

International School Hannover Region is a learning community that provides an international education within a creative and caring environment to enable its students to become life-long learners and open-minded, compassionate citizens.

STRATEGIES TO PROMOTE THE ATTRIBUTES OF THE IB LEARNER PROFILE:

A student of Psychology is one who is interested in human behaviour and is thus *inquiring* into the cause of behaviour, *thinks* about how to predict and control behaviour, *reflects* upon the factors relate to both social and unsocial behaviour. The approach to studying human behaviour is eclectic in nature, because there are many factors influencing us, ranging from our biology, environment, genetic inheritance, thought processes, language etc. As future Psychologists within the IB paradigm, students explore and gain knowledge about psychological concepts such as perception, attention, schema, conditioning.....questioning it from a local and global perspective. This leads them to *open mindedness* about their own perspective as well as others. An understanding of different perspectives to the etiology of the same behaviour helps students to maintain an intellectual and emotional balance developing reflective thought processes.

An IB Psychology student is encouraged to be principled, caring and a lifelong learner because the very nature of the subject enables them to see into the strengths and weaknesses of being human.

Whilst all attributes of the IB Learner Profile are important in developing the broad attitudes and capabilities required of students in the IB DP Psychology course, three attributes are however key attributes in which successful students need to engage.

Principled: Ethics are an integral part of psychology. There are numerous theoretical debates about human nature, for example, are people good or evil by nature? What motivates people? Ethical concerns are fundamental to psychological research and applied psychology. Students need to act with integrity and honesty, as well as justice and respect for the dignity of individuals, groups and communities. Students are presented with sensitive issues for discussion regularly throughout the course, however, when designing and implementing their own experimental study strict ethical guidelines and principled practices must be applied. Students must take responsibility for their own actions and the consequences that accompany them.

Open-minded: Psychology is the study of human nature. The purpose of psychology is to study the human mind and behaviour, to begin to figure out why people think, feel and do what they do. How do we communicate with each other, solve problems and learn new things? Successful psychology students are ones who are open-minded, considering their personal and cultural histories before exploring others which are presented in each perspective of psychology. Students need to be able to appreciate the values and traditions of other individuals and communities in order to consider the level of interaction this may have with the human mind and behaviours.

Caring: Successful students in psychology are ones who are able to show empathy, compassion and respect towards the needs and feelings of others. Issues that can be quite sensitive for some people are often open for discussion and associated experimental studies and case studies are evaluated, requiring students to be mindful of others and respectful.

LINKS TO THE MIDDLE YEARS PROGRAMME:

Psychology is not required as a discipline within the individuals and societies subject group of the IB Middle Years Programme (MYP). However, the concepts of MYP individuals and societies are aimed toward helping the learner construct meaning through improved critical thinking and the transfer of knowledge. The key concepts within the subject group provide broad, powerful ideas that have relevance both within the MYP and beyond. The fundamental concepts of MYP individuals and societies provide a very useful foundation for students who go on to study the DP psychology course.

THE AIMS OF PSYCHOLOGY ARE TO:

1. develop an understanding of the biological, cognitive and sociocultural factors affecting mental processes and behaviour
2. apply an understanding of the biological, cognitive and sociocultural factors affecting mental processes and behaviour to at least one applied area of study
3. understand diverse methods of inquiry
4. understand the importance of ethical practice in psychological research in general and observe ethical practice in their own inquiries
5. ensure that ethical practices are upheld in all psychological inquiry and discussion
6. develop an awareness of how psychological research can be applied to address real-world problems and promote positive change.

PSYCHOLOGY AND THEORY OF KNOWLEDGE:

There are many ways to gain knowledge within the social sciences, as is the case in other areas of knowledge. Some of these ways include observation, experimentation, inductive and deductive reasoning and the collection of evidence.

Throughout psychology students should be able to reflect critically on the various ways of knowing and the methods used in the social sciences, and in doing so, become inquiring, knowledgeable and caring people.

