Teacher Guide Section 3

9 Transport and infrastructure

General

Students should now be settling into the Global Perspectives style of working. They should be increasingly independent; setting up their own work; and know how to go about researching, questioning, reflecting, planning, acting and presenting. They should be, for the most part, relying on the teacher only for guidance, advice and discussion rather than for instructions or content.

The four topics in Section 3 are a little more abstract and rather less often discussed than the topics in Sections 1 and 2. Because of this, and because students are expected to be more independent than they were in Sections 1 and 2, there is a little more structure in the activities to help students get started by themselves.

If some or all of your students are not ready to make the leap to more complex topics and more independent work, it might be worth considering doing more work from Section 2.

Many students may still need reassurance that it is acceptable not to be perfect, and that the processes are more important than the specific content. Many may still need support in directing and managing their own learning. Aims and targets for this section could relate to:

- thinking one step deeper
- using and improving on the skills from previous sections
- managing assessment stress
- independence, teamwork and time management.

Guidance to activities

Activity 9.1

As in Section 1, encourage students to choose in line with their interests, but also to keep their minds open to change as they gain new information.

Consider how well it can work for your class to have groups of students working on different topics, different aspects of the topic or even at different levels from different sections. Some students may be ready to work from Section 3, others may be ready to whizz through and put Sections 3 and 4 together, while some may need to consolidate at a more basic level and do more work from Section 2.
**Activity 9.2**

This activity is intended to ease students into a topic that they may not have thought about much, and where the teacher is not directing every activity or providing too many suggestions. Encourage students to use and apply their common sense, general knowledge and internet research skills, probably in that order.

It is also intended to help students to move beyond their own perspectives, to see that your perspective can affect your perceived needs, and to begin to unpick a complex perspective.

Some examples of student responses appear below.

<table>
<thead>
<tr>
<th>The farmer needs land. The flower farmer needs greenhouses. The American tourist needs a hotel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage this student to think further, and to go beyond a simple identification of one thing that each person needs. What else does the farmer need? How do the needs of the subsistence farmer differ from the needs of the flower-exporting farmer? How do the flowers get to Europe? Is a hotel enough for the tourist? What about sanitation? What about communications? Will the tourist want to telephone or video chat with people back home? What about money? Are there ATMs? What do you need to keep an ATM functioning?</td>
</tr>
</tbody>
</table>

| The flower farmer needs to water her flowers, so a good water supply is important. Flowers wilt, so they need to be packed carefully and taken to Europe quickly, therefore good roads to the airport and refrigerated vehicles to keep the flowers in good condition are also needed. Servicing for the vehicles will be necessary as well as an airport. So this flower farmer needs way more infrastructure than the subsistence farmer. |
| This student is thinking about what flower farming and transport involves, and what is necessary. Encourage this student by asking further questions. Can a flower farmer keep an airport going all by themselves? So, what else is needed in the local area? |

**Activity 9.3**

Some students may be ready to work alone, as they will need to for assessed work. Others may still find it useful to work in groups, planning a line of inquiry together without the stress of knowing that the work will be assessed.

Whether students are working alone or in groups, encourage independence in setting up their procedures, and prompt students to think to the next level.

**Activity 9.4**

Students should be able to do this independently, alone or in groups. They may benefit from being given questions to prompt deeper thinking, especially about the quality of the reasoning.

**Activity 9.5**

(a) Fact: The infrastructure is new and growing fast; my parents don’t have electricity.

Opinion: The pace of change is too fast.
Prediction: This (pollution) is going to get worse.

(b) This could be either fact or exaggeration. If it can be verified, it’s a fact. But “hardly breathe” does sound like an exaggeration. Pollution in Chinese cities certainly has been bad, and can be thick like smog, which makes it harder to see and affects breathing.

(c) Encourage students to think about search terms. What sort of site would be useful? Where might students find images?

(d) This is an opinion because it can’t be verified, certainly not for the whole infrastructure system of the UK. But it can be supported by looking at which bits of infrastructure are breaking, or are not meeting demands. It’s not an unreasonable opinion, but it is a bit too generalised.

(e) Encourage students to think about search terms. What sort of site would be useful? Get student to think about using the skill of skim reading.

(f) Allow students to discuss and expect them to support and justify their opinions with evidence and arguments.

