

# Design & technology

## A conversation with Kate Taylor

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Kate Taylor is the assistant head in charge of curriculum at Colebourne Primary School in Birmingham. Since January 2021 she has been responsible for the design and technology curriculum. Like many primary colleagues she has had to design the D&T curriculum for her school despite not having an academic background in the subject.

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### **How did you come to be in charge of D&T in the curriculum?**

I joined the school last January just after the Christmas holidays. We did day one, and then on day two we went into lockdown. After meeting with all of the teaching staff via Zoom, it became apparent that the leadership of D&T was a bit uncertain. We had a number of teachers who had some expertise in certain aspects of the D&T curriculum but no one to oversee the subject. Taking over the whole curriculum, as I was, it fell under my remit to be responsible for the whole D&T curriculum. So, now we have a team of D&T champions. I have someone who specialises in cooking, and they often run the cookery clubs after school. I have a teacher who's particularly passionate about craft, and they run the craft clubs. I have an ex-Scout leader who is particularly fond of engineering, pioneering, knot-tying, structure building, den building, etc., and so I've pulled them together into a team I work with; a mini D&T team if you like. There is

ongoing training. Firstly, on a subject leader level, 'What does a subject leader do at the fundamental level?' Then, 'What are the national curriculum requirements for D&T, and what can that look like enacted in the classroom?' We know there is the national curriculum and it's wonderfully vague in terms of what it actually asks for, and it's down to us as schools to make those decisions about what's taught when. 'What does cookery look like in Year 1?' compared to 'What does cookery look like in Year 3?' Being able to have a team of people where I can bounce those conversations around is so useful. I gather feedback from all of the staff to then feed into what the subject leaders are developing. It's the kind of position that so many schools find themselves in with D&T.

**Your Year 6 are just about to go off to secondary school. You've taught them your rich, challenging, ambitious D&T curriculum that you've developed in a relatively short amount of time. If that has been successful, what will the children at the end of Year 6 know, understand and be able to do in design and technology?**

We want them to be able to have broad subject knowledge of D&T. We would want them to be able to draw on their knowledge from maths and science, and computing and art, and engineering, and pull that knowledge together to enable them to complete D&T project briefs. We want them to be able to take risks, and know that it's okay if you make a mistake, and how can we modify and amend our design or our original idea to be able to create something even better, learning from our initial mistakes? We want children to be resourceful and innovative and enterprising, and ultimately use all those skills to become a capable citizen, be secondary ready, and be able to problem-solve and risk-take. We want them to be able to use all those skills and know how all those skills are dependent on one another. We have planned our units of work carefully all the way from EYFS through to Year 6 to enable the pupils to build on their skills, and then come up with an end product at the end of Year 6 where they're able to evaluate and present what they've produced, as well as talk confidently about their learning.

**To what extent do you see D&T as a single discipline, and to what extent do you see D&T in primary as an interconnected cross-curricular discipline?**

In terms of the new national curriculum, it's hard to teach D&T in a completely cross-curricular fashion to get the depth and breadth of knowledge that's required. However, to secure a decent outcome from your D&T unit, you need to be able to show the children the purpose of what it is they're doing. While you're planning or annotating, or drawing your exploded sketches, we can use some skills from other disciplines. If we're to use science, as an example we could talk about friction, and if we're designing a bridge, what role has friction got to play in it, or what role are other forces going to play in how we design the bridge? We can't have a bridge that's vertical and expect the cars just to go up it on their own. It's having those sorts of conversations with the children and pulling on the prior knowledge, that then makes that knowledge purposeful. We know that knowledge and learning make sense when it's got a purpose behind it. We're always very good at doing that in maths where we say, 'Oh, you need to know this to be able to do your shopping,' or 'We need to know percentages to work out bargains in the sales.' I believe giving the children a purposeful context and showing them how their learning impacts on the world means you get more interested and increasingly skilful pupils and a better outcome at the end.

