



Dement and Kleitman Topical Past Papers

1 From the study by Dement and Kleitman (sleep and dreams):

9990/12/F/M/18

(a) Name the technique used to measure brain activity.

..... [1]

(b) Identify **one** reason for using this technique to measure brain activity.

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..... [1]

(c) Outline **one** of the dreams reported when vertical eye movement was recorded.

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..... [2]

9990/11/M/J/18

2 In the study by Dement and Kleitman (sleep and dreams), participants were fitted with electrodes for the EEG (electroencephalogram).

(a) Describe the procedure after these electrodes had been fitted.

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..... [5]



5 From the Dement and Kleitman study (sleep and dreams):

9990/13/O/N/18

(a) In which stage of sleep did participants recall most of their dreams?

.....[1]

(b) An EEG (electroencephalogram) was used in this study.

What does an EEG measure?

.....[1]

(c) Outline **one** conclusion from this study about the relationship between eye movements and dreaming.

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.....[2]

6 Dement and Kleitman (sleep and dreams) collected quantitative and qualitative data. ^{9990/12/F/M/19}

(a) Outline **one** quantitative result from the 'dream-duration estimates'. You must use data in your answer.

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.....[2]

(b) Outline **one** qualitative result from the dream content reports.

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7 From the study by Dement and Kleitman (sleep and dreams):

Describe **one** result about dream recall in REM sleep and **one** result about the estimations of dream-duration time in REM sleep. You must use data for **one** of these results.

dream recall in REM sleep

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estimations of dream-duration time in REM sleep

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..... [5]

8 From the study by Dement and Kleitman (sleep and dreams):

(a) Outline **one** conclusion about eye movement during REM sleep.

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..... [2]

(b) Describe **one** strength of this study.

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..... [2]



9 In the study by Dement and Kleitman (sleep and dreams), the procedure that the researchers first used to measure participants' estimations of REM sleep duration was unsuccessful and had to be revised.

(a) Describe how the researchers first attempted to measure participants' estimations of REM sleep duration.

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..... [2]

(b) Describe the revised procedure used to measure participants' estimations of REM sleep duration.

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..... [2]

10 From the study by Dement and Kleitman (sleep and dreams): 9990/12/O/N/19

(a) Name **two** things that participants were asked to do (or not to do) prior to the study.

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..... [2]

(b) Outline **one** quantitative result from this study.

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12 From the study by Dement and Kleitman (sleep and dreams): 9990/11/M/J/20

(a) Describe the procedure of this study from when the participant arrived at the laboratory until the participant fell asleep for the first time.

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..... [4]

(b) Outline how dream recall was recorded during this study.

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13 From the study by Dement and Kleitman (sleep and dreams): 9990/13/M/J/20

(a) Outline **one** aim of this study.

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..... [2]

(b) Suggest **one** real-world application of this study.

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..... [2]

14 Explain one or more real-world applications of the study by Dement and Kleitman (sleep and dreams). Do **not** refer to more than three applications in your answer. 9990/11/O/N/20

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15 Evaluate the study by Dement and Kleitman (sleep and dreams) in terms of **two** strengths and **two** weaknesses. At least one of your evaluation points **must** be about generalisations.

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16 Describe the psychology that is being investigated in the study by Dement and Kleitman (sleep and dreams).

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..... [5]

17 From the study by Dement and Kleitman (sleep and dreams): 9990/12/F/M/21

(a) Name the stage of sleep when participants recalled most of their dreams.

..... [1]

(b) Outline **one** dream reported by a participant that had vertical eye movements.

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..... [2]

(c) Outline **one** conclusion from this study.

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..... [2]

18 From the study by Dement and Kleitman (sleep and dreams): 9990/12/M/J/21

(a) From the dream-duration estimate part of the study:

State how Dement and Kleitman chose whether to wake a participant after 5 minutes or after 15 minutes of REM sleep.

..... [1]



(b) Describe the dream-duration estimates for the participant DN whose responses did **not** follow the same pattern as others.

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..... [2]

(c) Outline **one** strength of the study.

