little Red Riding Hood?
- Q4. List the characters in the story.
- Q5. Retell the story from the point of view of breaking and entering.
- Q6. Judge whether or not Goldilocks made a good decision by running away from the three Bears. Clearly explain your answer.

Bloom's Taxonomy

Complex Thinking Road Map [Page 3]

Recall

Comprehension

Application

Analysis

Evaluation

Synthesis

Level 1

Level 2

Level 3

Level 4

Level 5

Level 6

Remembering

Understanding

Applying

Analysing

Evaluating

Creating

Question matches in your estimation

Actual Question matches

Least amount
of deep thought
(Complex Thinking)
required to
answer.

Greatest amount
of deep thought
(Complex Thinking)
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to answer.

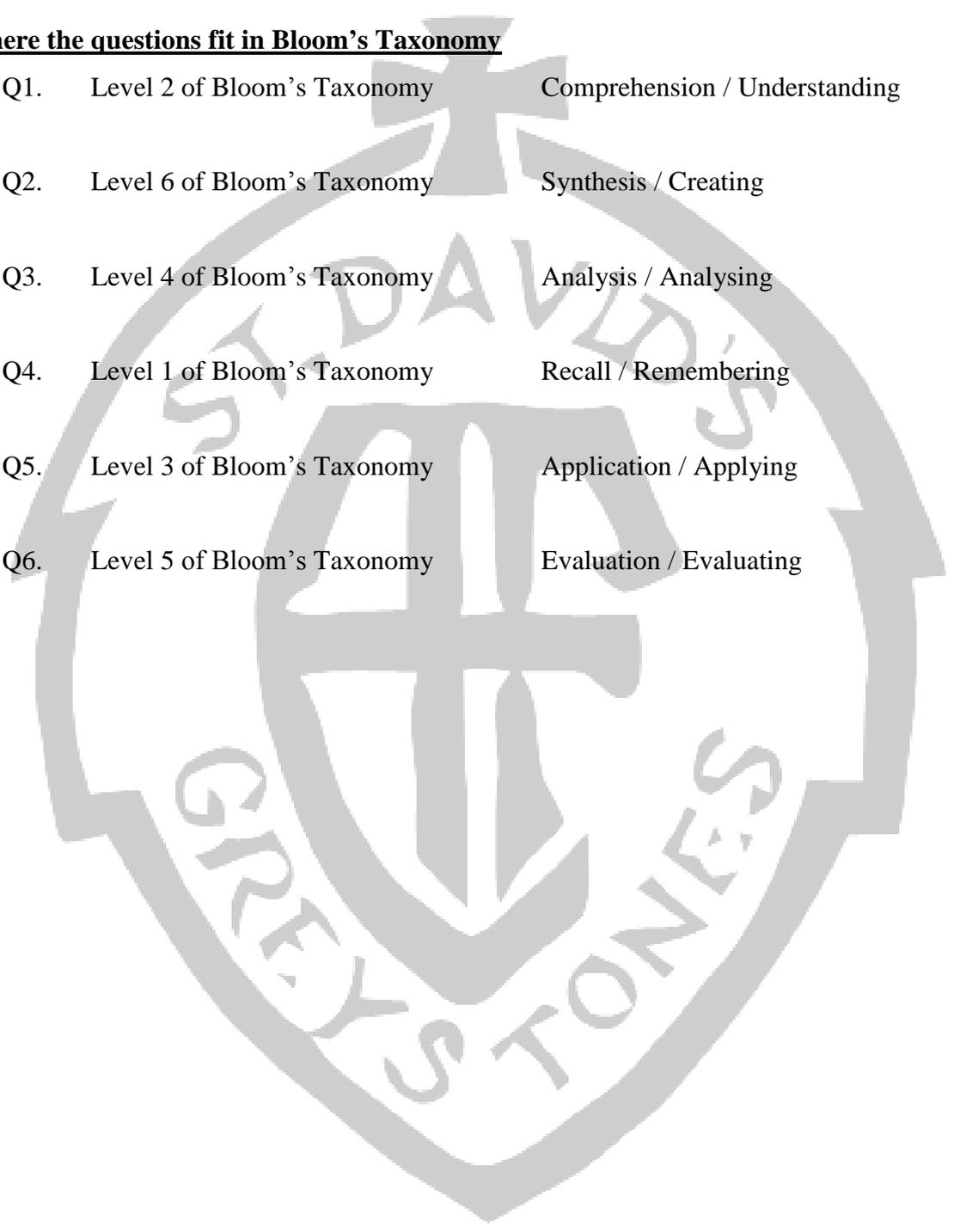
EASIEST
QUESTION
TO ANSWER

MOST DIFFICULT
QUESTION
TO ANSWER

Bloom's Taxonomy

Repeat Examination on Goldilocks and the three Bears

Where the questions fit in Bloom's Taxonomy

- | | | |
|-----|-----------------------------|-------------------------------|
| Q1. | Level 2 of Bloom's Taxonomy | Comprehension / Understanding |
| Q2. | Level 6 of Bloom's Taxonomy | Synthesis / Creating |
| Q3. | Level 4 of Bloom's Taxonomy | Analysis / Analysing |
| Q4. | Level 1 of Bloom's Taxonomy | Recall / Remembering |
| Q5. | Level 3 of Bloom's Taxonomy | Application / Applying |
| Q6. | Level 5 of Bloom's Taxonomy | Evaluation / Evaluating |
- 
- A large, faint watermark of the St David's Greystones logo is centered on the page. The logo is a shield-shaped crest with a cross in the center. The text 'ST DAVID'S' is arched across the top, and 'GREYSTONES' is arched across the bottom.