TOK is invaluable for exploring some of the bigger questions relevant to the teaching, learning and practice of psychology. Questions that can be explored include (but are not limited to) the following:

- Can models and theories be used to understand and predict human behaviour?
- Does a researcher's choice of methodology affect the reliability or credibility of research?
- Is what we know about human behaviour limited by our ethical considerations?
- Are emotions universal?
- Are the methods of the natural sciences applicable in the social sciences?
- Are there human qualities or behaviours that will remain beyond the scope of science?

Syllabus Outline	Number of Teaching Hours	
	SL	HL
Introduction to Psychology, Published Studies and Carrying out Simple Experimental Studies	5	10
Paper 1: Core (SL/HL) – Three parts: cognitive, sociocultural and biological		
The cognitive approach to understanding behaviour <i>Cognitive processing</i> ☐ Models of memory <i>The Multi-Store Model of Memory and The Working Memory Model provide a framework for an understanding of conceptualization of human memory processes over time. The working memory model is an elaboration of short-term memory, suggesting a number of components working together to process information.</i> ☐ Schema theory <i>Cognitive schemas are seen as mental representations that organize our knowledge, beliefs and expectations. Multiple studies have indicated that schemas influence memory processes in encoding, storage and retrieval. Schema processing is to a large extent automatic and non-conscious which saves cognitive energy but at the same time could result in biases in thinking and memory processes.</i> ☐ Thinking and decision-making <i>Thinking involves using information and doing something with it, for example, deciding something. Thinking and decision-making are thus closely related. Thinking is based on factors such as concepts, processes, and goals. Modern research into thinking and decision-making often refers to rational (controlled) and intuitive thinking (automatic). There is an increasing understanding of how emotions may influence thinking and the decision-making process because the consequences of decisions result in the experiencing of emotions and many of our choices are guided by the experience of or anticipation of such emotions.</i> <i>Reliability of cognitive processes</i> ☐ Reconstructive memory <i>Human memory is not an exact copy of events but rather a reconstruction that may be altered over time, through discussions with others or input from the media. Research shows that memory may be changed during storage, processing and retrieval, for example, due to schema processing. Knowing this could be important not only in our daily lives but in particular in relation to eyewitness testimony.</i> ☐ Biases in thinking and decision-making <i>Human beings are not always rational thinkers. Instead they rely on intuitive thinking and take cognitive shortcuts resulting in a number of well-researched biases. The tendency to focus on a limited amount of available information, to seek out information that confirms pre-existing beliefs as well as the tendency to avoid the mental stress of holding inconsistent cognitions seems to be common sources of biases in thinking and decision-making.</i> <i>Emotion and cognition</i> ☐ The influence of emotion on cognitive processes <i>Psychological and neuroscientific research has revealed that emotion and cognition are intertwined. Emotions are believed to perform an adaptive function in that they shape the experience of events and guide the individual in how to react to events, objects and situations with reference to personal relevance and well-being. Memories of emotional events sometimes have a persistence and vividness that other memories seem to lack but there is evidence that even highly emotional memories may fade over time.</i> HL ONLY: <i>Cognitive processing in the digital world (Essay question)</i> ☐ For all three topics in the cognitive approach, and with reference to research studies, HL students should study the following: ➤ <i>The influence of digital technology on cognitive processes and human interaction.</i> ➤ <i>The positive and negative effects of modern technology on cognitive processes.</i> ➤ <i>Methods used to study the interaction between digital technology and cognitive processes.</i>	30	40

