

Year 1 - Design and Technology Knowledge & Skills Progression

Main Progression targets that sequence year on year



Design

Become proficient in drawing, sketching and communicating ideas

Drawing and Sketching

Pupils develop their ability to use and apply different drawing and sketching techniques to design ideas based on a success criteria or a brief. Students could draw or sketch ideas that have come from inspiration images or reference photos. They can draw from imagination or observation.

Modelling

Pupils develop the ability to model using different mediums, like junk modelling, clay or plasticine modelling and other materials such as card or paper. There should be evident progression from EYFS, for example, there could be a link between their DT project and another topic they are exploring. Students can model design ideas in 3d, or conceptualise their design thinking through the production of a model. There should be some demonstration of accuracy.

Specifications / Briefs

Students can state what would make a project successful. They may refer to the size, shape or material the product is made from. They are able to use this to support their evaluations throughout, and at the end of their projects.



Make

Explore ideas, invent, imagine, problem solve

Textiles

Students can work with a range of fabrics and components to create outcomes. These could be the practice of sewing techniques, or following a template to produce an outcome. Students know how to join fabrics together, using sewing and other joining methods like glueing. Students can discuss some properties of the material, for example: describing how the fabric feels and how it moves. Students can link the fabric they use to items they might wear. They are able to make some links between fabrics and their origins.

Resistant Materials

Students can use a range of materials such as wood, plastic and/or metal to create an outcome. They can practise different shaping and forming techniques, such as sawing, filing and cutting. They are used to working with materials like paper, card and modelling materials. They understand how different materials can be joined, such as with tape, glue or staples. They can identify where they see these materials in real life, and can make some links between materials and their origins.

Food Preparation and Nutrition

Students know a range of different foods, and can explain their own likes and dislikes. They understand where some foods might come from, such as fruit, vegetables and meat. They know that fruits and vegetables make up a part of a healthy diet. They can undertake some basic food preparation practices, such as chopping, spreading or stirring. They can use sensory analysis to talk about the taste, texture and smell of different foods. They can prepare basic dishes, like making sandwiches.

Engineering / Construction

Students know about some structures, which may be local to them. These could be bridges, well known buildings or their homes.. They understand some basic information about structures and why they are useful. They are able to model some structures using prototyping materials like card and paper. They can use premade kits like lego, vex or duplo to create structures. They can make decisions about how to make structures taller, or stronger.



Evaluate

Evaluate and Analyse own & others work

Analysing the work of others

Students can study the work of others and make judgments that should inform their own work. They can describe what they like and do not like about the work, giving appropriate reasoning. They can analyse the work of others through description, and be able to suggest what they would change and give reasoning as to why.

Evaluating the work of my peers

Students can make judgments about the work of their peers. They are able to explain what they like and dislike, and can interpret what their peers have tried to achieve. They may be able to suggest changes, or things they'd do differently. They can deliver their feedback in a way that is kind and constructive.

Evaluating my own work

Students can reflect on their own work in an informed way. They can describe what they have made and the purpose of it. They are able to articulate the process they undertook, and why they did it this way, but also suggest how they'd do it differently. They can describe what they like, what they don't like and what they'd change.



Technical Knowledge



Material Properties

Students are able to describe or identify some material properties, such as whether a material is strong or soft. They may be able to describe that materials like plasticine or clay are easy to shape (malleability). They will be able to describe why things like structures would be built from strong materials, and explain what would happen if they were not built from strong materials.


The work of others


Students will be able to draw on the work of others to inform their own. They should be able to use a reference picture and describe how they have used it when designing their own product or item. They may be able to collaborate with other students in their class, and use their ideas to inform their own work. They should demonstrate that they are able to work well with others, sharing the load of work.

	Tools and equipment	Students should demonstrate that they can use specialist tools and equipment safely and confidently. The development of their motor skills can be supported through using equipment like scissors, coping saws, files and rulers. They will be able to name specialist equipment, and explain how they are used, and what they are used for.
	Sustainability and the Environment	Students will demonstrate some understanding around our responsibilities to protect the planet, such as putting litter in the bin and recycling some materials. They may be able to make links to other subjects, like geography or science.
	Materials	Students are able to identify different materials, and can describe the differences between them. They should be able to identify wood, plastic and metal. They will be able to explain how they differ. For example, metal is cooler to touch and wood can have uneven edges or splinters.
	Mathematical application	Students may use some of the same practices in maths and apply them to DT.