The idea of challenge and struggle is important. The realisation that your first idea isn't always your best. Going through the process of having to try something out, that it's not going to work first go, and not emotionally crumbling at that hurdle, but saying, 'Actually, I could do it this way,' or 'I could look at it this way.' Listening to feedback, taking that on board, listening to a critique of your work and thinking, 'Okay, that's not personal, that's telling me how I could improve or how my object, or whatever I've created, could be better.' I think those sorts of things are really important life skills that should be taught throughout primary school. I think that enables children to become self-reflective and, therefore, more independent learners across the curriculum where they can self-problem-solve.

## **Where does the D&T curriculum begin?**

The minute they walk through the door into nursery and Reception. As far as nursery goes, design doesn't just have to be drawing. It could be that they've come up with a treasure map, but actually their treasure map is the pillows, or the cushions arranged in a certain way across the floor, and you've got to make your way round it. It could be the freestanding blocks that they've used to build a tower or car park. It could be they've designed a little game that they're playing in outdoor provision that is unintelligible to anybody else but makes complete sense to them. The Early Years practitioners are all about facilitating that: 'Was that the best way? How could we improve that? Is that tower going to fall over?' Always probing and questioning, eliciting that plan from them as part of their design. It's all about communication and language, sharing the language that you want them to be able to use. 'Rather than just a map, is it a treasure map? Which way have you got to turn here? Why can't you go that way? Oh, it's blocked.' Developing that with them right from the get-go and encouraging that discussion with the children is really important.

We're very fortunate that lots of our Early Years practitioners are very skilled in setting up environments that enable the children to come through the door and access that straight away, whether that be in construction areas that are set up, whether that's in creative areas where paints or Play-Doh might be available for them to design and make things, home corners, role play areas. Those design-making opportunities are available to the children from the minute they walk into our Early Years setting.

Even in Early Years we are encouraging them to have a willingness to change or amend, or evaluate their idea, and not necessarily sticking with the first thing that they've come up with. If they're playing a game that they've designed themselves and it's between two people, it might be that the facilitator goes over to that group and says, 'Oh, how can we include another child, because we've got another child here who'd quite like to play this game? How could we change it so that so-and-so could be involved?' On that basic level you're already starting to encourage the children to amend or have a willingness to modify their idea to improve it, so you've already started at that early age.

### **So, you've managed to begin to develop these competences, almost without them realising it. What's the explicit teaching of D&T in KS1?**

In KS1 we hit the national curriculum, which is a bit more explicit in the expectation of what design and technology looks like. We've got the design element from EYFS, and it's really the technology bit that comes into its own when it hits KS1; this understanding of putting new ideas into practice, having an awareness of the possibilities and limitations of certain materials. 'Why don't we use wood to make wellies?', for instance, eliciting the understanding from the children as to why that would not be a good idea. Testing them out. For instance, I could throw a bowl of water over some wood and throw a bowl of water over some metal and different fabrics, and having that conversation with the children, allowing them to explore and identify, make predictions about what they think would be useful or not, test it out. Again, you're testing that willingness to change and evaluate their ideas, but pushing them to create something that's evidence-based, so they've got this evidence now that wood won't make a decent pair of wellies: 'So what will? What are wellies really made from? Do we need to do some product research? How is that going to impact my final design? What skills and knowledge do I need?' If you are looking at the properties of materials, there's a definite overlap there with science. There are elements of the national curriculum where they need to understand the most suitable way to join materials together. 'If I've got two pieces of fabric, am I going to PVA glue it? Am I going to staple it? Am I going to Sellotape it or actually am I going to sew it? Am I going to press it together and hope for the best?' It is important, I feel, that alongside product research, that the children are given the opportunity to test out aspects of their design/prototype before committing to a final design.

### **How do you deliver D&T, and what kind of projects do you do in KS1?**

Our D&T curriculum is a spiral curriculum. Skills are revisited and the use of ongoing work underpins the learning journey. Teamwork, prototypes, preliminary sketches, all are used to help the children with their problem solving. Vocabulary is planned in so that it is continually developed to enable the children to describe and critique not only their work but the work of others. We want our children to discover their practical potential

and utilise engineering know-how in a creative and innovative way. A range of artists, designers and chefs are introduced to the children throughout each unit and further developed in our weekly assemblies. This is an important aspect of our curriculum and reflects the diverse backgrounds of the pupils. All our planning starts off by identifying any prior learning and subsequent learning to the unit of work. In Years 1 to 6 our provision is about providing the children with a range of opportunities to gather, practise and apply their developing skills.