The sociocultural approach to understanding behaviour <i>The individual and the group</i> ❑ Social identity theory <i>Social identity theory refers to the way someone thinks about themselves and evaluates themselves in relation to groups. Social identity theory posits that a person's sense of who they are is based on their membership of social groups.</i> ❑ Social cognitive theory <i>Social cognitive theory suggests behaviour is modelled by other members of a group and acquired through observation or imitation based on consequences of a behaviour.</i> ❑ Stereotypes <i>A stereotype is a generalized and rather fixed way of thinking about a group of people.</i> <i>Cultural origins of behaviour and cognition</i> ❑ Culture and its influence on behaviour and cognition <i>Cultures are made up of a set of attitudes, behaviours, and symbols shared by a large group of people, and usually communicated from one generation to the next. Cultural groups are characterized by different norms and conventions.</i> ❑ Cultural dimensions <i>Cultural dimensions refer to the values of members of a society living within a particular culture. They include:</i> ➤ individualism/collectivism ➤ uncertainty avoidance ➤ power/distance ➤ masculinity/femininity ➤ long term/short term ➤ time orientation ➤ indulgence/restraint. <i>Cultural influences on individual attitudes, identity and behaviours</i> ❑ Enculturation <i>Enculturation is the process by which people learn the necessary and appropriate skills and norms in the context of their culture.</i> ❑ Acculturation <i>People may change as a result of contact with other cultures in order to assimilate with a new culture.</i> HL ONLY: <i>The influence of globalization on individual attitudes, identities and behaviour (Essay question)</i> ❑ For all three topics in the sociocultural approach, and with reference to research studies, HL students should study the following: ➤ How globalization may influence attitudes, identities and behaviour. ➤ The effect of the interaction of local and global influences on behaviour. ➤ Methods used to study the influence of globalization on behaviour.	30	40
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The biological approach to understanding behaviour	30	40
<i>The brain and behaviour</i> ❑ Techniques used to study the brain in relation to behaviour <i>The choice of techniques used to correlate the brain with behaviour is based on a variety of factors including opportunity, available technology and costs. An awareness of these limitations as well as the strengths of these different techniques is important when evaluating the contribution they have made to understanding behaviour.</i> ❑ Localization <i>Students should understand the concept of localization and how the function of different parts of the brain is determined as well as the limitations of this model.</i> ❑ Neuroplasticity <i>The development of neural networks through repetition and neural pruning is both genetic and subject to environmental influences. Neural networks can change developmentally, over time or after injury. This is termed neuroplasticity.</i> ❑ Neurotransmitters and their effect on behaviour <i>The effect of neurotransmitters on human behaviour can be explained using an appropriate example. Neurotransmitters allow the impulse to cross a synapse (excitatory) or stop the impulse and prevent it from crossing a synapse (inhibitory). Neurotransmitters are themselves affected by agonists which amplify their effect and antagonists which reduce their effect. As a result, neurons working together can produce a large variety of effects resulting in a complex repertoire of behaviours. As a result any claim of cause and effect should be treated with caution.</i> <i>Hormones and behaviour</i> ❑ Hormones and behaviour <i>The effect of a hormone on human behaviour can be examined using one or more examples.</i> ❑ Pheromones and behaviour <i>There is increasing evidence that pheromones may play a role in human behaviour, however, none are conclusive. A discussion on the effect of pheromones on behaviour is a useful exercise in critical thinking.</i> <i>Genetics and behaviour</i> ❑ Genes and behaviour <i>The evidence for links between genes and certain types of behaviour requires critical evaluation in the light of environmental factors.</i> ❑ Genetic similarities <i>Genetic similarity is referred to as relatedness. The greater the genetic similarities between two individuals or a group of individuals the higher the degree of relatedness. An awareness of the degree of relatedness between MZ and DZ twins, siblings, parents and children, and parents and adopted children provides a critical perspective in evaluating twin or kinship studies.</i> ❑ Evolutionary explanations for behaviour <i>If genes code for behaviour as well as physical traits, then behaviour is subject to evolutionary pressures in the same way that physical traits are subject to evolutionary pressures.</i> HL ONLY: <i>The role of animal research in understanding human behaviour (Essay question)</i> ❑ For all three topics in the biological approach, and with reference to research studies, HL students should study the following: ➤ <i>The value of animal models in psychology research.</i> ➤ <i>Whether animal research can provide insight into human behaviour.</i> ➤ <i>Ethical considerations in animal research.</i>		