Year 2 - Design and Technology Knowledge & Skills Progression		Main Progression targets that sequence year on year
 <p>Design Become proficient in drawing, sketching and communicating ideas</p>	Drawing and Sketching	Pupils develop their ability to use and apply different drawing and sketching techniques to design ideas based on a success criteria or a brief. Students could draw or sketch ideas that have come from inspiration images or reference photos. They can draw from imagination or observation. Their drawings contain detail, and can be interpreted.
	Modelling	Pupils develop the ability to model using different mediums, like junk modelling, clay or plasticine modelling and other materials such as card or paper. There should be evident progression from EYFS, for example, there could be a link between their DT project and another topic they are exploring. Students can model design ideas in 3d, or conceptualise their design thinking through the production of a model. There should be some demonstration of accuracy. Students have agency over their ideas, and can justify their ideas.
	Specifications / Briefs	Students can state what would make a project successful. They may refer to the size, shape or material the product is made from, or explain how they are going to make the product within the constraints they have been set. They are able to use this to support their evaluations throughout, and at the end of their projects. They understand how evaluations inform progression or development of ideas.
 <p>Make Explore ideas, invent, imagine, problem solve</p>	Textiles	Students can work with a range of fabrics and components to create outcomes. These could be the practice of sewing techniques, or following a template to produce an outcome. Students know how to join fabrics together, using sewing and other joining methods like glueing. Students can discuss some properties of the material, for example: describing how the fabric feels and how it moves. Students can link the fabric they use to items they might wear. They are able to make links between fabrics and their origins.
	Resistant Materials	Students can use a range of materials such as wood, plastic and/or metal to create an outcome. They can practise different shaping and forming techniques, such as sawing, filing and cutting. They are used to working with materials like paper, card and modelling materials. They understand how different materials can be joined, such as with tape, glue or staples. They can identify where they see these materials in real life, and can make some links between materials and their origins.
	Food Preparation and Nutrition	Students know a range of different foods, and can explain their own likes and dislikes. They understand where some foods might come from, such as fruit, vegetables and meat. They know that fruits and vegetables make up a part of a healthy diet. They can undertake some basic food preparation practices, such as chopping, spreading or stirring. They can use sensory analysis to talk about the taste, texture and smell of different foods. They can prepare basic dishes, like making sandwiches.
	Engineering / Construction	Students know about some structures, which may be local to them. These could be bridges, well known buildings or their homes.. They understand some basic information about structures and why they are useful. They are able to model some structures using prototyping materials like card and paper. They can use premade kits like lego, vex or duplo to create structures. They can make decisions about how to make structures taller, or stronger.
 <p>Evaluate Evaluate and Analyse own & others work</p>	Analysing the work of others	Students can study the work of others and make judgments that should inform their own work. They can describe what they like and do not like about the work, giving appropriate reasoning. They can analyse the work of others through description, and be able to suggest what they would change and give reasoning as to why.

	Evaluating the work of my peers	Students can make judgments about the work of their peers. They are able to explain what they like and dislike, and can interpret what their peers have tried to achieve. They may be able to suggest changes, or things they'd do differently. They can deliver their feedback in a way that is kind and constructive.
	Evaluating my own work	Students can reflect on their own work in an informed way. They can describe what they have made and the purpose of it. They are able to articulate the process they undertook, and why they did it this way, but also suggest how they'd do it differently. They can describe what they like, what they don't like and what they'd change. They can make links between their project and the real world.