Bloom's Taxonomy

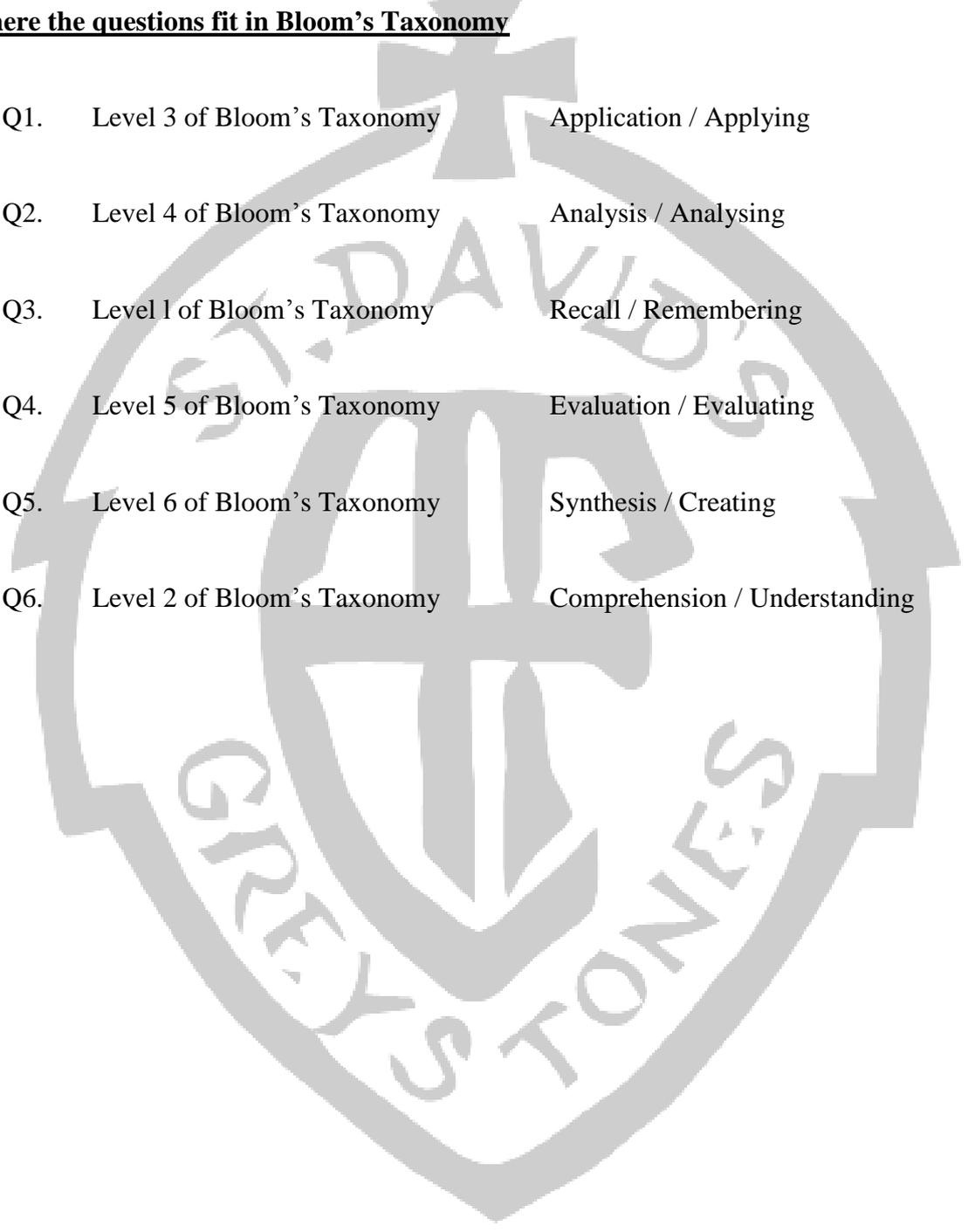
Examination on SALES and MARKETING

- Q1. From the following data establish the breakeven position for Sales of Product ABC under the following conditions: Selling Price per unit €100, Variable Cost per unit €64, Fixed Costs €120,000.
- Q2. Using the information from pages 45 and 46, compare the characteristics of a 'Niche Market' with the characteristics of a 'Mass Market'.
- Q3. List the four P's of marketing.
- Q4. In your opinion which of the following methods is more effective in generating positive awareness of a firm's product portfolio among the public? Advertising or Sponsorship. Justify your choice.
- Q5. Devise a suitable marketing strategy for a new era Smart Phone your firm intends to launch on the Irish Market for Summer 2018.
- Q6. From the above passage, identify examples of Desk Research and Field Research which the business used as part of its Market Research strategy prior to launching its new product.

Bloom's Taxonomy

Examination on Sales and Marketing

Where the questions fit in Bloom's Taxonomy

- 
- Q1. Level 3 of Bloom's Taxonomy Application / Applying
- Q2. Level 4 of Bloom's Taxonomy Analysis / Analysing
- Q3. Level 1 of Bloom's Taxonomy Recall / Remembering
- Q4. Level 5 of Bloom's Taxonomy Evaluation / Evaluating
- Q5. Level 6 of Bloom's Taxonomy Synthesis / Creating
- Q6. Level 2 of Bloom's Taxonomy Comprehension / Understanding

Conclusion of Bloom's Taxonomy Workshop

At this point you now have three sets of Bloom's Taxonomy Data Sets.

- The original Goldilocks exam and answer sheet
- The repeat Goldilocks exam and answer sheet
- The Sales and Marketing exam and answer sheet

Please remember that the possible starter word or starter phrases for the questions that equate with a particular level of Bloom's are not exhaustive and students are encouraged to come up with their own if relevant. Also remember that questions starting with a particular word may not always reflect the same level of Bloom's.

A question that reads as follows is probably a Recall question.

List the currencies in use in the European Union.

A question that reads as follows is probably an Evaluation question.

List in order of importance the currencies in use in the European Union.