Options: The options are assessed in paper 2. SL students choose one essay, while HL students choose two essays, one from each of the options they have studied. Paper 2: Option One (SL and HL) Developmental Psychology <i>Guidance:</i> ☐ The integration of biological, cognitive, sociocultural approaches to understanding behaviour ☐ Approaches to research ☐ Ethical considerations <i>Influences on cognitive and social development</i> ☐ Role of peers and play ☐ Childhood trauma and resilience ☐ Poverty/socio-economic status <i>Developing an identity</i> ☐ Attachment ☐ Gender identity and social roles ☐ Development of empathy and theory of mind <i>Developing as a learner</i> ☐ Cognitive development ☐ Brain development	20	20
Paper 2: Option Two (HL only) Psychology of Human Relationships <i>Guidance:</i> ☐ The integration of biological, cognitive, sociocultural approaches to understanding behaviour ☐ Approaches to research ☐ Ethical considerations <i>Personal relationships</i> ☐ Formation of personal relationships ☐ Role of communication ☐ Explanations for why relationships change or end <i>Group dynamics</i> ☐ Co-operation and competition ☐ Prejudice and discrimination ☐ Origins of conflict and conflict resolution <i>Social responsibility</i> ☐ By-standerism ☐ Prosocial behaviour ☐ Promoting prosocial behaviour	N/A	20

Paper 3: Approaches to researching behaviour (HL only) <i>Research Methods:</i> Identification of qualitative and quantitative research methods Characteristics of research methods Qualitative Research Methods: ☐ Case studies ☐ Naturalistic observations ☐ Interviews Quantitative Research Methods: ☐ Experiments ☐ Field experiments ☐ Quasi experiments ☐ Natural experiments ☐ Correlational research <i>Sampling Methods:</i> Examples include ☐ Random sampling ☐ Convenience / opportunity sampling ☐ Volunteer sampling ☐ Purposive sampling ☐ Snowball sampling <i>Ethical considerations in research</i> ☐ Informed consent ☐ Confidentiality ☐ Potential harm ☐ Use of inducements ☐ Use of deception ☐ Use of animals ☐ Ethics in genetics research <i>Evaluating research</i> ☐ Reliability and validity of research ☐ Credibility ☐ Bias	N/A	20
Part 4: Simple experimental study – IA (SL/HL) ☐ Introduction to experimental research methodology	20	20
Total teaching hours	150	240

ASSESSMENT CRITERIA

Assessment criteria are used when the assessment task is open-ended. Each criterion concentrates on a particular skill that students are expected to demonstrate. An assessment objective describes what students should be able to do and assessment criteria describe how well they should be able to do it. Using assessment criteria allows discrimination between different answers and encourages a variety of responses.

Each criterion comprises a set of hierarchically ordered level descriptors. Each level descriptor is worth one or more marks. Each criterion is applied independently using a best-fit model. The maximum marks for each criterion may differ according to the criterion's importance. The marks awarded for each criterion are added together to give the total mark for the piece of work.

MARKBANDS

Markbands are a comprehensive statement of expected performance against which responses are judged. They represent a single holistic criterion divided into level descriptors. Each level descriptor corresponds to a range of marks to differentiate student performance. A best-fit approach is used to ascertain which particular mark to use from the possible range for each level descriptor.

MARKSCHEMES

This generic term is used to describe analytic markschemes that are prepared for specific examination papers. Analytic markschemes are prepared for those examination questions that expect a particular kind of response and/or a given final answer from the students. They give detailed instructions to examiners on how to break down the total mark for each question for different parts of the response. A markscheme may include the content expected in the responses to questions or may be a series of marking notes giving guidance on how to apply criteria.