 Technical Knowledge	Material Properties	Students are able to describe or identify material properties, such as whether a material is strong or soft. They may be able to describe that materials like plasticine or clay are easy to shape (malleability). They will be able to describe why things like structures would be built from strong materials, and explain what would happen if they were not built from strong materials. They may be able to identify shapes they can see within structures and explain how they add to the structural integrity of a structure.
	The work of others	Students will be able to draw on the work of others to inform their own. They can use a reference picture and describe how they have used it when designing their own product or item. They may be able to collaborate with other students in their class, and use their ideas to inform their own work. They should demonstrate that they are able to work well with others, sharing the load of work fairly between themselves / the group.
	Tools and equipment	Students should demonstrate that they can use specialist tools and equipment safely and confidently. The development of their motor skills can be supported through using equipment like scissors, coping saws, files and rulers. They will be able to name specialist equipment, and explain how they are used, and what they are used for. They should be able to use more specialist equipment like hammers, hand drills and tenon saws, even just to practise the skill.
	Sustainability and the Environment	Students will demonstrate some understanding around our responsibilities to protect the planet, such as putting litter in the bin and recycling materials and old food packaging. They can explain the problem with sourcing wood, and replanting trees once cut down. They can make links to other subjects, like geography or science.
	Materials	Students are able to identify different materials, and can describe the differences between them. They should be able to identify wood, plastic and metal. They will be able to explain how they differ. For example, metal is cooler to touch and wood can have uneven edges or splinters.
	Mathematical application	Students may use some of the same practices in maths and apply them to DT. Examples could be using a ruler to measure accurately, or using a ruler to accurately mark out. Drawing straight lines, or dimensionally accurate designs.



Year 3 - Design and Technology Knowledge & Skills Progression		Main Progression targets that sequence year on year
 Design Become proficient in drawing, sketching and communicating ideas	Drawing and Sketching	Pupils develop their ability to use and apply different drawing and sketching techniques to design ideas based on a success criteria or a brief. Students could draw or sketch ideas that have come from inspiration images or reference photos. They can draw from imagination or observation. Their drawings contain detail, and can be interpreted. They can use annotations to describe their ideas in detail, and they can use ACCESS FM to support their writing. They know the difference between labelling and annotating.
	Modelling	Pupils develop the ability to model using different mediums, like junk modelling, clay or plasticine modelling and other materials such as card or paper. There should be evident progression from KS1, for example, there could be a link between their DT project and another topic they are exploring, or it should link explicitly to the design brief or specification. Students can model design ideas in 3d, or conceptualise their design thinking through the production of a model. There should be some demonstration of accuracy. Students have agency over their ideas, and can justify their ideas.


