

## Digital resources case study: Alex Watson

### ROBUST EVIDENCE-BASED RESOURCES ENGAGE STUDENTS

#### Evidence-based teaching

Alex Watson is a science teacher who teaches chemistry, physics and biology to year 9–11 students at Falinge Park High School in Lancashire.

The science department is currently rewriting all the key stage 4 schemes of work and have been looking for resources to help sequence their teaching. Alex has found that the Best Evidence Science Teaching (BEST) resources, hosted by STEM Learning, are particularly helpful.

The BEST resources provide guidance for each topic in science, thematically listed, with a recommended teaching order and links to research that show why that order is suggested.

For Alex, digging around in the research is the most valuable thing, as he can see that the teaching order is insight led.

"We are doing a lot on metacognition at our school. The kids respond well to the evidence-based teaching approach and I share the research with them too, showing that decisions about their education are not random. I say 'We are looking at it in this order because the research shows that starting on this type of bond will make it easier – trust me! There is a robust evidence base that shows this is the best way of doing it.'"



#### Discovering STEM Learning

Alex found out about STEM Learning's digital resources when he was doing his PGCE. His cohort were given a crib sheet of resources to consult when they were stuck.

"I went through all of them one by one. When I got to the STEM Learning resources, they seemed really professional and also had a robust methodology for the production of the resources, including quality assurance. This was important to me."

## **BEST resources engage students**

Each topic area, in the BEST resources, includes a series of diagnostic questions to help teachers identify pupils' misconceptions and misunderstandings. "The misconceptions worksheets are brilliant, they can circle lots of ideas at once and support the students in their problem solving. There is a worksheet about misconceptions on light which I used with my year 9 class at the beginning of the year – lots of pictures showing common misconceptions. It was ready to use so I sent that straight to the photocopier!"

Alex sometimes uses the BEST resources as a revision tool, such as for 'Structure and Bonding', which takes his students efficiently through the subject before assessment. They also help him to reflect upon his teaching practice so he can improve it.

Alex finds the engagement of students varies from one activity to the next, but real-world links provide an interesting context, which helps students engage and enjoy it.

## **Collaboration and careers**

STEM Learning's resources are particularly useful for swapping and sharing ideas and resources with colleagues. With protected time set aside for curriculum development and resource sharing, Alex and his colleagues can work together and help each other identify which resources are going to be good for specific topics.

Alex particularly likes the careers resources provided by STEM Learning, which he finds are engaging for students and the posters available can be displayed in the main corridor within the science department as a conversation starter. "The careers resources are really good. We have a display in the main corridor with careers posters. The kids are really engaged with the information, they do look at it and it sparks conversations about careers [in STEM] that they didn't know existed."



## **Saving planning time**

Alex finds the wide range of STEM Learning's resources provide new ideas and save planning time. "What I find really useful about it is that it saves planning time. Let's not reinvent the wheel. The STEM resources are so broad and so comprehensive that there is rarely something you can't find."

Some sites might just have one activity and you've done something similar to that already so can't use it. There is a higher chance of finding things on STEM Learning, which give you ideas and allows you to take your idea further."