Assessment Outline:

STANDARD LEVEL - Assessment Component	Weighting
External assessment (3 hours)	75%
Paper 1 (2 hours) Section A: Three short-answer questions on the core approaches to psychology (27 marks) Section B: One essay from a choice of three on the biological, cognitive and sociocultural approaches to behaviour (22 marks) (Total 49 marks)	50%
Paper 2 (1 hour) One question from a choice of three on one option (22 marks)	25%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. Experimental study A report on an experimental study undertaken by the student (22 marks)	25%

HIGHER LEVEL - Assessment Component	Weighting
External assessment (5 hours)	80%
Paper 1 (2 hours) Section A: Three short-answer questions on the core approaches to psychology (27 marks) Section B: One essay from a choice of three on the biological, cognitive and sociocultural approaches to behaviour. One, two or all of the essays will reference the additional HL topic (22 marks) (Total 49 marks)	40%
Paper 2 (2 hours) Two questions; one question from a choice of three on each of two options (Total 44 marks)	20%
Paper 3 (1 hour) Three short-answer questions from a list of six static questions on approaches to research (24 marks)	20%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. Experimental study A report on an experimental study undertaken by the student (22 marks)	20%

EXTERNAL ASSESSMENT DETAILS

HL AND SL: PAPER 1: SECTION A SHORT ANSWER QUESTIONS (SAQs)

Paper 1 section A consists of three short-answer questions using the command terms describe, outline and explain. All three questions are compulsory. Each question is marked out of 9 marks using the rubric below, for a total of 27 marks.

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below
1 to 3	The response is of limited relevance to or only rephrases the question. Knowledge and understanding is mostly inaccurate or not relevant to the question. The research supporting the response is mostly not relevant to the question and if relevant only listed.
4 to 6	The response is relevant to the question, but does not meet the command term requirements . Knowledge and understanding is accurate but limited . The response is supported by appropriate research which is described.
7 to 9	The response is fully focused on the question and meets the command term requirements . Knowledge and understanding is accurate and addresses the main topics/problems identified in the question. The response is supported by appropriate research which is described and explicitly linked to the question .
Anecdotal material will not be awarded marks.	

HL AND SL: PAPER 1: SECTION B AND PAPER 2: ESSAY

Paper 1 section B consists of a single essay from a choice of three. One, two or all of the essays will reference the additional HL topic. The essay is marked out of 22 marks. *Contrast, discuss, evaluate* and *to what extent* are the command terms that will be used in the essay questions. The essays will be assessed using the rubric below.

PAPER 2 CONSISTS OF TWO ESSAY QUESTIONS, ONE FOR EACH OPTION STUDIED (1 OPTION FOR SL, 2 OPTIONS FOR HL)

Each option will have a choice of three essays. The essay is marked out of 22 marks. *Contrast, discuss, evaluate* and *to what extent* are the command terms that will be used in the essay questions. The essays will be assessed using the rubric below.

Criterion A. Focus on the question (2 marks)

To understand the requirements of the question students must identify the problem or issue being raised by the question. Students may simply identify the problem by restating the question or breaking down the question. Students who go beyond this by **explaining** the problem are showing that they understand the issues or problems.

Marks	Level descriptor
0	Does not reach the standard described by the descriptors below.
1	Identifies the problem/issue raised in the question.
2	Explains the problem/issue raised in the question.

Criterion B. Knowledge and understanding (6 marks)

This criterion rewards students for demonstrating their knowledge and understanding of specific areas of psychology. It is important to credit **relevant** knowledge and understanding that is **targeted** at addressing the question and explained in sufficient detail.

Marks	Level descriptor
0	Does not reach the standard described by the descriptors below.
1 - 2	The response demonstrates limited relevant knowledge and understanding. Psychological terminology is used but with errors that hamper understanding.
3 - 4	The response demonstrates relevant knowledge and understanding but lacks detail. Psychological terminology is used but with errors that do not hamper understanding.
5 - 6	The response demonstrates relevant, detailed knowledge and understanding. Psychological terminology is used appropriately.

