- You may use a dictionary/translator if English is not your native language.
- Please do not worry about questions you cannot answer!
- This review covers 'expected knowledge' and skills for IB Biology, but everyone will start with a different background, and this review will help us understand yours!

Part A. Answer on this sheet.

A1 **Skills**. For each of the skills given below, please rate your experience and competence using one of the following numbers:

0: have had no experience at all.

1: have had limited experience, and am not competent

2: have had reasonable experience, but am not sure I am competent

3: have had enough experience of this, and feel I am competent

Skill	Description	Rating
a) Graph plotting	Plots graphs accurately, and with correctly labelled axes. Chooses the correct format for the data, and adds a best-fit line when appropriate.	
b) Calculations.	Can use calculator (+ mental check) to calculate: %, % change, ratios, averages, solutions for simple equations.	
c) ICT production (e.g. 'Word')	Can produce a well-formatted document, including pictures & diagrams. Uses Header & Footer, paragraph headings, etc.	
d) ICT analysis (e.g. 'Excel')	Can enter data and use 'formulae' to calculate averages etc. Can format data to print out neatly, and create graphs with correct axes, labels, etc.	
e) Lab technique.	Handles standard lab-ware confidently to perform dilutions, measurements, dissection, sterile technique, etc.	
f) Research Notes	Extracts key points from text into notes; uses highlighter / colour; avoids sentences & copying; uses abbreviations.	
g) Presentation skills;	Speaks from notes without reading; maintains eye-contact; uses emphasis; maintains suitable pace; uses visual aids.	
h) References	Always records details of sources, and uses a standard format to list them where appropriate.	
i) Terminology.	Expresses both written and oral answers using scientific vocabulary, not 'thingy-wotsits!'. Takes care to learn word-forms (e.g. 'data' are plural, 'species' both sing. & pl.)	
j) Writing essays / reports.	Thinks & plans before writing. Maintains logical 'flow'. Uses concise, grammatical English & correct terms. Uses effective 'introduction'. Always gives examples.	
k) Questioning approach;	Always asks if unable to relate new info' to existing understanding. Sources not 'taken for granted' – spots inconsistencies etc.	
l) Factual recall / learning.	Absorbs detail during course (not just when revising), by relating it to existing knowledge. Can use mnemonics etc to memorise less 'meaningful' details.	
m) Analytical thinking	Sees connections between concepts. Can apply concepts in new situations. Can break a problem down into small steps. Thinks logically, aware of what is biologically plausible.	
n) Group / team skills.	Contributes constructively, and listens to others. Stays 'on-task'. Values others' comments.	

A2. **Background knowledge.** Explain each of the following terms in a sentence or two:

a) Respiration. .....

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b) Photosynthesis .....

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c) Gene .....

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d) Homeostasis .....

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e) Asexual reproduction .....

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A3. **Analysis.**

a) Last year, farmer Fred used **40**kg of fertiliser per hectare, this year he used **32**kgHa^{-1}. What is the percentage change in his fertiliser use? Show your working

b) During the anaerobic respiration of glucose by yeast (= 'alcoholic fermentation') glucose is broken down into ethanol and carbon dioxide. Write a balanced symbol equation for this, given that the formula of ethanol is C_2H_5OH, and glucose is $C_6H_{12}O_6$.

A4. **Understanding**. State one specific **function** (role) of:

a) Phloem. .....

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b) Mitosis .....

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c) Lungs .....

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d) Cell membranes .....

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