(g) It may be a fact that a lot of the speaker’s things do not arrive at their destination. “Half” is likely to be an exaggeration, and if you checked, you would find it was less than this. It may be a fact that the postman is dishonest and gives some things he should post to his family, but unless the speaker has actually checked that the missing items go to the postman, it is an opinion.

(h) Encourage students to think of what sort of information would be useful to check this. This could include Alina’s records, an interview with the postman, an investigation of what jewellery the postman’s family has, whether any of it was made by Alina, and if so, whether they have receipts to show that they purchased it, and whether it matches items that were sent out and lost.

(i) It is not clear from the context. Everything Alina says could apply to high, medium or low economic development countries. There are areas in all countries where the internet connection is unreliable (in HEDCs this is mainly rural areas); there are dishonest postmen in all countries; our demands on infrastructure are so great that all countries need to invest in it; and the question of who pays is valid in all countries. So, while it might be more likely that she is in an LEDC, an HEDC is possible.

**Activity 9.6**

Expect students to attempt to set up their own procedures and to work independently (in groups, pairs or individually). Ask questions to prompt thinking to the next level.

**Activity 9.7**

Expect students to really think about the possible consequences, and the consequences of the consequences.
**Activity 9.8**

a) If the Kenyan flower farmer irrigates his flower farm…

<table>
<thead>
<tr>
<th>Event</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>His flower-selling business will definitely be a success.</td>
<td>Serious exaggeration. There are far too many other variables for irrigation to definitely lead to success. What if there is a pest that kills the flowers, or if Europeans can't afford them?</td>
</tr>
<tr>
<td>All the other farmers in Kenya will starve to death.</td>
<td>Serious exaggeration, or highly unlikely.</td>
</tr>
<tr>
<td>The will be some conflicts about water usage.</td>
<td>Quite likely or very likely, depending on how much water there is and how much the irrigation is diverting from other farmers’ crops and other uses.</td>
</tr>
<tr>
<td>He will have a good chance of making his business work.</td>
<td>Quite likely or very likely. There are other variables, but “good chance” seems reasonable.</td>
</tr>
<tr>
<td>His flowers will grow.</td>
<td>Very likely. There may still be a pest or other problems, but water is one of the key things that flowers need, and it is very likely that they will grow if they have water.</td>
</tr>
</tbody>
</table>

**Activity 9.9**

(a) The US Department of Homeland Security is a fairly reliable source – it collects data, and is likely to have accurate data (subject to the accuracy of the reports they collect). It may, of course, have a reason to withhold some of the truth (such as to avoid a panic). It is worth noting that in the text, the department talks about “cyber incidents” which might not be the same as Stuxnet infections.

(b) No, it’s terrible reasoning. It’s disaster reasoning (slippery slope) with little logic or common sense, with only the negative and extreme selected, appealing to fear and sensationalism.

(c) Encourage students to think carefully about what “it’s all a conspiracy” means, to check the facts, and to be reasonable about interpreting the likeliness of consequences. In this instance, there is some evidence of conspiracy – Stuxnet may have been produced by the US to disable Iranian nuclear facilities, and may have been used in retaliation to cause problems in the US. But it is also likely that some of the spread has been accidental and not controlled. So it might not “all” be the result of a conspiracy.

(d) Encourage students to think for themselves and justify their reasoning. Whether students trust figures of authority to sort it out is likely to depend on the national and cultural attitudes to authority they encounter in their homes. Whether the government must be in control of things like software worms is another issue; they probably can’t control the worms, but if they are well organised and ethical, they can control the national response and limit the damage.
Activity 9.10
Expect students to reflect with care and not just superficially skip over the questions. Encourage them to apply the “pensieve” strategies they considered in Skills Section 3.

Activity 9.11
Encourage students to think carefully, to use their “pensieve” strategies, and to justify their thinking.

Activity 9.12
Expect students to be independent, and to refer back to previous projects to make sure that they improve on previous performance. Encourage regular review and revision, and encourage students to keep evidence and records of their activities.

Activity 9.13
If students intend to use this research report for assessment, they must work independently. If they are still more comfortable in groups, then this cannot be assessed work.

Activity 9.14
Expect students to apply the planning from activity 9.12, to carry out their project independently, and to review it thoughtfully.