Criterion C. Use of research to support answer (6 marks)

Psychology is evidence based so it is expected that students will use their knowledge of research to support their argument. There is no prescription as to which or how many pieces of research are appropriate for their response. As such it becomes important that the research selected is **relevant** and useful in **supporting** the response. One piece of research that makes the points relevant to the answer is better than several pieces that repeat the same point over and over.

Marks	Level descriptor
0	Does not reach the standard described by the descriptors below.
1 - 2	Limited relevant psychological research is used in the response. Research selected serves to repeat points already made.
3 - 4	Relevant psychological research is used in support of the response and is partly explained. Research selected partially develops the argument.
5 - 6	Relevant psychological research is used in support of the response and is thoroughly explained. Research selected is effectively used to develop the argument.

Criterion D. Critical thinking (6 marks)

This criterion credits students who demonstrate an inquiring and reflective attitude to their understanding of psychology. There are a number of areas where students may demonstrate critical thinking about the knowledge and understanding used in their responses and the research used to support that knowledge and understanding. The areas of critical thinking are:

- research design and methodologies
- triangulation
- assumptions and biases
- contradictory evidence or alternative theories or explanations
- areas of uncertainty.

These areas are not hierarchical and not all areas will be relevant in a response. In addition, students could demonstrate a very limited critique of methodologies, for example, and a well-developed evaluation of areas of uncertainty in the same response. As a result a holistic judgment of their achievement in this criterion should be made when awarding marks.

Marks	Level descriptor
0	Does not reach the standard described by the descriptors below.
1 - 2	There is limited critical thinking and the response is mainly descriptive. Evaluation or discussion, if present, is superficial.
3 - 4	The response contains critical thinking, but lacks development. Evaluation or discussion of most relevant areas is attempted but is not developed.
5 - 6	The response consistently demonstrates well-developed critical thinking. Evaluation or discussion of relevant areas is consistently well developed.

Criterion E. Clarity and organization (2 marks)

This criterion credits students for presenting their response in a clear and organized manner. A good response would require no re-reading to understand the points made or the train of thought underpinning the argument.

Marks	Level descriptor
0	Does not reach the standard described by the descriptors below.
1	The answer demonstrates some organization and clarity, but this is not sustained throughout the response.
2	The answer demonstrates organization and clarity throughout the response.

Anecdotal material will not be awarded marks.

HL ONLY: PAPER 3

Paper 3 assesses the approaches to research in psychology. The paper consists of a research scenario followed by three short-answer questions for a total of 24 marks.

Question 1

Question 1 will consist of **all** of the following questions, for a total of 9 marks. The questions will be assessed using an analytical markscheme.

Marks	Questions
3	Identify the research method used and outline two characteristics of the method.
3	Describe the sampling method used in the study.
3	Suggest an alternative or additional research method giving one reason for your choice.

Question 2

Question 2 will consist of **one** of the following questions, for a total of 6 marks. The question will be assessed using an analytical markscheme.

Marks	Questions
6	Describe the ethical considerations that were applied in the study and explain if further ethical considerations could be applied.
6	Describe the ethical considerations in reporting the results and explain additional ethical considerations that could be taken into account when applying the findings of the study.

Question 3

Question 3 will consist of **one** of the following questions, for a total of 9 marks. The question will be assessed using the rubric below.

Marks	Questions
9	Discuss the possibility of generalizing/transferring the findings of the study.
9	Discuss how a researcher could ensure that the results of the study are credible.
9	Discuss how the researcher in the study could avoid bias.

