

# Surviving deep diving

## if you're using Herefordshire Computing materials.

*Here are some questions (and possible answers) that coordinators of Computing in primary schools might be asked if you are lucky enough to get a "deep dive" into Computing during an Ofsted inspection. Many of the answers refer particularly to the [Herefordshire Computing Progression 2020](#) materials but can be adapted if you follow other materials.*

### How do you cover the requirements of the National Curriculum?

With ease! Our Progression is built entirely on the National Curriculum and in practice often goes beyond it.

### How do you approach the subject and why do you teach the curriculum like this?

CS – we timetable and teach discreetly, certainly at KS2. This is the easiest way to deliver this strand and any attempt to integrate it into the rest of learning can often end up being somewhat forced. This is less true in EY and at KS1 where opportunities are taken for coding where they arise.

IT – We strongly believe that this strand is a tool to use to support, enhance and motivate learning. Also a good tool for children to demonstrate their learning. It is the rest of the curriculum that dictates what tech is used here and the Progression statements are used as a check and balance to ensure complete coverage and correct levels.

DL (Online safety) - We have two prongs of attack here. Teachers plan a certain amount of learning in dedicated teaching time. Also we seize on every opportunity for discussion, demonstration and sharing of experiences as and when they arise; we feel this is very important and often much more powerful than completing a worksheet out of context. We use *Education for a connected world* and *Project Evolve* resources here

### How do you know children are making progress and that they reach the required levels by the end of KS2

We encourage much greater independence in the use of technology by the top of KS2. Children have more opportunities to choose what tech to use and to justify their choice. In so doing they are beginning to demonstrate true computing "capability" rather than just responding to a teacher's suggestion. This can only happen if good learning and teaching has happened earlier.

Teachers monitor work that children undertake especially through Seesaw which we use as a main vehicle for the building of pupil portfolios, feedback from teachers (and other pupils), and communication with parents. Furthermore, Seesaw is regarded here as a really important tool in evidencing learning across the whole curriculum, especially through the recording tool to evidence pupils' thinking processes (perhaps show some examples). This tool has also had a most beneficial effect on cutting work load.

### How do you know the computing curriculum is being taught?

Evidenced in Seesaw, I monitor this (extra teacher). I have regular oversight of planning, I monitor lessons, learning review followed by support where needed.

### How do you extend learning for more able children?

CS – there are many rich and wide opportunities. Coding is a gift in this respect. We teach coding so that there is tremendous scope for creativity. Teachers always have in mind sideways and further extension activities, but usually children drive that themselves; it is the nature of coding.

IT – there is a progression of skills, there is also a progression of digital platforms. If an extension to an idea can't be accomplished with the tools the majority of the children are using then there is always one to which they can progress

DL – We encourage more able children to focus sooner on others; the consequences of their actions on others, and others' action on themselves. A greater sense of responsibility.

The digital leaders programme is a great vehicle for extending the more able and using their talents to drive developments in school even.

### What about the least able?

Equally our progression allows for differentiation downwards, sometimes by looking to earlier objectives but often by tweaking the task in hand. Technology can provide a tremendous prop for reinforcing learning – something as simple as repeated watching of a short video clip until the concept has become secure. We go even further than that and use technology as a means for less able children to shine. It can often be the case that weaker children in other areas of the curriculum can be quite confident in technology and it provides an opportunity for them to shine. We've had a number of digital leaders that fall into that category.

Seesaw allows us to pick up on children who are struggling. Also the kinds of technology that we use in school (iPads) have some superb tools built into the (eg speech to text) that supports weaker children and the creative nature of the apps we use provides ample scope for children to express themselves in unthreatening ways. In fact, far from us supporting children who are weak in the use of technology; the technology often supports children's weaknesses in other areas!

### How do you ensure that children stay safe while they use technology?

Children's use of tech is supervised as appropriate for the activity and age of the children. We use nationally adopted materials (Education for a Connected World) which is supported by the DfE and the growing bank of support materials in Project Evolve from the South West Grid for Learning (the national experts in educational online safety). We have some CEOP accredited teachers on the staff. We promote and engage in healthy and profitable use of online technologies and have a culture that means children can approach other children (perhaps digital leaders) or staff if they are concerned.

Our Online Safety policy is thorough and has been written by the whole staff. It is reviewed regularly by staff and governors.

### How much time is spent teaching computing skills?

This is a difficult one to answer because skills are often developed along with others across the whole curriculum. It is timetabled though so that every class has a dedicated time that can easily be used to focus especially on skills development. The precise use for this time is left to the teacher though. Coding is taught in dedicated time, one lesson a week for the equivalent of half a term per year.

### How are parents involved in children's learning?

Online journals and communication links through the Seesaw family app have opened this up tremendously, again, not just in Computing but across the whole curriculum. We encourage home tasks, sometimes discussions with parents especially on online safety where the hope is that in some cases we are helping to educate parents through the children. We make good use of social media (Twitter / Facebook / Instagram) and use this to showcase children's learning in the hope that this will trigger conversations at home and set high standards in using these tools.

## How does the physical environment support learning in computing?

*You will need to tweak this in the light of your own situation:* Pressures on kit are great and for a large part of the time are timetabled. We use mainly tablets which are extremely versatile and there is at least one in each classroom all the time. Children are able to use tech. for themselves where possible. We moved away from the “computer room” approach because we feel that computing needs to be a part of all learning not something that happens in a special room. Teachers model good productive use of technology in a wide variety of contexts.

## Other questions you might like to think about in relation to your own situation

- What are your school’s strengths / weaknesses in Computing and how are you celebrating / addressing them?
- Describe improvements since your last inspection.
- How has your progression document been formulated? Why did you base your teaching on this one?
- How do you support the needs of weaker members of staff? Can you give me an example? How has it helped?

## Effective Coding Lessons (from TES)

1. They get off to a clear start. The teachers build on pupils’ existing learning and rehearse familiar concepts with the pupils before they move on to something new.
2. The teachers set clear objectives using subject specific vocabulary. Computing has a subject-specific vocabulary just like other areas of the curriculum. Some of these words will be totally new perhaps, like ‘debug’ and others might not be new, but have different meanings in the context of computing.
3. Lessons include ‘off screen activities’ to support pupil learning. It is especially important for pupils to understand the relationship between the code and something happening on screen, and often the best way to get this across is to move away from the screen and into the physical world. In the early stages of computing in Primary schools, learning is often off screen, using programmable toys. As the curriculum progresses into the Secondary phase, concepts are applied in more abstract settings.
4. When pupils are debugging ready-made code blocks this is a powerful form of learning – it develops the crucial skill of problem solving. This is a bit like taking apart a model to understand how it is made and it means that pupils can make changes to the code, like changing the distance a sprite travels or costumes, and see the effect immediately. Trial and error is a major way that pupils learn to program.
5. Pupil to pupil learning is important, and successful teachers give lots of opportunities for this to happen. Teachers have also found that if they use freely available software, pupils can download it and practice their skills at home.