	Specifications / Briefs	Students can state what would make a project successful. They may refer to the size, shape or material the product is made from, or explain how they are going to make the product within the constraints they have been set. They are able to use this to support their evaluations throughout, and at the end of their projects. They understand how evaluations inform progression or development of ideas.
 <p>Make</p> <p>Explore ideas, invent, imagine, problem solve</p>	Textiles	Students can work with a range of fabrics and components to create outcomes. These could be the practice of sewing techniques, or following a template to produce an outcome. Students know how to join fabrics together, using sewing and other joining methods like glueing. Students can discuss some properties of the material, for example: describing how the fabric feels and how it moves. Students can link the fabric they use to items they might wear. They are able to make links between fabrics and their origins.
	Resistant Materials	Students can use a range of materials such as wood, plastic and/or metal to create an outcome. They can practise different shaping and forming techniques, such as sawing, filing and cutting. They are used to working with materials like paper, card and modelling materials. They understand how different materials can be joined, such as with tape, glue or staples. They can identify where they see these materials in real life, and can make some links between materials and their origins.
	Food Preparation and Nutrition	Students know a range of different foods, and can explain their own likes and dislikes. They understand where lots of foods come from, such as fruit, vegetables, meat and dairy. They know that fruits and vegetables make up a part of a healthy diet and have a good understanding of the Eatwell Guide. They can undertake some basic food preparation practices, such as chopping, spreading or stirring, and more complex skills such as whisking or blending. They can use sensory analysis to talk about the taste, texture and smell of different foods. They can prepare dishes with a good level of skill, like a toastie, or making fairy cakes. They understand what local produce is, and understand the implications of food travelling a long way.
	Engineering / Construction	Students know about some structures, which may be local to them. These could be bridges, well known buildings or their homes. They understand structures and what they are used for. They are able to model structures using prototyping materials like card and paper, which bear resemblance to existing structures, or to their design ideas. They can confidently make decisions about how to make structures bigger, taller or stronger by drawing on information they know from their analysis or by looking at the work of others.
 <p>Evaluate</p> <p>Evaluate and Analyse own & others work</p>	Analysing the work of others	Students can study the work of others and make judgments that inform their own work. They can describe what they like and do not like about the work, giving appropriate reasoning. They can analyse the work of others through description, and be able to suggest what they would change and give reasoning as to why. They can describe the aesthetics, function and make judgements about the material it is made from.
	Evaluating the work of my peers	Students can make judgments about the work of their peers. They are able to explain what they like and dislike, and can interpret what their peers have tried to achieve. They may be able to suggest changes, or things they'd do differently. They can deliver their feedback in a way that is kind and constructive. They could use the work of their peers to inform their own ideas.
	Evaluating my own work	Students can reflect on their own work in an informed way. They can describe what they have made and the purpose of it. They can describe whether it functions as intended. They are able to articulate the process they undertook, and why they did it this way. They can also suggest how they'd do it differently. They can describe what they like, what they don't like and what they'd change. They can make relevant links between their project and the real world.
 <p>Technical Knowledge</p>	Material Properties	Students are able to describe or identify material properties, such as whether a material is strong or soft. They may be able to describe that materials like plasticine or clay are easy to shape (malleability). They will be able to describe why things like structures would be built from strong materials, and explain what would happen if they were not built from strong materials. They may be able to identify shapes they can see within structures and explain how they add to the integrity of a structure.
	The work of others	Students will be able to draw on the work of others to inform their own. They can use a reference picture and describe how they have used it when designing their own product or item. They may be able to collaborate with other students in their class, and use their ideas to inform their own work. They should demonstrate that they are able to work well with others, sharing the load of work fairly between themselves or the group.
	Tools and equipment	Students should demonstrate that they can use specialist tools and equipment safely and confidently. The development of their motor skills can be supported through using equipment like scissors, coping saws, files and rulers. They will be able to name specialist equipment, and explain how they are used, and what they are used for. They should be able to use more specialist equipment like hammers, hand drills and tenon saws, even just to practise the skill. They are able to describe why the selected tool is the best one for the process they're undertaking.
	Sustainability and the Environment	Students will demonstrate some understanding around our responsibilities to protect the planet, such as putting litter in the bin and recycling materials and old food packaging. They can explain the problem with sourcing wood, and replanting trees once cut down. They can make links to other subjects, like geography or science. They can talk about carbon footprint, and the ethical implications of consumer culture.
	Materials	Students are able to identify different materials, and can describe the differences between them. They should be able to identify wood, plastic and metal. They will be able to explain how they differ. They can identify what different materials are used for, for example, plastic for food packaging. They can explain why these materials are used for different items.
	Mathematical application	Students will use some of the same practices in maths and apply them to DT. Examples are using a ruler to measure accurately, or using a ruler to accurately mark out. Drawing straight lines, or dimensionally accurate designs. They might calculate angles, or volumes of objects.