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..... [2]

19 From the study by Dement and Kleitman (sleep and dreams): 9990/13/M/J/21

(a) Identify **three** features of the sample used in this study.

1
2
3 [3]

(b) Suggest **one** real-world application based on the results of this study.

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..... [2]



1	1(a)	<p>From the study by Dement and Kleitman (sleep and dreams):</p> <p>Name the technique used to measure brain activity.</p> <p>1 mark for the correct answer.</p> <p>EEG/electroencephalogram/electroencephalograph (accept incorrect spelling if the meaning is clear)</p>	1
	1(b)	<p>Identify <u>one</u> reason for using this technique to measure brain activity.</p> <p>1 mark for one purpose.</p> <p>To identify when a person was in REM/nREM sleep/which stage of sleep; To analyse the brain wave patterns (of participants); The measure provided is objective; The measure provided is reliable;</p> <p>There are other creditworthy reasons</p>	1
	1(c)	<p>Outline <u>one</u> of the dreams reported when vertical eye movement was recorded.</p> <p>1 mark – partial answer 2 marks – full answer</p> <p>Standing at the bottom of a cliff (1 mark) operating some sort of hoist machine (1 mark) Climbing a set of ladders (1 mark) looking up and down as they did (1 mark) Throwing basketballs at a hoop (1 mark) then looking up at net/down to pick up another ball (1 mark)</p>	2
2	6(a)	<p>In the study by Dement and Kleitman (sleep and dreams), participants were fitted with electrodes for the EEG (electroencephalogram).</p> <p>Describe the procedure after these electrodes had been fitted.</p> <p>1 mark for every correct stage given.</p> <p>They then went to bed in a quiet (dark) room; The wires became as a single cord/ponytail (to stop entanglement); The EEG was run continuously through the night (at speeds of 3 or 6 mm per sec); At various times during the night, participants were woken up via a bell; They were woken in REM/nREM or they were woken 5 or 15 mins after REM began; They were tested on dream recall/ask to estimate length of time in REM; If they could recall a dream they were asked to describe it (in detail); They were allowed to go to sleep; They recorded their dreams into a tape recorder; They were sometimes asked questions by the experimenter.</p>	5



