General

The chapters in Section 4 differ from those in earlier sections. They contain suggestions for individual research and group projects, as in previous sections. However, instead of structured activities to support these, each chapter contains a practice written examination.

Encourage students to use their responses to the activities in chapters 13, 14 and 15 to help them to work independently on individual research and group projects.

Encourage students to refer to Skills Sections 3 and 4 to remind themselves of the skills they need to apply and the processes they have learned for planning a line of enquiry and planning a project.

Always download and use the most recent mark scheme to help students to assess their practice written examinations.

Guidance to practice written examination

Skills not knowledge

Remember that the written examination is testing Global Perspectives skills, not knowledge of the topic content. To date the questions have always followed the pattern below.

Question 1: Identify and analyse issues, considering problems, solutions, causes, consequences, perspectives and opinions. This can include identifying reasons, specific bits of evidence, perspectives and so on, as well as making suggestions and giving explanations.

Question 2: Plan a line of inquiry. This is usually about identifying gaps in knowledge or things students need to know, and working out how to find this information. This can be by framing questions to particular people, designing a small survey or suggesting an experiment or research project. It often requires students to identify specific information that they need to know for a particular purpose, and explain how this information will help. This question could address the project planning process.

Question 3: Question information and reasoning. This section can include questions about the reliability of sources, about the difference between facts, opinions and value judgments and about the quality of reasoning.

Question 4: Develop a line of reasoning. There is usually one long question, which may be a standard essay-type question. Other kinds of question may appear, such as a debate in which students have to make
a case for one proposal, one use of energy and do on. Students may use, develop or argue against material from the resource booklet. They may also use any knowledge they have or opinions and perspectives of their own. No specific knowledge is required.

Note that the questions more or less follow the Global Perspectives learning process of: collect; question; reflect and plan; present and act. The skill of reflecting is rarely tested specifically but students who reflect on the issues tend to develop better reasoning in question 4.

**Vocabulary and concepts**

No specific knowledge, vocabulary or concepts are required for the written paper. In fact, specific knowledge can lead a student to write down what they know rather than responding to the questions. However, students may be more within their comfort zones if some subject-specific vocabulary and concepts are familiar to them. For this reason, it may be useful to do skills development exercises from a variety of topics that haven’t otherwise been used in the course. Another possible activity would be to organise debates and discussions on topics that haven’t been formally studied, in order to familiarise students with key concepts and vocabulary. Students can evaluate each others’ reasoning (using red cards for a weakness, perhaps), and the activity leads nicely into development of written reasoning.

**Mark schemes**

Always download and use the most recent CIE Global Perspectives mark scheme to help prepare students for assessment. Most of the questions are marked by levels, so you can adapt the marking grids to the questions in this chapter. For instance, quite a number of question parts, especially in questions 1, 2 and 3 in 2012 were marked according to levels which can be summarised as:

Level 3: Strong and supported reasoning, directly relevant to the question.
Level 2: Some description generally relevant to the question.
Level 1: Simple description, general and not specific to the question.

This general guide can be adapted to each question. Students can use this to learn what counts as simple description, what counts as relevant to the question and so on. Even weaker students, given the tools to understand how their answers are marked, can often identify what they need to do to achieve the next level.

Question papers and mark schemes evolve over time, and it is in students’ interests to use the most recent versions. For instance, in June 2011, the top level of the mark scheme for question 4 looked like this:
Level 5  
13–15

Question answered precisely and logically, supported by some or all of the following characteristics:
- Logically linked, coherent structure to the reasoning.
- Candidates have made effective use of relevant ideas in the resource booklet as reasons to support their view and/or added their own relevant ideas. These ideas may be completely new, or they may be expansion of or response to existing material.
- Relevant different point/s of view from candidate’s own ideas or selected from resource booklet.
- Thoughtful consideration of different point/s of view AND strong explanation of why disagreed which really answers the different point of view OR possibly a suggestion of a compromise position between different points of view.

However, in November 2012 the top level of the mark scheme for question 4 looked like this:

Level 5  
16–18 marks
Very good response

Very good, well supported and logical reasoning and judgments about the effects of the internet. Coherent, structured argument and evaluation of a range of internet effects on thinking – usually 4 or more. The response is likely to contain a range of clearly reasoned arguments and/or evidence to support the views expressed, with at least 4 developed points, and some undeveloped points. The response is balanced. A clear, balanced assessment or conclusion is reached.

Note that there is now a quantitative element: “usually 4 or more”. This works down through the levels. Note also that the specific detail on how students deal with different points of view has been replaced with “the response is balanced”.

Look out for further developments, and make sure that your students are as prepared as possible.

**Indicative content**

This section provides indicative content for the practice paper. Accept other reasonable responses (and allow students to discuss what a reasonable response might be and why). Accept a variety of levels of sophistication, and encourage students to find the level on the most recent mark scheme that matches their performance.

**Question 1**

(a) To improve performance in sport; to allow new sports like motorsports; to get your homework done; to learn more quickly; to be able to apply new knowledge more effectively.