Year 4 - Design and Technology Knowledge & Skills Progression		Main Progression targets that sequence year on year
 <p>Design</p> <p>Become proficient in drawing, sketching and communicating ideas</p>	Drawing and Sketching	Pupils develop their ability to use and apply different drawing and sketching techniques to design ideas based on a success criteria or a brief. Students could draw or sketch ideas that have come from inspiration images or reference photos. They can draw from imagination or observation. Their drawings contain detail, and can be interpreted. They can use annotations to describe their ideas in detail, and they can use ACCESS FM to support their writing. They know the difference between labelling and annotating. They are able to develop their ideas, by making sensible and appropriate changes.
	Modelling	Pupils develop the ability to model using different mediums, like junk modelling, clay or plasticine modelling and other materials such as card or paper. There should be evident progression from KS1, for example, there could be a link between their DT project and another topic they are exploring, or it should link explicitly to the design brief or specification. Students can model design ideas in 3d, or conceptualise their design thinking through the production of a model. There should be a demonstration of accuracy. Students have agency over their ideas, and can justify their ideas.
	Specifications / Briefs	Students can explain what would make a project successful. They may refer to the size, shape or material the product is made from, or explain how they are going to make the product within the constraints they have been set. They are able to use this to support their evaluations throughout, and at the end of their projects. They understand how evaluations inform progression or development of ideas.
 <p>Make</p> <p>Explore ideas, invent, imagine, problem solve</p>	Textiles	Students can work with a range of fabrics and components to create outcomes. These could be the practice of sewing techniques, or following a template to produce an outcome. Students know how to join fabrics together, using sewing and other joining methods like glueing. Students can discuss some properties of the material, for example: describing how the fabric feels and how it moves. Students can link the fabric they use to items they might wear. They are able to make links between fabrics and their origins.
	Resistant Materials	Students can use a range of materials such as wood, plastic and/or metal to create an outcome. They can use different shaping and forming techniques, such as sawing, filing and cutting to create an accurate outcome. They are used to working with materials like paper, card and modelling materials. They understand how different materials can be joined, such as with tape, glue or staples, but also with wood joints and hinges.. They can identify where they see these materials in real life, and can make authentic links between materials and their origins.
	Food Preparation and Nutrition	Students know a range of different foods, and can explain their own likes and dislikes. They understand where lots of foods come from, such as fruit, vegetables, meat and dairy. They know that fruits and vegetables make up a part of a healthy diet and have an excellent understanding of the Eatwell Guide. They can undertake a variety of food preparation practices, such as chopping, spreading or stirring, and more complex skills such as whisking or blending. They can use sensory analysis to talk about the taste, texture and smell of different foods. They can prepare dishes with a good level of skill, like a toastie, or making fairy cakes. They understand what local produce is, and understand the implications of food travelling a long way.
	Engineering / Construction	Students know about some structures, which may be local to them. These could be bridges, well known buildings or their homes. They understand structures and what they are used for. They are able to model structures using prototyping materials like card and paper, which bear resemblance to existing structures, or to their design ideas. They can confidently make decisions about how to make structures bigger, taller or stronger by drawing on information they know from their analysis or by looking at the work of others.
 <p>Evaluate</p> <p>Evaluate and Analyse own & others work</p>	Analysing the work of others	Students can study the work of others and make judgments that inform their own work. They can describe what they like and do not like about the work, giving thorough reasoning. They can analyse the work of others through description, and be able to suggest what they would change and give reasoning as to why. They can describe the aesthetics, function and make judgements about the material it is made from.
	Evaluating the work of my peers	Students can make informed judgments about the work of their peers. They are able to explain what they like and dislike, and can interpret what their peers have worked to achieve. They will be able to suggest changes, or things they'd do differently. They can deliver their feedback in a way that is kind and constructive. They could use the work of their peers to inform their own ideas.
	Evaluating my own work	Students can reflect on their own work in an informed way. They can describe what they have made and the purpose of the product. They can describe whether it functions as intended. They are able to articulate the process they undertook, and why they did it this way, they can also suggest how they'd do it differently. They can describe what they like, what they don't like and what they'd change. They can make relevant links between their project and the real world.
 <p>Technical Knowledge</p>	Material Properties	Students are able to describe or identify material properties, such as whether a material is strong or soft. They may be able to describe that materials like plasticine or clay are easy to shape (malleability). They will be able to describe why things like structures would be built from strong materials, and explain what would happen if they were not built from strong materials. They may be able to identify shapes they can see within structures and explain how they add to the integrity of a structure. They can use the technical language applied to describing material properties, like ductility, malleability, strength, toughness and brittleness.

	The work of others	Students will be able to draw on the work of designers and artists to inform their own work. They might choose to use a reference picture, but they can describe how they have used it when designing their own product or item. They may be able to collaborate with other students in their class, and use their ideas to inform their own work. They should demonstrate that they are able to work well with others, sharing the load of work fairly between themselves or the group.
	Tools and equipment	Students should demonstrate that they can use specialist tools and equipment safely and confidently. The development of their motor skills can be supported through using equipment like scissors, coping saws, files and rulers. They will be able to name specialist equipment, and explain how they are used, and what they are used for. They should be able to use more specialist equipment like hammers, hand drills and tenon saws, even just to practise the skill. They are able to describe why the selected tool is the best one for the process they're undertaking.
	Sustainability and the Environment	Students will demonstrate understanding of their responsibilities to protect the planet, such as putting litter in the bin and recycling materials and old food packaging. They can explain the problem with sourcing wood, and replanting trees once cut down. They can make links to other subjects, like geography or science. They can talk about carbon footprint, and the ethical implications of consumer culture.
	Materials	Students are able to identify different materials, and can describe how they differ. They are able to identify wood, plastic and metal. They will be able to explain how they differ. They can identify what different materials are used for, for example, plastic for food packaging. They can explain why these materials are used for different items.
	Mathematical application	Students will use some of the same practices in maths and apply them to DT. Examples are using a ruler to measure accurately, or using a ruler to accurately mark out. Drawing straight lines, or dimensionally accurate designs. They might calculate angles, or volumes of objects.