6(b)	<p>Explain <u>one</u> reason why the procedure was standardised in this study.</p> <p>It would allow the study to be more easily replicated (1 mark) Therefore, it could be tested for reliability (1 mark) For example, knowing how long they had to be in REM for before being woken up means exact replication is possible (1 mark)</p> <p>It would increase the (internal) validity of the study (1 mark) Therefore, cause and effect are (more) likely to be seen (1 mark) For example, knowing it was whether being in REM caused dreams to be reported (or not) (1 mark)</p> <p>It can help to reduce extraneous/uncontrolled variables (1 mark) So that we know it is probably the IV of REM sleep status (1 mark) causing the change in dream activity/content – the DV (1 mark)</p>	3
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3	10	<p>Evaluate the Dement and Kleitman (sleep and dreams) study in terms of <u>two</u> strengths and <u>two</u> weaknesses. At least one of your evaluation points <u>must</u> be about the use of quantitative data.</p> <p>Strengths include quantitative data, laboratory conditions, replication, standardisation</p> <p>Weaknesses include ethics, qualitative data, generalisability, ecological validity</p> <table border="1" style="width: 100%;"> <tr> <td> <p>Level 4 (8–10 marks)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Evaluation is comprehensive. <input type="checkbox"/> Answer demonstrates evidence of careful planning, organisation and selection of material. <input type="checkbox"/> Analysis (valid conclusions that effectively summarise issues and arguments) is evident throughout. <input type="checkbox"/> Answer demonstrates an excellent understanding of the material. </td> </tr> <tr> <td> <p>Level 3 (6–7 marks)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Evaluation is good. <input type="checkbox"/> Answer demonstrates some planning and is well organised. <input type="checkbox"/> Analysis is often evident but may not be consistently applied. <input type="checkbox"/> Answer demonstrates a good understanding of the material. </td> </tr> <tr> <td> <p>Level 2 (4–5 marks)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Evaluation is mostly appropriate but limited. <input type="checkbox"/> Answer demonstrates limited organisation or lacks clarity. <input type="checkbox"/> Analysis is limited. <input type="checkbox"/> Answer lacks consistent levels of detail and demonstrates a limited understanding of the material. </td> </tr> <tr> <td> <p>Level 1 (1–3 marks)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Evaluation is basic. <input type="checkbox"/> Answer demonstrates little organisation. <input type="checkbox"/> There is little or no evidence of analysis. <input type="checkbox"/> Answer does not demonstrate understanding of the material. </td> </tr> <tr> <td> <p>Level 0 (0 marks) No response worthy of credit.</p> </td> </tr> </table>	<p>Level 4 (8–10 marks)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Evaluation is comprehensive. <input type="checkbox"/> Answer demonstrates evidence of careful planning, organisation and selection of material. <input type="checkbox"/> Analysis (valid conclusions that effectively summarise issues and arguments) is evident throughout. <input type="checkbox"/> Answer demonstrates an excellent understanding of the material. 	<p>Level 3 (6–7 marks)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Evaluation is good. <input type="checkbox"/> Answer demonstrates some planning and is well organised. <input type="checkbox"/> Analysis is often evident but may not be consistently applied. <input type="checkbox"/> Answer demonstrates a good understanding of the material. 	<p>Level 2 (4–5 marks)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Evaluation is mostly appropriate but limited. <input type="checkbox"/> Answer demonstrates limited organisation or lacks clarity. <input type="checkbox"/> Analysis is limited. <input type="checkbox"/> Answer lacks consistent levels of detail and demonstrates a limited understanding of the material. 	<p>Level 1 (1–3 marks)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Evaluation is basic. <input type="checkbox"/> Answer demonstrates little organisation. <input type="checkbox"/> There is little or no evidence of analysis. <input type="checkbox"/> Answer does not demonstrate understanding of the material. 	<p>Level 0 (0 marks) No response worthy of credit.</p>	10
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<p>Level 0 (0 marks) No response worthy of credit.</p>								

4	5	<p>Describe the procedure used by Dement and Kleitman (sleep and dreams) to collect data about dream recall.</p> <p>1 mark per correct point x4</p> <p>An (ordinary) doorbell sound was used to wake participants; It was placed near the bed; The participant had to speak into a recording device (next to the bed); They had to state if they had dreamed (or not); If they had then they had to speak about the content; Sometimes an experimenter would enter the room and ask them more questions; The awakenings were done in REM/nREM sleep.</p>	4
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5	1(a)	<p>From the Dement and Kleitman study (sleep and dreams):</p> <p>In which phase of sleep did participants recall most of their dreams?</p> <p>1 mark for correct answer</p> <p>REM/Rapid Eye Movement/Paradoxical sleep</p>	1
	1(b)	<p>An EEG (electroencephalogram) was used in this study.</p> <p>What does an EEG measure?</p> <p>1 mark for correct answer</p> <p>Brain waves; Brain activity; Voltage</p>	1
	1(c)	<p>Outline <u>one</u> conclusion from this study about the relationship between eye movements and dreaming.</p> <p>1 mark – partial answer, 2 marks – detailed/full answer</p> <p>e.g. eye movements appear to correspond to the content of a dream (1 mark); This suggests that eye movements are not purely random but are related to dream imagery (1 mark)</p>	2

6	5(a)	<p>Dement and Kleitman (sleep and dreams) collected quantitative and qualitative data.</p> <p>Outline <u>one</u> quantitative result from the ‘dream-duration estimates’. You must use data in your answer.</p> <p>1 mark for the result 1 mark for using correct data</p> <p>e.g. Participants were more accurate at estimating 5 mins compared to 15 mins (1 mark) On 88% of trials (45/51) the participants estimated 5 mins correctly (1 mark: data); On 78% of trials (47/60) the participants estimated 15 mins correctly (1 mark: data).</p>	2
	5(b)	<p>Outline <u>one</u> qualitative result from the dream content reports.</p> <p>1 mark brief answer; 2 marks detailed answer</p> <p>e.g. One P reported a dream of standing at the bottom of a cliff (1 mark) One P reported a dream of standing at the bottom of a cliff operating a hoist and looking a climbers on the cliff (2 marks)</p> <p>One P reported climbing up a ladder (1 mark) One P reported climbing up a ladder and looking up and down as he climbed (2 marks)</p> <p>There are other reported dreams, e.g. basketball, throwing tomatoes.</p>	2