From Years 1 to 6 we have broken the curriculum down into three elements of design and technology. We have a 'Cook' unit, a unit that we call 'Make' and then a unit that we call 'Sew'. From Years 1 to 6 every year group gets the opportunity to do a cook, a make and a sew with the plan being that it is progressively more challenging and complex.

## **Cook**

Very early on, even in EYFS, they are given the opportunity to do food tasting where they'll be given a variety of different implements they can use to cut up or take apart the fruit or vegetables. Where we've got a spoon, we ask, 'Is a spoon the most appropriate way to cut a carrot?' Then they'll do a little bit of problem solving around that. They are taught safely whether it's a fork secure grip or a claw grip, how we're going to hold this. What type of chopping board do we need? Do we need to be sat down? Do we need to be stood up?' All those things are modelled to them to be able to safely cut and prepare the vegetables. We've created a mini skills progression for that: 'What does cutting look like in EYFS?' compared to 'What does cutting and preparing vegetables then look like at the end of KS1?'

In Year 1 for cooking, they make dips and dippers. They look at preparing vegetables or fruit, depending upon which avenue the children have chosen, and then in Year 2 they've got to make a salad, so they use the knowledge that they've learned from preparing fruits and vegetables to then create an end product in Year 2 using that knowledge; it could be a fruit salad, or it could be a vegetable salad.

Year 3 are then looking at healthy snacks and beginning to bake things. Year 4 have got this idea of a curry or a stew with some unleavened bread, and that prepares them then in Year 5 for making a mezze of various little platters with different types of bread. There's a deliberate progression in

their learning. We're a school in a very multicultural community and we try to make the curriculum relevant to their everyday experiences and heritage. We're fortunate to have many children from different ethnic backgrounds, so we thought it was important that cooking was a strong thread through the curriculum so that different cultures could be celebrated. We've found that all the children have really enjoyed the cooking elements because they produce food they can take away with them.

With the mezze plate they learn about the Middle East in their history, and part of the history learning is, 'What did food look like in ancient Islamic civilisations? How is food used in celebrations? How is it used culturally?' Then we ask, 'What does that look like in modern day?' Part of that unit is about them going away and researching, 'What does mezze mean now? What does that look like?' There will be an element of food tasting because there may be items of food on there that the children may or may not have tasted before, may not even know existed before that unit – an element of exploration. We are building on the skills they've had of chopping and cooking, and boiling and peeling, and all of those skills pulled together to create lots of little mini plates, and the idea is that between a group of six of them, that everyone will create a mini plate so that a group of children have then created their own mini mezze, if you like, for them to share.

When we move on to Year 6 cooking, their outcome is actually a three-course meal where they can use things like the salad bowl, that they would have done in Year 2, or they could use one of the mezze starters from Year 5. Year 4 where they've done a curry or a stew, that could form part of their main. It's a culmination of all the skills that they've learned, and they run a mini Year 6 café for the parents and the community to attend where they're serving. Again, it's got a very clear purpose, an outcome to it. It's not about, 'Oh, we're going to make this and we're just going to sit in the classroom.' No, actually you're going to be serving this to people, so all of the things you've been learning about health and safety with your cooking, all the things you've been learning about preparation, all the things you've been learning about serving and what food looks like on the plate will be part of this final Year 6 three-course meal. They will even be thinking about how to serve the food: 'We can't just dump it on the plate, it's got to look appealing to people because we're going to serve it to real people that are going to eat it.' All that

needs to be taken into consideration as well as the cooking element to form part of their evaluation at the end.

## **Make**

Year 1 begins with making a bug house. The key learning is how to join simple things together in the most appropriate way to create a structure that is functional. The premise that the class have gone ahead with this year is the cardboard of toilet roll tubes: 'How can we fold those to create particular shapes and then join them together to create a bug house?' The notion of joining materials is the core idea, and how to create a solid structure, obviously one that's not going to just fall over, but one that's going to be able to withstand the elements: 'What do we need to do to make sure that it stays secure and safe?' So, they are joining the materials together, and it's got a purpose. It can't be too big. We've got to research other products, other bug houses, to inform our design, and then look at how we can join the materials together.