Year 5 - Design and Technology Knowledge & Skills Progression		Main Progression targets that sequence year on year
 <p>Design Become proficient in drawing, sketching and communicating ideas</p>	Drawing and Sketching	Pupils are able to apply different drawing and sketching techniques to design ideas based on a success criteria or a brief. Students are able draw or sketch ideas that have come from inspiration images or reference photos. They can draw from imagination or observation and their drawings contain detail. The drawings can be interpreted clearly. They can use annotations to describe their ideas in detail, and they can use ACCESS FM to support the annotations. They know the difference between labelling and annotating. They are able to develop their ideas, by making sensible and appropriate changes. They have some understanding of technical drawings, such as isometric, orthographic / third angle projection.
	Modelling	Pupils develop the ability to model using different mediums, like junk modelling, clay or plasticine modelling and other materials such as card or paper. There should be evident progression from KS1, for example, there could be a link between their DT project and another topic they are exploring, or it should link explicitly to the design brief or specification. Students can model design ideas in 3d, or conceptualise their design thinking through the production of a model. There should be a demonstration of accuracy. Students have agency over their ideas, and can justify their ideas clearly.
	Specifications / Briefs	Students can explain what would make a project successful. They may refer to the size, shape or material the product is made from, or explain how they are going to make the product within the constraints they have been set. They are able to use this to support their evaluations throughout, and at the end of their projects. They understand how evaluations inform progression or development of ideas.
 <p>Make Explore ideas, invent, imagine, problem solve</p>	Textiles	Students can work with a range of fabrics and components to create outcomes. These could be the practice of sewing techniques, or following a template to produce an outcome. Students know how to join fabrics together, using sewing and other joining methods like glueing. Students can discuss some properties of the material, for example: describing how the fabric feels and how it moves. Students can link the fabric they use to items they might wear. They can describe how fabrics are made. Students know the implications of over consumption of clothes, and know how clothes are recycled.
	Resistant Materials	Students can use a range of materials such as wood, plastic and/or metal to create an outcome. They can use different shaping and forming techniques, such as sawing, filing and cutting to create an accurate outcome. They are used to working with materials like paper, card and modelling materials. They understand how different materials can be joined, such as with tape, glue or staples, but also with wood joints and hinges, and are aware of other processes like welding or soldering. They can identify where they use these materials in real life, and can make authentic links between materials and their origins.
	Food Preparation and Nutrition	Students know a range of different foods, and can explain their own likes and dislikes. They understand where lots of foods come from, such as fruit, vegetables, meat and dairy. They know that fruits and vegetables make up a part of a healthy diet and have an excellent understanding of the Eatwell Guide. They can undertake a variety of food preparation practices, such as chopping, spreading or stirring, and more complex skills such as blending, searing, grilling and baking. They can use sensory analysis to talk about the taste, texture and smell of different foods. They can prepare dishes with a good level of skill, like vegetable pasta, or soup. They understand what local produce is, food commodities, and understand the implications of food travelling a long way.