7	7	<p>From the study by Dement and Kleitman (sleep and dreams):</p> <p>Describe <u>one</u> result about dream recall in REM sleep and <u>one</u> result about the estimations of dream-duration time in REM sleep. You must use data for <u>one</u> of these results.</p> <p>2 marks per result (must have some meaningful comparison to gain the 2) 1 mark for correct data in one of the answers</p> <p>e.g. dream recall in REM sleep There were many more instances of dream recall in REM (1 mark) compared to instance of no recall/recall in NREM (1 mark); There were 152 instances of dream recall in REM across all participants/39 instances of no recall (1 mark: data)/There were 11 instances of dream recall in NREM/149 instances of no recall (alternative 1 mark: data).</p> <p>DN was more accurate with his estimations of 5 minutes in REM compared to estimations of 15 minutes in REM (2 marks: comparison). He was 80% correct for 5 minutes (1 mark: data)/He was 50% correct for 15 minutes (alternative 1 mark: data).</p> <p>e.g. estimations of dream-duration time in REM sleep Participants were more accurate at estimating 5 mins (1 mark) compared to 15 mins (1 mark); On 88% of trial (45/51) the participants estimated 5 mins correctly (1 mark: data); On 78% of trials (47/60) the participants estimated 15 mins correctly (alternative 1 mark: data).</p>	5
8	3(a)	<p>From the study by Dement and Kleitman (sleep and dreams):</p> <p>Outline <u>one</u> conclusion about eye movement during REM sleep.</p> <p>2 marks detailed conclusion. 1 mark partial / brief. No credit for any actual results. Must be generic.</p> <p>e.g. 2 marks Eye movements during REM tend to fit with what the dreamer is looking at suggesting eye movements are not 'random' at all.</p> <p>e.g. 1 mark Eye movements during REM tend to fit with what the dreamer is looking at.</p>	2
	3(b)	<p>Describe <u>one</u> strength of this study.</p> <p>1 mark identifying strength. 1 mark contextualising with study.</p> <p>e.g. There was a standardised procedure (which increases reliability) (1 mark); For example, the participant was always in a quiet dark room which makes replication easier to test for reliability (2 marks).</p> <p>There are other creditworthy answers including objectivity, scientific, controls etc.</p>	2



9	4(a)	<p>In the study by Dement and Kleitman (sleep and dreams), the procedure that the researchers first used to measure participants' estimations of REM sleep duration was unsuccessful and had to be revised.</p> <p>Describe how the researchers first attempted to measure participants' estimations of REM sleep duration.</p> <p>1 mark per correct point</p> <p>Participants were woken at different increments of time (in REM); They were then asked to estimate the time they had been dreaming; To the nearest minute; So, they were not given a fixed choice;</p>	2
	4(b)	<p>Describe the revised procedure used to measure participants' estimations of REM sleep duration.</p> <p>1 mark per correct point</p> <p>Participants were woken at either 5 or 15 minutes after the onset of REM; They were then asked to choose if they had been dreaming for 5 or 15 minutes;</p>	2
10	7(a)	<p>From the study by Dement and Kleitman (sleep and dreams):</p> <p>Name <u>two</u> things that participants were asked to do (or not to do) prior to the study</p> <p>1 mark per correct statement</p> <p>Arrive a little before normal bedtime; Eat normally; Avoid alcohol; Avoid caffeine-containing drinks;</p>	2
	7(b)	<p>Outline <u>one</u> quantitative result from this study.</p> <p>1 mark brief 2 marks for result with a comparison</p> <p>Participants were more likely to recall a dream in REM (1 mark) compared to nREM sleep (1 mark); Participants were more likely to estimate 5 minutes of REM (1 mark) compared to 15 minutes of REM (1 mark); 152 dreams were recalled (from 191 trials) in the REM condition (1 mark) compared to 11 (from 160 trials) in the nREM condition (1 mark); On 88% of trials the participants were accurate at estimating 5 minutes dream duration (1 mark) compared to 78% of trials for 15 minutes (1 mark);</p>	2