Most of the D&T tasks link to stories that are being read, or their overall theme. The overall theme for Year 1 at that point is 'Castles and Where People Live', so they've done a history unit based on castles and where people have lived in the past. Their D&T links a little bit to their science, which is to do with naming animals and identifying where they might live, and what would their home look like? It's meant to weave together, but it's taught discretely. It's related to other aspects of the curriculum that are being taught before and afterwards. There is an interconnectedness, but also a discrete discipline. The children are very aware that this is a design and technology lesson, not to be confused with any other areas of the curriculum. In this example, the book we use is called the *Bug Hotel* by Libby Walden.

In Year 3 their kite D&T project is linked to their unit called 'Let's Go to Pakistan', which is a geography-based unit. It's taught generally in Spring 2 and, at that point in time, there is normally quite a big kite festival that is being held in Pakistan. It's got a purpose – obviously they are going to fly the kite when they've made it because that is the fun bit! – but rather than just joining two pieces of the same material as they've done in Year 1 with their bug house, they've now got to join two different materials together. They've got a material, a fabric, and then a sturdier component in the frame of the kite, whether that be wood or cardboard,



or whatever they've chosen as their component. They have to build the frame and then add the cloth to make the kite, so, joining two separate materials together with very clear outcomes.

We link the units to significant people throughout their D&T learning. When they study bug houses, we've taken Michaela Strachan, for instance, who is a well-known conservationist and animal lover; there is a little clip where she's looking at different bug houses, and that's shared with the children and we highlight how this person is relevant in that area. When it comes to kites, we've chosen Mozi, who was documented as one of the first people to design kites in ancient China. We've tried to take a broad range of people to add to the children's cultural capital. We've done that for all of these subjects as well as D&T, so the children are constantly being fed this idea that this is the best of what's been done and said. Then they work through thinking about the four aspects of D&T: design, make, evaluate and technical knowledge. When they are making the frame, they can start deciding what's stiffer, what would be better for the frame for a kite. And once it is made, they begin to discuss and critique each other's, not only from an aesthetic point of view – because in Year 2 that's what they want to do – 'That's nice because I like the colour red' – but actually providing them with a brief and criteria for evaluation: 'These are the things we're going to discuss. Is it sturdy? Will it stand up to the wind? If we put it in front of the fan in the classroom, is the fabric going to fall off the frame?' Those sorts of things. We do test them. And we do get some disasters. There are some children with a few sad faces. But that forms part of developing their resilience: 'Okay, what was the issue there? What went wrong?' That forms part of their evaluation. Once, where quite a few of them have gone wrong, those children have formed a group and have decided to make the strongest kite ever! They're a very determined bunch. It showed that there was something wrong with their initial design. It looked good on paper, and actually holding it up and sharing it with the class it looked great, but when we put it under any sort of test it didn't stand up to it, and it meant they had to go away and think about it. Even if it doesn't work and it fails, it's still useful learning for the children, and it encourages them to go back and think afresh and have another go.

We build on making structures in Year 3 where you're looking at the stability of structures and making sure the structure is fit for purpose. We ask them to make a bridge. Here is the brief:

### Year 3 'Make' Unit in Design & Technology (abridged)

**Overall theme topic (if linked):** 'Somewhere to Settle.'

**Key question:** 'How can you make a bridge stronger?'

**Reading texts:** *The Three Billy Goats Gruff* - Traditional Tale; *The Tower Bridge Cat* by Tee Dobinson.

**National curriculum links:**

**Design:** Use simple prototypes, labelled sketches and detailed instructions in plans and designs.

**Make:** Use a wide range of materials and components, e.g. textiles, mechanical, construction kits; select an appropriate way to improve the appearance of a product.

**Evaluate:** Identify the strengths and areas for development in their ideas and products; evaluate ideas and products against design criteria.