	Engineering / Construction	Students know about some structures, which may be local to them. These could be bridges, well known buildings or their homes. They understand structures and what they are used for. They are able to model structures using prototyping materials like card and paper, which bear resemblance to existing structures, or to their design ideas. They can confidently make decisions about how to make structures bigger, taller or stronger by drawing on information they know from their analysis or by looking at the work of others.
 Evaluate Evaluate and Analyse own & others work	Analysing the work of others	Students can study the work of others and make judgments that inform their own work. They can describe what they like and do not like about the work, giving thorough reasoning. They can analyse the work of others through description, and be able to suggest what they would change and give reasoning as to why. They can describe the aesthetics, function and make judgements about the material it is made from.
	Evaluating the work of my peers	Students can make informed judgments about the work of their peers. They are able to explain what they like and dislike, and can discuss what their peers have worked to achieve. They will be able to suggest changes, or things they'd do differently. They can deliver their feedback in a way that is kind and constructive. They could use the work of their peers to inform their own ideas.
	Evaluating my own work	Students can reflect on their own work in an informed way. They can describe what they have made and the purpose of the product. They can describe whether it functions as intended. They are able to articulate the process they undertook, and why they did it this way, they can also suggest how they'd do it differently. They can describe what they like, what they don't like and what they'd change. They can make relevant links between their project and the real world.
 Technical Knowledge	Material Properties	Students are able to describe or identify material properties, such as whether a material is strong or soft. They may be able to describe that materials like plasticine or clay are easy to shape (malleability). They will be able to describe why things like structures would be built from strong materials, and explain what would happen if they were not built from strong materials. They may be able to identify shapes they can see within structures and explain how they add to the integrity of a structure. They can use the technical language applied to describing material properties, like ductility, malleability, strength, toughness and brittleness.
	The work of others	Students will be able to draw on the work of designers and artists to inform their own work. They might choose to use a reference picture, but they can describe how they have used it when designing their own product or item. They may be able to collaborate with other students in their class, and use their ideas to inform their own work. They should demonstrate that they are able to work well with others, sharing the load of work fairly between themselves or the group.
	Tools and equipment	Students should demonstrate that they can use specialist tools and equipment safely and confidently. The development of their motor skills can be supported through using equipment like scissors, coping saws, files and rulers. They will be able to name specialist equipment, and explain how they are used, and what they are used for. They should be able to use more specialist equipment like hammers, hand drills and tenon saws, even just to practise the skill. They are able to describe why the selected tool is the best one for the process.
	Sustainability and the Environment	Students will demonstrate understanding of their responsibilities to protect the planet, such as putting litter in the bin and recycling materials and old food packaging. They can explain the problem with sourcing wood, and replanting trees once cut down. They can make links to other subjects, like geography or science. They can talk about carbon footprint, and the ethical implications of consumer culture. Students will have a good understanding of the 6 R's of sustainability, and be able to recite most of them.
	Materials	Students are able to identify different materials, and can describe what makes them unique. They are able to identify wood, plastic and metal, and how they differ from each other. They can identify what different materials are used for, for example, plastic for food packaging. They can explain why these materials are used for different items.
	Mathematical application	Students will use some of the same practices in maths and apply them to DT. Examples are using a ruler to measure accurately, or using a ruler to accurately mark out. Drawing straight lines, or dimensionally accurate designs. They might calculate angles, or volumes of objects.

Year 6 - Design and Technology Knowledge & Skills Progression		Main Progression targets that sequence year on year
 Design Become proficient in drawing, sketching and communicating ideas	Drawing and Sketching	Pupils are able to apply different drawing and sketching techniques to design ideas based on a success criteria or a brief. Students are able draw or sketch ideas that have come from inspiration images or reference photos. They can draw from imagination or observation and their drawings contain detail. The drawings can be interpreted clearly. They can use annotations to describe their ideas in detail, and they can use ACCESS FM to support the annotations. They know the difference between labelling and annotating. They are able to develop their ideas, by making sensible and appropriate changes. They have some understanding of technical drawings, such as isometric, orthographic / third angle projection.

