In this video, I'm going to show you how to plan ordering and tracking of reagents using spreadsheets to automatically calculate ordering quantities by the number of samples.

So the first page that I put together is a way of checking your stock. So, to begin with, I simply put together a list of all the reagents and consumables that I would need throughout my sequencing process. Then afterwards, I wanted to figure out what quantity of each pack that I order in is used per 96 sample library.

Now, when you do this for yourself, you might only be putting 48 samples per library. You might be using different reagents altogether. This is just an example. So I used Nanopore sequencing, which is why this is kind of based around Nanopore sequencing reagents.

So what I would do is, for example, I knew that when I used luna script, and I needed to make enough for a 96-sample library, that I would end up using half the tube of Luna Script. And I get one tube of Luna Script per pack, which means-- I made a little formula here-- I get two uses out of my one pack, so one divided by two.

I've written all the comments over here of how I calculated it. So, for example, this one here, which I suspect is LSK-109 or something similar-- OK, so the barcode expansion kit-- I know that I get six libraries per pack, which means I get one divided by six. So you can do this for all of them.

You can read the volumes on the tubes for a lot of them, especially, like, the NEB reagents. And then I would use the volume on the tube divided by the amount we would use in our protocol to kind of work out how much I needed for each reagent.

And then you move on to the next step. So you want to then find out how many packs of your reagent you already have in stock. So, obviously, if you're starting out, this isn't relevant to you. But if you're in the middle of the process, and you've been doing it for a while, this is a way of performing a really nice stock check.

So you could go through your freezers and say, I have 10 packs of Luna Scripts, which means, in this cell, I have 10 divided by 0.5, which is 20. So I can sequence 20 libraries with the 10 packs of Luna Script I have in stock because I can use half a tube per library.

I hope that makes sense. So then, once we have this list of the number of libraries, once we know how many we have in stock, and we know how many libraries we can sequence with what we've got already, then we can tell the spreadsheet, OK, well, I know that I have X number of samples coming up. And I know that I will need to be able to sequence 30 libraries with my next order.

And so what you can do is you can say, OK, well, I have 30. I take this 30 value. And I subtract the number of libraries which can be sequenced already to tell me how many libraries I need to buy reagents for.

So, for example, I want to sequence 30 libraries. I already have enough stock to sequence 20 libraries, which means I need to buy enough reagents for 10 more libraries.

Now I'm going to show you the second sheet in the workbook. This will allow us to calculate how much reagent we need to buy. I still have the same list of reagents and consumables. I still have this same list of quantities of the pack used per library. But this time, this page is going to be used to forecast how much we need to buy rather than how much we already have in stock.

Now, what we do is we go back to our reagent stock check here, where we looked before. And we know that we have 20 libraries' worth of stock already. But we want to do 30 libraries' worth of sequencing, which means we need 10 libraries' worth of reagent.

And so what you can do is copy this column here. Now, before I copy that over, you'll notice that some of these have negative values. Now, that's because you get more than 30 libraries' worth out of that pack. So, for example, a box of tips or a box of tubes that has 1,000 tubes in it, and you only need one tube per library, means that box will last you for 1,000 libraries.

So if you're only desiring-- or willing, wanting-- to sequence 30 libraries' worth, then you're going to have an excess of those already in stock, which is why you get this negative value. So when you see the negative, you know that you just don't need to order those at the moment. So you can just take the positives.

Now I'm going to copy this over. I need to paste as a value. Obviously, you can automate this.

And then what happens here is the number of libraries your reagents are needed for-- so I need 10 libraries' worth of Luna Scripts is then multiplied by the amount you get out per packet. And it tells me how much I need to buy. So I need to buy another five packs of Luna Script in order to be able to do 10 libraries.

So all these negative ones, you can ignore. But then you can go through and realise, OK, I need a lot of expansion packs, in this example, or a lot of flow cells. I had one flow cell in stock, but I need 29 more because I'm doing 30 libraries.

I hope these examples have been of help to you and that you're able to take them and adapt them to suit your own ordering requirements.