**Technical knowledge:** Strengthen 2D frames by adding diagonal bracing struts.

**Key people:** Sir John Jackson.

**Key places:** London, Birmingham, San Francisco, New York.

**Vocabulary to be taught in this unit:**

Tier One	Tier Two	Tier Three
User	Design criteria	Functional
Purpose	Appealing	Innovative
Design	Annotated sketch	Prototype
Model	Investigate	
Evaluate	Function	
Label		
Drawing		
Planning		

**Lesson 1 LO:** To explore ways in which pillars and beams are used to span gaps.

**Lesson 2 LO:** To explore ways in which trusses can be used to strengthen bridges.

**Lesson 3 LO:** To explore ways in which arches are used to strengthen bridges.

**Lesson 4 LO:** To understand how suspension bridges are able to span long distances.

**Lesson 5 LO:** To develop criteria and design a prototype bridge for a purpose.

**Lesson 6 LO:** To analyse and evaluate products according to design criteria.

In Year 4 we begin to look at cams and then pulleys. That links very nicely to one of their water topics. It's 'How can we feed water around a pulley system to get it from A to B?' Year 5 move on to medieval catapults and making a working catapult design. It links with their learning about medieval monarchs and Elizabethan England; the children were talking about conflict and canons, and what else would they use to maybe fight off the enemy? They wanted to create a catapult inspired by those they had been learning about. Taking on board this pupil feedback we began looking into how we could incorporate that into our design and technology.

In Year 6, they are then working on an electrical component as part of the national curriculum. They study alarm systems and they create alarms for different things. Their other learning is linked to crime and punishment, so they're looking at creating an alarm that would tell you if somebody has escaped a prison cell. They create tripwire-type mechanisms: 'If you step through the beam the alarm is going to go off, if you trip over the piece of string the alarm is going to go off.' Whether they've chosen to use a light as part of their alarm or if it's just a sound alarm, they're the decisions that they're making. They've worked with the idea that it's to stop a prisoner escaping, and then we ask, in real life, 'What could that alarm then be used for within the school?'

### Sew

Sewing begins in Early Years where one of the Reception classes helps design a flag for a pirate ship, incorporating the idea of design, and drawing on fabric. We introduce the idea that we can use fabric for

something other than wearing in its most simple sense. Then in Year 1 we begin to look at hand puppets and joining fabric together. In Year 2, we move on to Christmas decorations; so, 'We've joined two pieces of material together, and now we've got to decorate it, so how are we going to add embellishments to our object?' Year 3 then starts to move on to an actual design process where they've got to create a Stone Age style outfit for a doll. That links with their history of prehistoric Britain. They create the design, they have the materials, but they then have to join it together: 'We can't use glue... let's think about what they may have used in Stone Age Britain.' So, that is where they need to understand. One of the most important inventions in the world is the needle. Without the needle, we couldn't have inhabited northern parts of the planet because it would have just been too cold without clothes.

In Year 4 then, I move on to a slightly different sewing technique: weaving and tying knots. They are moving on to tribal wristbands. They study the Anglo-Saxons and the Scots and the Vikings, with this idea of plaiting and knotting things to create a fabric in its own right. In Year 5 we make tote bags, so they've got to revisit the sewing skills that they would have done in Year 3, but obviously then think about adding the embellishments: 'Could we use the plaiting techniques learned using tribal wristbands to create a handle, or create some form of embellishment to our tote bag?' Then Year 6 look into upcycling a piece of clothing, so they'll be given an old t-shirt or old dress, or pairs of jeans, and it's up to them to upcycle that into something new, using the skills that they've been taught. 'Okay, how are we going to join this fabric together? How are we going to embellish this piece of material? How are we going to embellish this new t-shirt you've created out of the front of a pair of jeans and the back of a dress?' Are they going to take the piece of clothing and create something completely new? Are they going to use the t-shirt and create a bag for instance? That's really up to them. With their brief, it's more about the idea of recycling, and upcycling clothing for them, and combining all of the skills that they had been taught throughout their sewing units to create a useable product for people to wear. We then run a mini fashion show in Year 6, so they can show off whatever it is that they've created. The upcycling clothes link, importantly, with the notion of sustainability, building that into the curriculum. We make the children aware that there are other materials you can use to create things. This