7(c)	<p>Suggest <u>one</u> real life application from this study.</p> <p>1 mark for brief application but linked to study OR plausible application outlined but not explained/only has the what <u>or</u> how 2 marks for application that clearly shows who would benefit/linked to study/how it would be done/has the what <u>and</u> how</p> <p>e.g. The EEG can detect REM/nREM sleep so can be useful in diagnosing problems with these (1 mark); The EEG can detect REM/nREM sleep so can be useful in diagnosing problems with these so that a treatment can be found to help with any disorder (2 marks); The EEG can detect REM/nREM sleep so could be useful for people with sleep disorders. A psychologist can use the EEG output to see how their sleep patterns are different to a 'normal' sleeper (2 marks); Can be used to analyse dream content (0 marks);</p>	2
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11

4(a)	<p>From the study by Dement and Kleitman (sleep and dreams):</p> <p>Describe the procedure of this study from when the participant arrived at the laboratory until the participant fell asleep for the first time.</p> <p>1 mark per correct procedural point.</p> <p>They were told to eat normally (that day); But refrain from alcohol/caffeine (on that day); Each participant had 2+ electrodes placed near their eyes; Two or three electrodes were placed on the scalp; The participant then went to bed in a dark/quiet room; All electrode wires were (further) attached to top of the head;</p>	4
4(b)	<p>Outline how dream recall was recorded in this study.</p> <p>1 mark per correct point.</p> <p>Participants were woken up (to record their dreams); Participants spoke into a recording device (near to their bed); They were asked to state whether or not they had been dreaming; If they could, they were asked to recall the dream; When they had finished the experimenter sometimes entered the room to question them more;</p>	2



12

Question	Answer	Marks
10	<p data-bbox="342 262 1127 342">Evaluate the study by Dement and Kleitman (sleep and dreams) in terms of <u>two</u> strengths and <u>two</u> weaknesses. At least one of your evaluation points <u>must</u> be about laboratory-based studies.</p> <p data-bbox="342 373 1127 575">Level 4 (8–10 marks)</p> <ul data-bbox="342 411 1127 575" style="list-style-type: none">• Evaluation is comprehensive.• Answer demonstrates evidence of careful planning, organisation and selection of material.• Analysis (valid conclusions that effectively summarise issues and arguments) is evident throughout.• Answer demonstrates an excellent understanding of the material. <p data-bbox="342 590 1127 730">Level 3 (6–7 marks)</p> <ul data-bbox="342 621 1127 730" style="list-style-type: none">• Evaluation is good.• Answer demonstrates some planning and is well organised.• Analysis is often evident but may not be consistently applied.• Answer demonstrates a good understanding of the material. <p data-bbox="342 745 1127 919">Level 2 (4–5 marks)</p> <ul data-bbox="342 779 1127 919" style="list-style-type: none">• Evaluation is mostly appropriate but limited.• Answer demonstrates limited organisation or lacks clarity.• Analysis is limited.• Answer lacks consistent levels of detail and demonstrates a limited understanding of the material. <p data-bbox="342 934 1127 1075">Level 1 (1–3 marks)</p> <ul data-bbox="342 968 1127 1075" style="list-style-type: none">• Evaluation is basic.• Answer demonstrates little organisation.• There is little or no evidence of analysis.• Answer does not demonstrate understanding of the material. <p data-bbox="342 1089 1127 1150">Level 0 (0 marks) No response worthy of credit.</p>	10