The second question above may require a definition of the word 'importance' in an appropriate context by the student before answering. The student may feel that some of the currencies have no importance and not include them on the list ... Indeed the question may have been poorly framed by the teacher/examiner in the sense that a necessary adjective e.g. the word 'economic' was not included before importance ...

Now choose a topic you have studied in some subject since September and prepare your own exam on that topic, six questions where each question represents a particular level of Bloom's. Your exam on your chosen topic must have a synthesis question, an evaluation question, an analysis question, an application question, an understanding question and a recall question.

Study the additional Bloom's Data set before you begin. Remember, if you can **fully** answer a six question Bloom's exam on any topic you have studied, then you have true knowledge of that topic. Most important for revision!!

Bloom's Taxonomy Data Set

Unit - Income, Expenditure and Bank Statements

Can you align the following questions with their corresponding level of Bloom's?

- Q1. Set out clearly the differences and similarities between using an S.O. and a D.D. as a means of paying a bill through a Bank Current Account.
- Q2. Explain the term 'Paypath' and state two advantages of 'Paypath' to an employee.
- Q3. "In the current age, it is more important for an employee to hold a current account in a Bank as opposed to holding a deposit account." Discuss this statement saying whether you agree or disagree and clearly set out the reasons which support your view.
- Q4. Jonathan has been overdrawn four times in the last three months. His Bank Manager has told him that this situation cannot continue. You are a consultant in personal financial management and Jonathan comes to your office to seek your professional advice on how he can avoid going overdrawn again this year. Devise a plan which Jonathan could implement which would assist him in reaching this goal.
- Q5. Having studied the unit on Income, Expenditure and Bank Statements please state what the letters A.T.M. stand for.
- Q6. Following a visit to his local Bank Branch, David has been told that his current balance is €475 in funds. Two transactions that have taken place have not yet registered with the Bank. One of these is a C.T. into his account for €150 and the other is cheque no. 50273 for €83 which David wrote to pay for his groceries yesterday. Prepare a statement which shows his true balance when the impacts of these outstanding items have been taken into consideration.

Bloom's Taxonomy Data Set

Unit - Budgeting

Can you align the following questions with their corresponding level of Bloom's?

- Q1. Demonstrate clearly, through your use of the EEC model for answering definitions, what exactly you think is meant by the heading 'Discretionary Expenditure' which appears on the Household Budget Grid Page.
- Q2. If the revised Household Budget works out as planned is it likely to lead to an improvement in the finances of the family when compared to the original Household Budget? Clearly set out your answer to this question offering relevant evidence to support your stance.
- Q3. List any three types of 'Irregular Expenditure' that a family in the Republic of Ireland may have to plan for in drawing up its Household Budget.
- Q4. The financial circumstances of the family have changed since the original budget was drawn up due to Mr O'Donovan losing his job last week. The changes the family will have to make in the aftermath of this event, are outlined on the information page. After taking these changes and the impacts they are expected to have on the original budget plan into consideration, please complete the revised budget grid page for the four months January to April 2018.
- Q5. Set out possible ways by which you feel your learning in this unit and the skills acquired may assist with managing your money when you arrive at the 'retirement' stage of the personal Financial Lifecycle.
- Q6. Write an informed note on the differences between preparing a Cash Book and preparing a Household Budget as an aid to improving one's overall financial management.

Bloom's Taxonomy Data Set

History – Unit on Ancient Rome

Can you align the following questions with their corresponding level of Bloom's?

- Q1. Create a News sheet that might have been produced in Rome the day after the eruption of Mt Vesuvius in 79AD. Include at least one eye witness report.
- Q2. Explain in your own words the rituals which the Ancient Romans followed when burying their dead.
- Q3. In your opinion, were all classes of people in Ancient Rome, treated equally by the ruling authorities? In the course of your answer you should provide evidence to support your opinion.
- Q4. We have concluded our study of the section on 'Life in the Roman Empire'. Name three Gods that the romans believed in.
- Q5. Compare and contrast the type of accommodation and living conditions enjoyed by the Patricians with the type of accommodation and living conditions enjoyed by the Plebians in Ancient Rome.
- Q6. It is acknowledged in your textbook that the Ancient Roman soldiers were skilled fighters. Sketch in your copy a typical roman soldier dressed in his armour and clearly label all parts of his attire.