idea that it's wood, it's metal, it's plastic, actually what else can we use? Are there other sustainable types of plastic that we could be using? Do we need to use plastic to create that? What impact does that have on the environment? Especially higher up the school with some of their geography topics where they study climate change and sustainability. 'Well, when we make our tribal wristbands, Miss, can we use a cut-up old t-shirt rather than buying new threads? Can we use this wool because my nan donated it rather than going out and purchasing embroidery thread to do this with? Can we reuse some of this equipment rather than going out and purchasing new?' Some of the children are already making that decision on their own without having to be led, but that is definitely an area within design and technology that, I think, we maybe need to be more aware of when we're planning or resourcing our units.

### **Do they write up evaluations at any point?**

We don't expect a written evaluation for every single D&T unit. We give them options. There will be an expectation that there is a written evaluation for some of the units. One option is a presentation they give to the rest of the class where they've planned out what they're going to say. In some year groups, they've created presentations on their iPads and then they've shared those with the class. Some of them have even videoed themselves and done it that way. Sometimes the evaluation has formed part of a class discussion. Lower down the school we might just say, 'Okay, you've got your product in front of you, what went really well?' and each of the children is given an opportunity to respond. 'Okay, what would we do to improve it?' The evaluation is age and stage relevant; with the appropriate scaffolding you can build their evaluation skills.

### **How do you assess them in D&T?**

There is an ongoing teacher assessment. Obviously, there is no formal assessment for D&T as such. There is ongoing teacher assessment, and that will be from a variety of different sources. The children keep an ongoing journal I suppose, a sketchbook journal of their D&T learning, so any annotations, any research, any designs or anything they've created will get recorded there. They will also have their end product, which we normally have a photograph of or it's on display in the classroom or school gallery. Then more importantly, from my perspective as the

subject leader, is the pupil voice conversations that I have with them following the units – ‘Okay, what were you learning? How did it go? What went well? What do you need to improve? If you were to do it again, what would be better?’ – that kind of triangulation of what’s gone on in their journal, what the teacher has seen in the classroom and how they’ve accessed the activities that have been set, and then the pupil voice at the end. That triangulation creates the teacher assessment for those children. We assess loosely against our skills progression that we’ve created as a school that says, ‘These children are accessing this year group’s curriculum at this pace, but these children are just slightly off the pace here and need a bit more support in order to access all of those skills.’ Moving forward, when they go to the next year group and they’re doing their next ‘Make’ unit, at least the teacher has got an idea of where those children are at and what they’ve been able to access successfully.

### **How much time is dedicated to D&T?**

Roughly, we try and aim for between six and eight hours across a half-term, so an hour a week. We’ve said to teachers we’re fairly flexible: ‘For some of these, it’s going to be more useful for you to block it, so there are a few afternoons across the course of a week. Some of them you may find you can do an hour a week across the half-term, and that’s the best way for delivering it for your class. Some classes will need a couple of weeks where it’s drip-fed and then actually just a solid day of getting that design made and done.’ So we’re fairly flexible in terms of timetabling to enable teachers to get the outcomes that they need.

### **Huh...**

We are aware it’s not the finished article; in my mind no curriculum planning ever is – the minute it’s written it’s out of date, if you like, and at the end of the unit, as brilliant as we think it might be when we planned it, if it’s not functionally worked in the classroom, or it’s not given us the outcome that we wanted, it needs to be tweaked and amended. That happens at the end of every unit where I will meet with the class teachers and say, ‘How did that go? How did you find that? Did you have enough time? Have you got the resources you need? Do we need to tweak something? Does it work quite well there?’ We’re always tweaking and amending it as we move along. If we had this conversation again in

a couple of months' time, some of these topics may have changed, and that would be fine. We're expecting the children to follow that 'design, make, evaluate' process, but actually, as the subject leader, I'm following that same process where I've made these plans and I've got to evaluate the outcome, and then I might have to redesign some of the units on the back of the evaluation. That's a continual process that happens in all effective curriculum development work.