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	7(a)	<p>From the study by Dement and Kleitman (sleep and dreams):</p> <p>Outline <u>one</u> aim of this study.</p> <p>2 marks = full aim 1 mark = partial aim</p> <p>e.g. To investigate if dream recall differs between REM and nREM stages of sleep (2 marks); To investigate dream recall and stages of sleep (1 mark);</p> <p>To investigate if there was a (positive) correlation between estimates of dream duration and length of REM sleep (2 marks); To investigate estimates of dream duration (1 mark);</p> <p>To investigate if eye movement patterns were related to dream content (2 marks); To investigate eye movement and dreams (1 mark);</p>	2
	7(b)	<p>Suggest <u>one</u> real-world application of this study.</p> <p>1 mark for application (clearly based on Dement and Kleitman) 1 mark for who it would benefit/elaboration</p> <p>e.g. This could be useful to help diagnose a (potential) sleep disorder in a patient (1 mark). They could undergo an EEG whilst sleeping to see if REM and nREM sleep is happening 'correctly' (1 mark).</p>	2

14

	3	<p>Explain one or more real-world applications of the study by Dement and Kleitman (sleep and dreams). Do <u>not</u> refer to more than three applications in your answer.</p> <p>Suitable examples include:</p> <p>Sleep disorders; Insomnia.</p> <p>This will be band-marked as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Marks</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">5</td> <td>One application suggested in depth and it is clear what the application is and how it will be achieved; OR More than one application suggested in less depth, but still clearly showing what the application is and how it will be achieved.</td> </tr> <tr> <td style="text-align: center;">3–4</td> <td>One application suggested which has some detail with the application identifiable and how it will be achieved; OR More than one application suggested that are brief, but the application is identifiable with how it will be achieved.</td> </tr> <tr> <td style="text-align: center;">1–2</td> <td>One or more application suggested that are/is brief but may lack clarity as to what the application is and/or how it will be achieved.</td> </tr> <tr> <td style="text-align: center;">0</td> <td>No creditworthy real-world application or description of study only.</td> </tr> </tbody> </table>	Marks	Description	5	One application suggested in depth and it is clear what the application is and how it will be achieved; OR More than one application suggested in less depth, but still clearly showing what the application is and how it will be achieved.	3–4	One application suggested which has some detail with the application identifiable and how it will be achieved; OR More than one application suggested that are brief, but the application is identifiable with how it will be achieved.	1–2	One or more application suggested that are/is brief but may lack clarity as to what the application is and/or how it will be achieved.	0	No creditworthy real-world application or description of study only.	5
Marks	Description												
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1–2	One or more application suggested that are/is brief but may lack clarity as to what the application is and/or how it will be achieved.												
0	No creditworthy real-world application or description of study only.												



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9

Evaluate the study by Dement and Kleitman (sleep and dreams) in terms of two strengths and two weaknesses. At least one of your evaluation points must be about generalisations.

10

Strengths include: reliability, qualitative data, quantitative data
Weaknesses include: ethics, validity (external), generalisability

- Level 4 (8–10 marks)**
- Evaluation is comprehensive;
 - Answer demonstrates evidence of careful planning, organisation and selection of material;
 - Analysis (valid conclusions that effectively summarise issues and arguments) is evident throughout;
 - Answer demonstrates an excellent understanding of the material.

- Level 3 (6–7 marks)**
- Evaluation is good;
 - Answer demonstrates some planning and is well organised;
 - Analysis is often evident but may not be consistently applied;
 - Answer demonstrates a good understanding of the material.

- Level 2 (4–5 marks)**
- Evaluation is mostly appropriate but limited;
 - Answer demonstrates limited organisation or lacks clarity;
 - Analysis is limited;
 - Answer lacks consistent levels of detail and demonstrates a limited understanding of the material.

- Level 1 (1–3 marks)**
- Evaluation is basic;
 - Answer demonstrates little organisation;
 - There is little or no evidence of analysis;
 - Answer does not demonstrate understanding of the material.

Level 0 (0 marks)
No response worthy of credit.

16

6

Describe the psychology that is being investigated in the study by Dement and Kleitman (sleep and dreams).