Question 3 Rubric

Looking at the rubric, you can see that you are assessed on three key criteria: *the response is well organized and focused on the question; there is accurate understanding of research methodology with regard to the question; there are explicit links to the stimulus piece.*

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below
1 to 3	The question is misunderstood and the central issue is not identified correctly, resulting in a mostly irrelevant argument. The response contains mostly inaccurate references to the approaches to research or these are irrelevant to the question. The reference to the stimulus material relies heavily on direct quotations from the text.
4 to 6	The question is understood, but only partially answered resulting in an argument of limited scope. The response contains mostly accurate references to approaches to research which are linked explicitly to the question. The response makes appropriate but limited use of the stimulus material.
7 to 9	The question is understood and answered in a focused and effective manner with an accurate argument that addresses the requirements of the question. The response contains accurate references to approaches to research with regard to the question, describing their strengths and limitations. The response makes effective use of the stimulus material.

The assessment of the internal assessment task is the same for both SL and HL students and uses the following rubric.

I. Introduction (6 marks)

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below
1-2	The aim of the investigation is stated but its relevance is not identified. The theory or model upon which the student's investigation is based is identified but the description is incomplete or contains errors. Null and/or research hypotheses are stated, but do not correctly identify the Independent or Dependent Variables.
3-4	The aim of the investigation is stated and its relevance is identified but not explained. The theory or model upon which the student's investigation is based is described but the link to the student's investigation is not explained. The Independent and Dependent Variables are correctly stated in the null or research hypotheses, but not operationalized.
5-6	The aim of the investigation is stated and its relevance is explained. The theory or model upon which the student's investigation is based is described and the link to the student's investigation is explained. The Independent and Dependent Variables are stated and operationalized in the null or research hypotheses.

II. Exploration (4 marks)

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below
1-2	The research design is described. The sampling technique is described. Characteristics of the participants are described. Controlled variables are described. The materials used are described.
3-4	The research design is explained. The sampling technique is explained. The choice of participants is explained. Controlled variables are explained. The choice of materials is explained.

III. Analysis (6 marks)

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below
1-2	Only descriptive or inferential statistics are applied. A correct graphing technique is chosen but the graph does not address the hypothesis. There is no clear statement of findings.
3-4	Appropriate descriptive and inferential statistics are applied but there are errors. The graph addresses the hypothesis but contains errors. The statistical findings are stated but either not interpreted with regard to the data or not linked to the hypothesis.
5-6	Descriptive and inferential statistics are appropriately and accurately applied. The graph is correctly presented and addresses the hypothesis. The statistical findings are interpreted with regard to the data and linked to the hypothesis.

IV. Evaluation (6 marks)

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below
1-2	The findings of the student's investigation are described without reference to the background theory or model. Strengths and limitations of the design, sample or procedure are stated but are not directly relevant to the hypothesis. One or more modifications are stated.
3-4	The findings of the student's investigation are described with reference to the background theory or model. Strengths and limitations of the design, sample or procedure are stated and described and relevant to the investigation. Modifications are described but not explicitly linked to the limitations of the student's investigation.
5-6	The findings of the student's investigation are discussed with reference to the background theory or model. Strengths and limitations of the design, sample and procedure are stated and explained and relevant to the investigation. Modifications are explicitly linked to the limitations of the student's investigation and fully justified.

ETHICAL GUIDELINES

The experiment for the internal assessment must adhere to the ethical guidelines outlined below.