### **Design and technology: background**

Before 1989, subjects such as CD&T (craft, design and technology, which was often called woodwork, metalwork, and technical drawing in schools), home economics, textiles (or needlework) and electronics were all separate subjects in secondary schools. Since the introduction of the first national curriculum in 1989, these subjects have been taught under the single heading of design and technology, with the common requirement to develop skills in designing and making alongside a materials technology knowledge base.

It is worth referring to the purpose of design and technology in the national curriculum programme of study:

'Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing, and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.'

And the aims for design and technology are to ensure that all pupils:

‘Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world; build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users; critique, evaluate and test their ideas and products and the work of others; understand and apply the principles of nutrition and learn how to cook.’<sup>1</sup>

Once the importance statements have been revisited, it is helpful for subject leaders and co-ordinators to discuss and agree with colleagues the reason why their subject, in this case design and technology, is important for the pupils in their school. One way of doing this is to draw on a quote, in this case from Stephen Gardiner: ‘Good buildings come from good people, and all problems are solved by good design.’ This kind of prompt allows us to formulate our way of stating the importance of the subject. We might agree or disagree with such a statement and in doing so come to a form of words which expresses our view of the importance of this subject, in this school. This moves us away from the territory of ‘we teach this subject because of the SATs or GCSEs’. While the external tests and exams are important, they are not the totality of the subject.

### **Professional communities**

Subject associations are important because at the heart of their work is curriculum thinking, development and resources. The subject association for design and technology is the Design and Technology Association and any member of staff with responsibility for a subject should be a member of the relevant subject association, and this should be paid for by the school.

Twitter subject communities are important for the development of subject knowledge because it is here that there are lively debates about

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<sup>1</sup> Department for Education. (2013) *Design and technology programmes of study: key stages 1 and 2*. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/239041/PRIMARY\\_national\\_curriculum\\_-\\_Design\\_and\\_technology.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/239041/PRIMARY_national_curriculum_-_Design_and_technology.pdf) (Accessed: 11 March 2022).



what to teach, how to teach and the kinds of resources that are helpful. For design and technology, it is worth following the D&T Association on Twitter and the hashtags #dtchat, #designtech, #DandT and #supportDT.

### **Links and additional reading**

Design and Technology Association – [www.data.org.uk](http://www.data.org.uk)

Teaching Design and Technology Creatively – <https://amzn.to/36CMM8D>

Food A Fact of Life – [www.foodafactoflife.org.uk](http://www.foodafactoflife.org.uk)

BBC Bitesize Design and Technology – [www.bbc.co.uk/bitesize/subjects/zvg4d2p](http://www.bbc.co.uk/bitesize/subjects/zvg4d2p)

BBC Teach – [www.bbc.co.uk/teach](http://www.bbc.co.uk/teach)

How Stuff Works – [www.howstuffworks.com](http://www.howstuffworks.com)

STEM Engineering – [www.stem.org.uk/engineering-resources](http://www.stem.org.uk/engineering-resources)

Talking D&T – [www.apple.co/3seVHDH](http://www.apple.co/3seVHDH)

Designed for life – [www.buzzsprout.com/1225046](http://www.buzzsprout.com/1225046)

Fix Ed – <https://fixperts.org>

Big Life Fix – [www.bbc.co.uk/programmes/b09g5hwh](http://www.bbc.co.uk/programmes/b09g5hwh)

STEM learning – [www.stem.org.uk](http://www.stem.org.uk)

Ellen McArthur Foundation – [www.bit.ly/2Xp5jAx](http://www.bit.ly/2Xp5jAx)

James Dyson Foundation – [www.jamesdysonfoundation.co.uk/who-we-are.html](http://www.jamesdysonfoundation.co.uk/who-we-are.html)

Tomorrow's Engineers – [www.tomorrowsengineers.org.uk](http://www.tomorrowsengineers.org.uk)

Design Council – [www.bit.ly/3AGhRSg](http://www.bit.ly/3AGhRSg)

Design Museum – [www.bit.ly/3sbUv49](http://www.bit.ly/3sbUv49)

Royal Academy of Engineering – [www.raeng.org.uk/education](http://www.raeng.org.uk/education)

David and Torben for D&T – <https://dandtfordandt.wordpress.com/working-papers/>