5

1 mark per 'psychology' point made
1 identification mark is available
1 mark available for an explicit example from the study

Creditworthy 'psychology' includes sleep patterns, dreaming, REM, nREM, EEGs.

e.g.:
Rapid Eye Movement / REM sleep is a phase of sleep where a person is paralysed;
Their eyes flicker and they can breathe but all other muscles are paralysed;
Non Rapid Eye Movement / nREM sleep are the other stages of sleep and they differ in brain activity;

Dreaming is a subjective experience of imagery while we are asleep;

Electroencephalograms (EEGs) measure brain wave activity;
They are used to measure the amplitude and frequency of brain waves.



17

1(a)	<p>From the study by Dement and Kleitman (sleep and dreams):</p> <p>Name the stage of sleep when participants recalled most of their dreams.</p> <p>1 mark for correct answer.</p> <p>REM/paradoxical/5</p>	1
1(b)	<p>Outline <u>one</u> dream reported by a participant that had vertical eye movements.</p> <p>2 marks for detailed answer 1 mark for brief answer</p> <p>One participant reported a dream of standing at the bottom of a cliff operating a hoist and looking at climbers on the cliff (2 marks); One participant reported a dream of standing at the bottom of a cliff (1 mark).</p> <p>One participant reported climbing up a ladder and looking up and down as he climbed (2 marks); One participant reported climbing up a ladder (1 mark).</p> <p>One participant reported playing basketball and looking up at the hoop as they shot/looking down to pick it up (2 marks) One participant reported playing basketball (1 mark).</p>	2
1(c)	<p>Outline <u>one</u> conclusion from this study.</p> <p>2 marks for detailed conclusion 1 mark for partial/brief conclusion</p> <p>e.g. People can judge the duration of their time in REM with accuracy (2 marks); Dreams are not instant events but are reported/experienced in real time (2 marks); Eye movements during sleep do correspond with the content of a dream (2 marks); Dreaming happens more in REM (1 mark); People can judge REM length (1 mark); Eye movements match dreams (1 mark); Participants recall more dreams in REM compared to NREM (0 marks: a result);</p> <p>There are other creditworthy responses.</p>	2



18	5(a)	<p>From the study by Dement and Kleitman (sleep and dreams):</p> <p>From the dream-duration estimate part of the study:</p> <p>State how Dement and Kleitman chose whether to wake a participant after 5 minutes or after 15 minutes of REM sleep.</p> <p>1 mark for correct answer</p> <p>At random/randomly/equal chance of being either.</p>	1
	5(b)	<p>Describe the dream-duration estimates for the participant DN whose responses did <u>not</u> follow the same pattern as others.</p> <p>1 mark per correct statement made</p> <p>e.g. DN was equally likely to get the 15 minute estimation right or wrong; He got estimation of 15 minutes correct 50% of the time/5 times; ORA He got estimation of 5 minutes correct 80% of the time/8 times; ORA He often underestimated how long they were dreaming;</p>	2
	5(c)	<p>Outline <u>one</u> strength of this study.</p> <p>1 mark for identifying the strength 1 mark for relating it to Dement & Kleitman</p> <p>e.g. There were controls on some participant/situational variables to aid cause and effect conclusions (1 mark) For example participants were not allowed to drink alcohol/consume caffeine prior to the study (1 mark) There was a standardised procedure to the study to aid replicability/reliability (1 mark) For example participants were not allowed to drink alcohol/consume caffeine prior to the study (1 mark) It was conducted in a laboratory so had good controls that increase (internal) validity (1 mark)</p>	2
19	3(a)	<p>From the study by Dement and Kleitman (sleep and dreams):</p> <p>Identify <u>three</u> features of the sample used in this study.</p> <p>1 mark per correct statement made</p> <p>N = 9; Adults; Predominantly male; Five were studied intensely; Four were used to confirm results of main participants;</p>	3



3(b)	<p>Suggest <u>one</u> real-world application based on the results of this study.</p> <p>1 mark for what the application is about 1 mark for how it will be implemented/used</p> <p>e.g. The EEG readings could be used to help people with sleep disorders (1 mark: what); Readings could be analysed to see how much time people are in REM/NREM (1 mark: how)</p> <p>Could help with the study of sleep disorders/insomnia (1 mark: what)</p>	2
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