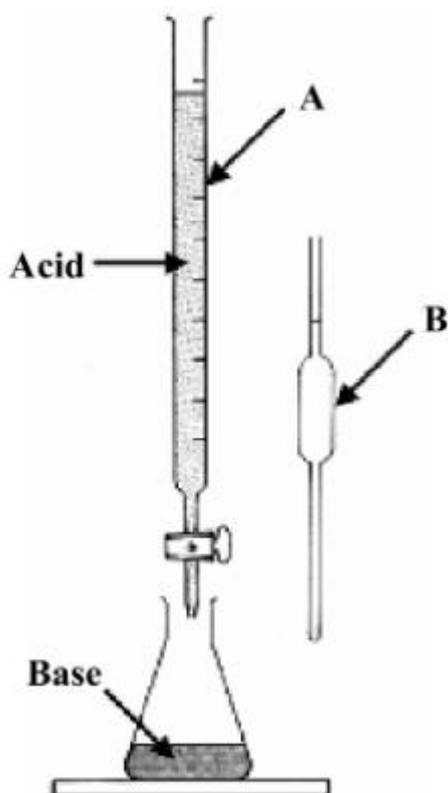
Bloom's Taxonomy Data Set

Examination on Acids and Bases

Can you align the following questions with their corresponding level of Bloom's?

Which question is testing you at the Recall Level, which question is testing you at the Evaluation Level? Only six Levels to be identified and aligned

Background: A student carried out an experiment to titrate a sample of hydrochloric acid against sodium hydroxide (base) and prepare a sample of sodium chloride (salt).



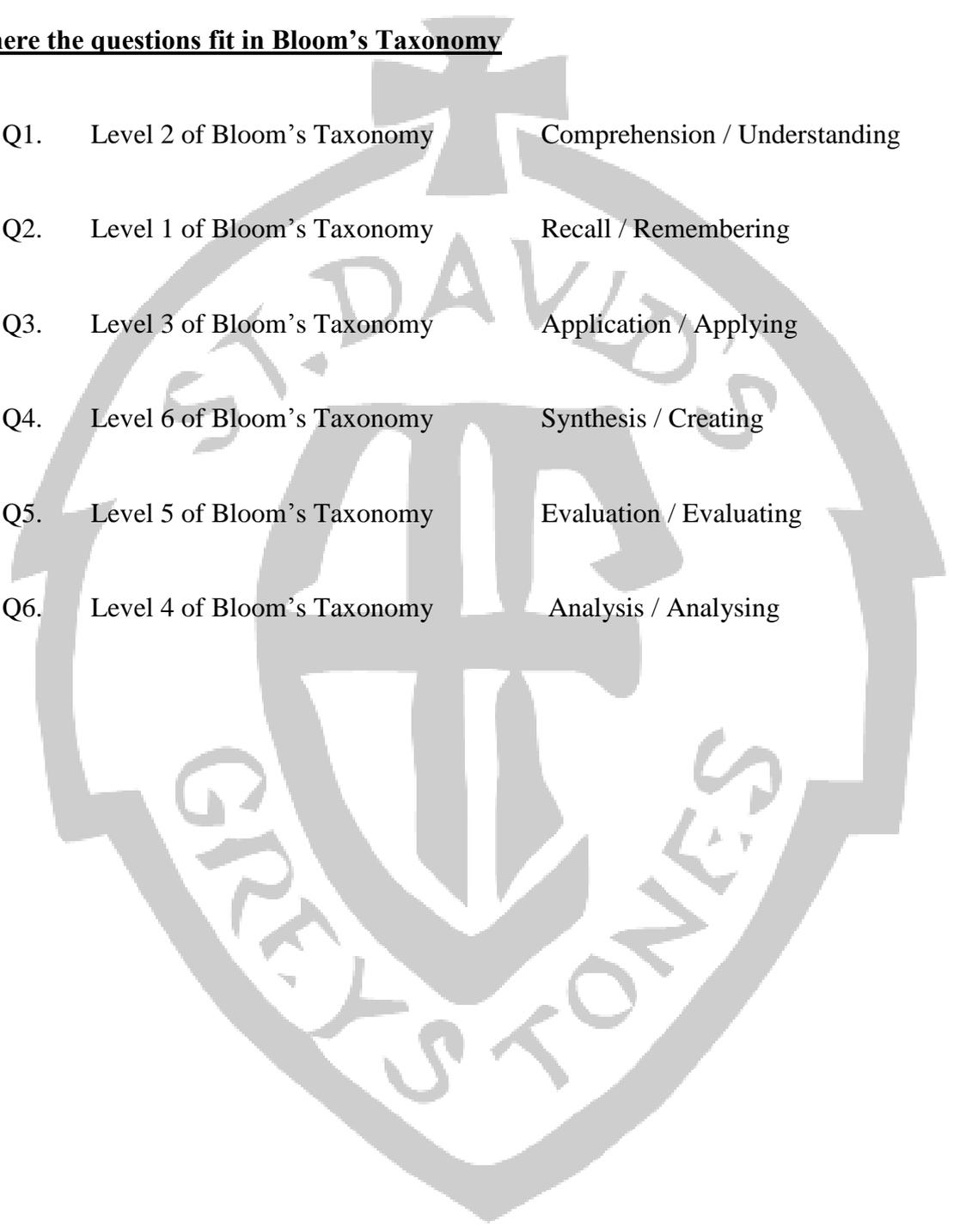
Source: DES 2006 JC Science Paper (HL)