- Any experimental study that creates anxiety, stress, pain or discomfort for participants is not permitted. Experiments involving deception, conformity, obedience, or any other form of harm are not permitted. The experiment must be appropriate to the sensitivities of the particular school, community and country.
- Any experimental study that involves unjustified deception, involuntary participation or invasion of privacy, including the inappropriate use of information and communication technology (ICT), email and the internet, must be avoided. There may be rare occasions when such infringements cannot be avoided, in which case the approval of other experienced psychologists should be sought before proceeding.
 - Partial deception may be allowed for some experiments where full knowledge of the experiment would fundamentally affect the outcome—such experiments are permissible provided they do no harm and participants are fully debriefed at the end. Participants retain their right to withdraw their data at this point. The only exception is a conformity or obedience study; these are not permitted under any circumstances. The teacher should be ready and willing to explain why conformity and obedience experiments are not appropriate for students at this level of study.
- Consent must be explicitly gained from participants through the use of a consent form. Implied consent is not acceptable.
- All participants must be informed of the aims and objectives of the experiment.
- All participants must be informed before commencing the experimental study that they have the right to withdraw at any time. Pressure must not be placed on any individual participant to continue with the investigation.
- Young children (under 12 years) must not be used as participants as they cannot give informed consent. Experimental studies involving older children (from 12 years up to 16 years) need the written consent of parent(s) or guardian(s). Students must ensure that parents are fully informed about the implications for children who take part in such research. Where an experimental study is conducted with children in a school, the written consent of the teachers concerned must also be obtained.
- Participants must be debriefed and given the right to withdraw their own personal data and responses. Anonymity for each participant must be guaranteed even after the experiment has finished.
- Participants must be shown the results of the research and if reasonable deception was involved, the participants must have the deception explained and justified to them.
- Teachers and students must exercise the greatest sensitivity to local and international cultures.
- Students must not conduct research with any participant who is not in a fit state of mind and cannot respond freely and independently.
- If any participant shows stress or pain at any stage of an experimental study, the investigation must finish immediately, and the participant must be allowed to withdraw.
- Non-human animals must not be used for the experimental study.
- All data collected must be kept in a confidential and responsible manner and not disclosed to any other person.
- Data must not be used for purposes other than that agreed to by the participants.
- Students must regard it as their duty to monitor the ways in which their peers conduct research, and to encourage public re-evaluation of any research practices that breach these guidelines.
- Experimental studies that are conducted online are subject to the same guidelines. Any data collected online must be deleted once the research is complete. Such data must not be used for any purpose other than the conduct of the experimental study.
- Teachers who feel the need for more guidance on whether an experiment is ethical should consult other teachers via the OCC who may offer additional expertise and critical distance.

For the experiment to be considered ethical, it must do no harm to anyone. This includes participants, researchers, bystanders, teachers/supervisors, moderators, and eventual readers. Teachers should be prepared to discuss and explain what “harm” means. It can mean a number of things: hurt, injure, torment, tease, torture, traumatize, impair, wound, mistreat, punish, maltreat, misuse, abuse, molest, damage, or adversely affect. Harm manifests in many ways, not only in a physical sense. High standards of ethical practice are central to the IB philosophy and should therefore be promoted and supported by the entire IB community.

COMMAND TERMS

Students should be familiar with the following key terms and phrases used in examination questions, which are to be understood as described below. Although these terms will be used frequently in examination questions, other terms may be used to direct students to present an argument in a specific way.

HL AND SL: PAPER 1: SECTION A SHORT ANSWER QUESTIONS (SAQs) - POSSIBLE COMMAND TERMS FOR A SAQ ARE:

Focus on knowledge and comprehension of specified content – these terms require students to demonstrate knowledge and understanding and learn and comprehend the meaning of information.

Describe: Give a detailed account.

Outline: Give a brief account or summary.

Focus on application and analysis of knowledge and understanding – these terms require students to use and analyse knowledge and understanding, explain actual situations, break down ideas into simpler parts and to see how the parts relate.

Explain: Give a detailed account including reasons or causes.

HL AND SL: PAPER 1: SECTION B AND PAPER 2: ESSAY:

Possible command terms for an Essay are:

Make a judgment based on evidence and, when relevant, construct an argument or rearrange component ideas into a new whole and make judgments based on evidence or a set of criteria.

Contrast: Give an account of the differences between two (or more) items or situations, referring to both (all) of them throughout.

Discuss: Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.

Evaluate: Make an appraisal by weighing up the strengths and limitations.

To what extent: Consider the merits or otherwise of an argument or concept. Opinions and conclusions should be presented clearly and supported with appropriate evidence and sound argument.

HL ONLY: PAPER 3

The command term for Question 3 is:

Discuss: Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.