

As far as disabled drivers are concerned, at present they have parking outside the supermarket, but lorries also use those spaces, so we've got two new disabled parking spaces on the side road up towards the bank. It's not ideal, but probably better than the present arrangement. Q18

We also plan to widen the pavement on School Road. We think we can manage to get an extra half-metre on the bend just before you get to the school, on the same side of the road. Q19

Finally, we've introduced new restrictions on loading and unloading for the supermarket, so lorries will only be allowed to stop there before 8 am. That's the supermarket on School Road – we kept to the existing arrangements with the High Street supermarket. Q20

OK. So that's about it. Now, would anyone ...

SECTION 3

- EMMA: We've got to choose a topic for our experiment, haven't we, Jack? Were you thinking of something to do with seeds?
- JACK: That's right. I thought we could look at seed germination – how a seed begins to grow.
- EMMA: OK. Any particular reason? I know you're hoping to work in plant science eventually ...
- JACK: Yeah, but practically everything we do is going to feed into that. No, there's an optional module on seed structure and function in the third year that I might do, so I thought it might be useful for that. If I choose that option, I don't have to do a dissertation module. Q21
- EMMA: Good idea.
- JACK: Well, I thought for this experiment we could look at the relationship between seed size and the way the seeds are planted. So, we could plant different sized seeds in different ways, and see which grow best.
- EMMA: OK. We'd need to allow time for the seeds to come up. Q22
- JACK: That should be fine if we start now. A lot of the other possible experiments need quite a bit longer.
- EMMA: So that'd make it a good one to choose. And I don't suppose it'd need much equipment; we're not doing chemical analysis or anything. Though that's not really an issue, we've got plenty of equipment in the laboratory.
- JACK: Yeah. We need to have a word with the tutor if we're going to go ahead with it though. I'm sure our aim's OK. It's not very ambitious but the assignment's only ten percent of our final mark, isn't it? But we need to be sure we're the only ones doing it. Q23
- EMMA: Yeah, it's only five percent actually, but it'd be a bit boring if everyone was doing it.
- JACK: Did you read that book on seed germination on our reading list?
- EMMA: The one by Graves? I looked through it for my last experiment, though it wasn't all that relevant there. It would be for this experiment, though. I found it quite hard to follow – lots about the theory, which I hadn't expected. Q24
- JACK: Yes, I'd been hoping for something more practical. It does include references to the recent findings on genetically-modified seeds, though.
- EMMA: Yes, that was interesting.
- JACK: I read an article about seed germination by Lee Hall.

Audioscripts

- EMMA: About seeds that lie in the ground for ages and only germinate after a fire? Q25
 JACK: That's the one. I knew a bit about it already, but not about this research. His analysis of figures comparing the times of the fires and the proportion of seeds that germinated was done in a lot of detail – very impressive.
 EMMA: Was that the article with the illustrations of early stages of plant development? They were very clear.
 JACK: I think those diagrams were in another article.
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- EMMA: Anyway, shall we have a look at the procedure for our experiment? We'll need to get going with it quite soon.
 JACK: Right. So the first thing we have to do is find our seeds. I think vegetable seeds would be best. And obviously they mustn't all be the same size. So, how many sorts do we need? About four different ones? Q26
 EMMA: I think that would be enough. There'll be quite a large number of seeds for each one.
 JACK: Then, for each seed we need to find out how much it weighs, and also measure its dimensions, and we need to keep a careful record of all that. Q27
 EMMA: That'll be quite time-consuming. And we also need to decide how deep we're going to plant the seeds – right on the surface, a few millimetres down, or several centimetres. Q28
 JACK: OK. So then we get planting. Do you think we can plant several seeds together in the same plant pot? Q29
 EMMA: No, I think we need a different one for each seed.
 JACK: Right. And we'll need to label them – we can use different coloured labels. Then we wait for the seeds to germinate – I reckon that'll be about three weeks, depending on what the weather's like. Then we see if our plants have come up, and write down how tall they've grown. Q30
 EMMA: Then all we have to do is look at our numbers, and see if there's any relation between them.
 JACK: That's right. So ...

SECTION 4

Hi. Today we're going to be looking at animals in urban environments and I'm going to be telling you about some research on how they're affected by these environments.

Now, in evolutionary terms, urban environments represent huge upheavals, the sorts of massive changes that usually happen over millions of years. And we used to think that only a few species could adapt to this new environment. One species which is well known as being highly adaptable is the crow, and there've been various studies about how they manage to learn new skills. Q31
 Another successful species is the pigeon, because they're able to perch on ledges on the walls of city buildings, just like they once perched on cliffs by the sea. Q32

But in fact, we're now finding that these early immigrants were just the start of a more general movement of animals into cities, and of adaptation by these animals to city life. And one thing that researchers are finding especially interesting is the speed with which they're doing this – we're not talking about gradual evolution here – these animals are changing fast. Q33

Let me tell you about some of the studies that have been carried out in this area. So, in the University of Minnesota, a biologist called Emilie Snell-Rood and her colleagues looked at specimens of urbanised small mammals such as mice and gophers that had been collected in Minnesota, and that are now kept in museums there. And she looked at specimens that