(b) Medicine is to heal the sick not turn healthy people into gods; in sport we want to watch natural athletes who have worked hard compete; technology could lead to competition between engineers and surgeons instead of sportspeople; physical side effects; social side effects; there are areas where we can’t predict the consequences.

(c) Initially it seems to be a personal issue, because it is individuals who can choose to be enhanced or not, but it becomes a national issue as
national sports can be affected, and there are social consequences if rich people can afford enhancements but normal/poor people can’t. It can become a global issue if some nations can afford to give their sportspeople enhancements and others can’t, or if some nations have populations of enhanced thinkers and businesspeople, giving the whole country an edge.

Question 2

(a) You would have to set up a research experiment or project in which you tried stimulating two areas of the brain at the same time. There would be problems with establishing exactly what was happening and why (this is why studies try to isolate one thing at a time to try). You may not be able to tell what the result was of both areas being stimulated together. There may be ethical issues about trying experiments on animals’ or people’s brains. There are, of course, practical problems – you have to be a university-level researcher to have access to the equipment and get permission.

(b) You could set up an experiment with people wearing the helmet (and thus hopefully doubt-free) and people not wearing the helmet, and get them to make ethical decisions. You could track who made which decision. Problems include that you would have to do a control of just how much self-doubt people had before, during and after the experiment. People might change their decisions because they were being tracked. You would have to have a clear way of judging what was more ethical and less ethical.

Question 3

(a) “The original purpose of medicine is to heal the sick” is a fact (probably) that we can cross check with ancient records. But the whole quotation becomes more of an opinion or value judgment, because it is really expressing an opinion or value about what we should and should not be doing with medicine now. You could argue that even the first part of the claim is only an opinion, because there are some traditional “medicines” that are hallucinogenic, or which aimed to help shamans to cross into the spirit world.

(b) Oxford University has a good reputation, and is likely to use the scientific method, and have papers peer reviewed. So as far as we know this is likely to be reliable. However, we don’t know who funded the research, or what biases the researchers might have had, or whether the results have been repeated. So the study seems reliable, but we still need to be aware of doubt.

(c) @honestjack predicts the consequence that “popping pills or technology … will lead to a competition between engineers and surgeons instead of sportspeople”. This seems partly realistic. In motorsport, for example, engineers have a major influence on whether the car or bike is reliable, fast, and manoeuvrable. On the other hand, the driver’s skill is still important. So, if the engineering and technology were being done directly to people, it is possible that the skill of the engineers would determine some competitions to some degree, but the skill of the athlete should still remain important. @honestjack also predicts that “we could end up with them building weapons into people’s arms and legs”.

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This seems less realistic, if only because most athletes would not want permanent weapons attached to them. But there is room for debate here – @honestjack says “could” and it’s not impossible.

(d) Popping pills or using technology would be fair play if everyone was doing it, just like in motorsport. It is less fair when it excludes some people or nations who can’t afford to use the technology. Does it “level the playing field”? If everyone has the enhancement, then individual differences will still matter. And if only some people have the enhancement, then the playing field will be even less level. You would have to consider as well how much training, sports shoes, food supplements and so on counted. What about training at altitude? Is that an enhancement?

(e) It is probably unfair to dismiss @honestjack’s reasoning with “this is ridiculous”. It’s not quite bad reasoning, but it is rude. There is an important difference between technology used by humans and technology used specifically to enhance humans, and @technokid does highlight that @honestjack has confused these. @technokid is making the point quite well that we shouldn’t just dismiss all technology, and does identify medical technology as separate. However, @technokid does not answer the points specifically related to medical technology and fairness. He or she does predict that this will extend what it means to be human – this is plausible, but an alternative consequence might be that it would create a stark line between super human and lesser human. So he or she could be right – it could be exciting. But it could also be worrying.

(f) @silverbirch’s reasoning is quite good. It refers to a reliable study to support the reason that “this is oversimplifying the issue”. It is important to be aware of complexity, and to think about what you don’t yet know. @silverbirch is doing both of these things. Also he or she isn’t coming to an extreme conclusion, only saying that we should be cautious, and he or she has given enough reason to be cautious.

Question 4

Some ideas that students could use might include the following.

Education: If technology offers better access to opportunities that can improve life chances, and if only the rich have access to this technology, then perhaps we should reject enhancements in technology. But, as @jasminetea says, good parenting and teaching, which provide a stimulating environment, can change the physical brain too. And as Sally Adee says, the helmet she tried could be useful to help people overcome their doubts, she talks about getting girls to try maths. You could also refer to boys allowing themselves to be creative, or shy people being able to get up and talk. So if this technology were available broadly, it could help to reduce problems. Even in education it’s not as simple as it seems.

Sport: Fairness for individuals/nations? Many of the arguments from the stimulus can be adapted or countered.

Work: You could bring up issues such as machines replacing humans, which is a value issue, and could count as fairness. Use of computers and the internet – HEDC nations do have more access to technology and this can create a self-reinforcing cycle of deprivation for LEDCs.
Parenting: Use of technology to produce babies, to help them survive, to make your children more intelligent, more beautiful, more sporting. Would anyone ever make their children more kind or generous?

Medicine: Unfair that some have access to life-saving technology and others don’t but would you reject it for this reason?