Arduino®
Explore IoT Kit
Product Review

Tom Vrijsen

About Tom
Tom is a teacher from Belgium who uses Arduino kits in his class, and also to teach other teachers. He also makes a lot of Arduino projects at home, and he sometimes even experiments with Arduino with his daughters, aged 8 and 6.

We asked Tom to review the new Explore IoT Kit, and this is what he had to say.

1. What was your reaction when you first held and opened the kit?

Of course, I was excited to find out what was inside the box, and how it works. My first thought was “great that it comes in a handy box”. That means it’s easy to store in a classroom, and it gives the kit some protection.

2. How did you find the unboxing process?

Unboxing was nice and, as always with Arduino, you can tell they have really thought about how to put everything into the box. I was triggered by the carrier and the holder for the carrier. The battery holder on the carrier is a big plus.

3. How easy did you find it to get started? How was the getting started section?

It’s very easy to start. The first thing you see is the guide to getting started. The website that guides you through the setup is very clear. It gives you some extra information about IoT (which is very useful both for teachers exploring IoT, and also for students), and it guides you through all the necessary steps.

4. What needs do you expect the kit to solve for educators?

This kit helps to fulfill a lot of needs for teachers. First of all, it comes with a full lesson plan which can be used in a lot of classes for different ages and levels. The last projects are maybe a bit too difficult for my students (age 13), but will be very useful for older students.

The fact that there are always one or more challenges gives you the chance to differentiate. That way you can give the students who struggle with the steps some more time and help. The students who are ready can add some challenges.

The fact that there are a lot of sensors and components included makes it easy to keep everything organized, and you don't need to buy a lot of extra items and start making your own circuits with breadboards and other things. But you still got the possibility to expand your projects with extra materials.

Datalogging and displaying data on a screen is always a bit of a hassle. This kit makes it very easy, though. The carrier and the holder for the carrier make everything look nice, and there's no need for an extra box to hold your project.

5. What needs do you expect the kit to solve for students?

I think it's great that they can explore the world of IoT so easily. There's no need to use a lot of external materials, or work with APIs, etc. The carrier is a great plus to use in the classroom.

The dashboard makes it complete. With the onboard sensors, students can keep projects organized and don't need extra materials. The step-by-step guide ensures students can explore the world of IoT at their own pace.

The challenges make it even greater for the stronger students. The glossary with the explanation of terminology is also a great asset.

6. What were your likes, and reasons for those?

- The fact it's in a nice strong box: this is handy for every teacher to keep their classroom organized. It also protects the gear in the box and makes sure nothing gets lost.
- The glossary: you get a handy list of difficult words and their explanations. Great for students to use when they're working and have to understand some terms fast.
- The step-by-step guide: gives it a good structure and is useful as a lesson plan.
- The explanation about what you are about to learn in a lesson: teachers can easily see what they need to teach their students in that part. Students know what they are about to learn and focus on the important parts of the project.
- The instructions are very clear. The drawings make it even more clear. It's almost impossible to do something wrong, which gives students self-confidence. That way they keep going.
- The carrier, which has a lot of sensors, etc. on it. That way students don't need to start making their own circuits with breadboards. You can keep things organized and don't have to look for extra materials, but it still gives you the possibility to expand if wanted. Also, there's no need to solder. Just plug and play.

7. What were your dislikes, and reasons for those?

- I found out that Google Chrome works best. Some things were not possible to do in Firefox.
- When you put the carrier in the box, it's impossible to reach the touchpads.
- A bigger screen on the carrier would be nice, but it's not necessary.

8. Did you find any of the projects especially good? If so, why?

I liked them all. But I was most surprised by the easiness of the dashboard (project 2). The greenhouse was also nice, especially the fact that you can do a lot of things with the onboard RGB LED, but you can also expand it with your own circuit to get more functionality like more power, LEDs, etc.

I also loved the fact that you can make your own server with the MKR1010, so the whole project functions on its own.

9. Would you recommend this product to fellow educators? If so, why?

I absolutely would recommend this product to fellow educators. It's perfect to use in class. The box makes it easy to use and store. The carrier with all the sensors, etc. means you don't have to gather extra materials. The fact that you don't need to build circuits or solder.

It's very easy to start a project and explore the world of IoT right from the box. All the things that make IoT difficult for starters are gone (there are no APIs, for example). You just plug and play. The step-by-step guide is very clear and you have extra challenges and a glossary.

10. Would you recommend this product for students? If so, why?

Every student who wants to learn IoT without the hassle of making circuits, soldering, or getting lost in APIs has to use this kit. Just plug in and start playing.

11. What score would you give the kit out of 10? Why did you give it that score?

It's hard to put a number on this product. It's almost perfect so a big 9 would be representative, I think. It's great that you can just start exploring without all the problems you normally have when you want to work with IoT.

It's so easy to start, and then you find that you can make a greenhouse controlled by IoT functioning on his own server! It's just great.

12. Is there anything that exceeded your expectations?

I work a lot with Arduino at school, at the STEM community and at home. It's always a great product to work with. But the fact it's just plug and play makes it more than great. The carrier is a very handy thing, which I really love. The sensors, the output, the screen, the battery holder integrated touchpads. But I really love the carrier!

13. Is there anything that surprised you?

Yes, just how easy it is to use and start exploring, and the fact you won't have any difficulty in setting up the dashboard.

14. How would you describe the kit to an educator who hasn't heard of it?

It's the thing we missed in the past. A complete kit to use in the class which is plug and play and leads you through everything you need to know about IoT.

15. How would you describe the kit to a student who hasn't heard of it?

This is the kit you need if you want to learn IoT without struggling.

16. Do you have any other feedback or comments?

Yes!

- It's impossible to touch the touchpad when the carrier is in the box
- Coding is always hard for younger students. Adding coding with blocks would be great for them, especially when they can switch from blocks to code to see what their code would look like.
- The kit is only in English (for now). It would be great to add more languages!