	Modelling	Pupils develop the ability to model using different mediums, like junk modelling, clay or plasticine modelling and other materials such as card or paper. There should be evident progression from KS1, for example, there could be a link between their DT project and another topic they are exploring, or it should link explicitly to the design brief or specification. Students can model design ideas in 3d, or conceptualise their design thinking through the production of a model. There should be a demonstration of accuracy. Students have agency over their ideas, and can justify their ideas clearly.
	Specifications / Briefs	Students can explain what would make a project successful. They may refer to the size, shape or material the product is made from, or explain how they are going to make the product within the constraints they have been set. They are able to use this to support their evaluations throughout, and at the end of their projects. They understand how evaluations inform progression or development of ideas.
 Make Explore ideas, invent, imagine, problem solve	Textiles	Students can work with a range of fabrics and components to create outcomes. These could be the practice of sewing techniques, or following a template to produce an outcome. Students know how to join fabrics together, using sewing and other joining methods like glueing. Students can discuss some properties of the material, for example: describing how the fabric feels and how it moves. Students can link the fabric they use to items they might wear. They can describe how fabrics are made. Students know the implications of over consumption of clothes, and know how clothes are recycled.
	Resistant Materials	Students can use a range of materials such as wood, plastic and/or metal to create an outcome. They can use different shaping and forming techniques, such as sawing, filing and cutting to create an accurate outcome. They are used to working with materials like paper, card and modelling materials. They understand how different materials can be joined, such as with tape, glue or staples, but also with wood joints and hinges, and are aware of other processes like welding or soldering. They can identify where they use these materials in real life, and can make authentic links between materials and their origins.
	Food Preparation and Nutrition	Students know a range of different foods, and can explain their own likes and dislikes. They understand where lots of foods come from, such as fruit, vegetables, meat and dairy. They know that fruits and vegetables make up a part of a healthy diet and have an excellent understanding of the Eatwell Guide. They can undertake a variety of food preparation practices, such as chopping, spreading or stirring, and more complex skills such as blending, searing, grilling and baking. They can use sensory analysis to talk about the taste, texture and smell of different foods. They can prepare dishes with a good level of skill, like vegetable pasta, or soup. They understand what local produce is, food commodities, and understand the implications of food travelling a long way.
	Engineering / Construction	Students know about some structures, which may be local to them. These could be bridges, well known buildings or their homes. They understand structures and what they are used for. They are able to model structures using prototyping materials like card and paper, which bear resemblance to existing structures, or to their design ideas. They can confidently make decisions about how to make structures bigger, taller or stronger by drawing on information they know from their analysis or by looking at the work of others.
 Evaluate Evaluate and Analyse own & others work	Analysing the work of others	Students can study the work of others and make judgments that inform their own work. They can describe what they like and do not like about the work, giving thorough reasoning. They can analyse the work of others through description, and be able to suggest what they would change and give reasoning as to why. They can describe the aesthetics, function and make judgements about the material it is made from.
	Evaluating the work of my peers	Students can make informed judgments about the work of their peers. They are able to explain what they like and dislike, and can discuss what their peers have worked to achieve. They will be able to suggest changes, or things they'd do differently. They can deliver their feedback in a way that is kind and constructive. They could use the work of their peers to inform their own ideas.
	Evaluating my own work	Students can reflect on their own work in an informed way. They can describe what they have made and the purpose of the product. They can describe whether it functions as intended. They are able to articulate the process they undertook, and why they did it this way, they can also suggest how they'd do it differently. They can describe what they like, what they don't like and what they'd change. They can make relevant links between their project and the real world.
 Technical Knowledge	Material Properties	Students are able to describe or identify material properties, such as whether a material is strong or soft. They may be able to describe that materials like plasticine or clay are easy to shape (malleability). They will be able to describe why things like structures would be built from strong materials, and explain what would happen if they were not built from strong materials. They may be able to identify shapes they can see within structures and explain how they add to the integrity of a structure. They can use the technical language applied to describing material properties, like ductility, malleability, strength, toughness and brittleness.
	The work of others	Students will be able to draw on the work of designers and artists to inform their own work. They might choose to use a reference picture, but they can describe how they have used it when designing their own product or item. They may be able to collaborate with other students in their class, and use their ideas to inform their own work. They should demonstrate that they are able to work well with others, sharing the load of work fairly between themselves or the group.
	Tools and equipment	Students should demonstrate that they can use specialist tools and equipment safely and confidently. The development of their motor skills can be supported through using equipment like scissors, coping saws, files and rulers. They will be able to name specialist equipment, and explain how they are used, and what they are used for. They should be able to use more specialist equipment like hammers, hand drills and tenon saws, even just to practise the skill. They are able to describe why the selected tool is the best one for the process.
	Sustainability and the Environment	Students will demonstrate understanding of their responsibilities to protect the planet, such as putting litter in the bin and recycling materials and old food packaging. They can explain the problem with sourcing wood, and replanting trees once cut down. They can make links to other subjects, like geography or science. They can talk about carbon footprint, and the ethical implications of consumer culture. Students will have a good understanding of the 6 R's of sustainability, and be able to recite most of them.

	Materials	Students are able to identify different materials, and can describe what makes them unique. They are able to identify wood, plastic and metal, and how they differ from each other. They can identify what different materials are used for, for example, plastic for food packaging. They can explain why these materials are used for different items.
	Mathematical application	Students will use some of the same practices in maths and apply them to DT. Examples are using a ruler to measure accurately, or using a ruler to accurately mark out. Drawing straight lines, or dimensionally accurate designs. They might calculate angles, or volumes of objects.