- Q1. Describe how the piece of apparatus labelled A is used.
- Q2. Name the piece of apparatus labelled B.
- Q3. The resulting solution was tested for salt by evaporation. Draw a labelled diagram of separation of salt and water by evaporation.
- Q4. During the experiment the student broke the apparatus A. Suggest an alternative method of neutralising the base with an acid.
- Q5. Comparing the method in Q4 to the original method, which method do you think is better? Give a reason for your answer.
- Q6. Outline the step by step method of titration of an acid against a base.

Bloom's Taxonomy

Examination on Acids and Bases

Where the questions fit in Bloom's Taxonomy

- 
- | | | |
|-----|-----------------------------|-------------------------------|
| Q1. | Level 2 of Bloom's Taxonomy | Comprehension / Understanding |
| Q2. | Level 1 of Bloom's Taxonomy | Recall / Remembering |
| Q3. | Level 3 of Bloom's Taxonomy | Application / Applying |
| Q4. | Level 6 of Bloom's Taxonomy | Synthesis / Creating |
| Q5. | Level 5 of Bloom's Taxonomy | Evaluation / Evaluating |
| Q6. | Level 4 of Bloom's Taxonomy | Analysis / Analysing |

Bloom's Taxonomy Data Set

Sporting Blooms

Can you align the following questions with their corresponding level of Blooms?

- 
- Q1. What was the purpose of Ireland participating in the 2017 Autumn Rugby International series?
- Q2. Over the series which outhalf, as you see it performed better for Ireland, Jonathan Sexton or Ian Keatly? Make your case.
- Q3. Outline the strengths and weaknesses of Cian Healy as a member of Ireland's front row.
- Q4. Using diagrams, either on a note pad or I pad set out the various line out strategies used by Ireland during the 2017 Autumn Rugby Internationals.
- Q5. Name the three countries Ireland played during the 2017 Autumn Internationals series.
- Q6. You have just been appointed Head Coach of Ireland. Set out the squad and strategies you would put in place in order to seriously challenge for the Grand Slam in the 2018 six nations' championship.