

## RET Design and Technology - KS3 Stage Ladder

- Students will be taught to:
- develop the creative, technical, and practical expertise needed in everyday life in an increasingly technological world
  - build and apply a repertoire of knowledge, understanding and skills to design and make high-quality prototypes and products
  - critique, evaluate and test their ideas and products and the work of others
  - understand and apply the principles of D&T and how to identify how products are manufactured and linked to industry



Stage		Investigating	Designing	Making	Analysing and Evaluating	Technical Knowledge
Y9++	7	Relevant and detailed design possibilities are identified and explored with confidence. These demonstrate a clear and wide breadth and depth of knowledge. A clear and relevant investigation of the user/client with a detailed explanation.	Students can produce a range of high-quality design ideas, that are all relevant to the design brief and specification. Design ideas will show a range of drawing techniques. Where possible, students independently develop their ideas, either through a range of drawing techniques or through CAD. Students can present their range of ideas creatively on their design page. They can add a range of rendering techniques to all their designs to help with design communication. All design ideas are annotated with the correct technical languages and subject specific vocabulary. Students can consider wider issues within their designs.	Students select the correct tools and equipment confidently and justify their choices. They justify the materials they are using. They understand the process they are using and explain why confidently. They work accurately and produce a high-quality finish to their work safely and independently and demonstrate this to others.	Students accurately analyse their work against the project brief and specification to produce a range of suitable and justifiable modifications and then evaluate the success of theirs and others work. There is reflection on feedback received from third parties and evidence of thorough analysis and evaluation throughout.	Students hold a high-level of knowledge of tools, materials, equipment, components, and processes. Students independently consider characteristics while designing, making, and analysing. Students can share skills with their peers and develop confidence and knowledge. Students are fluent in their use of subject specific vocabulary.
Y9+	6	A detailed range of design possibilities are identified and explored demonstrating some aspects of wider design principles and research. There is an investigation of a user/client with some reference to their needs.	Students can produce some quality design ideas, that are mostly relevant to the design brief and specification. Design ideas will show a range of drawing techniques. Where possible, students develop their ideas, either through a range of drawing techniques or through CAD with little help and guidance. Students can present their ideas on their design page with some level of creativity. They can add some rendering techniques to their designs to help with design communication. Most of the design ideas are annotated with correct technical languages and subject specific vocabulary. Students can consider wider issues within their designs.	Students can select the correct tools and equipment and justify their choices. They justify the materials they are using. They understand the process they are using and explain why. They work accurately and produce a high-quality finish to their work safely and independently and demonstrate this to others at times.	Students analyse their work against the project brief and specification to produce relevant modifications and then evaluate the success of theirs and others work. There is reflection on feedback received from third parties and evidence of analysis and evaluation throughout.	Students know processes, tools, equipment, and components that will be used and may be needed. Students can discuss skills with their peers and further their confidence and knowledge. Students use subject specific vocabulary accurately.
Avg EOY9	5	A good range of design possibilities are identified. Students mention some user needs or requirements. Market research is relevant and conducted independently.	Students can produce some design ideas, that show some links to the design brief and specification. Design ideas will use some drawing techniques. Where possible, students develop their ideas, either through a range of drawing techniques or through CAD with help and guidance. Students can present their ideas on their design page with some level of creativity. They can add some rendering techniques to their designs to help with design communication. Some of the design ideas have been annotated with some correct technical languages and subject specific vocabulary. Students can consider one or two wider issues within their designs.	Students can name some tools and equipment and justify their choices, occasionally with prompting. Students name the materials and processes they are using, usually with accuracy. They consider the finish of their products and work safely with some independence.	Students analyse their work against the project brief and specification to produce a few modifications and then evaluate the success of their own work. There is reflection on feedback received from third parties and evidence of analysis and evaluation.	Students know which pieces of equipment, and components could be needed and will be used. Students usually use subject specific vocabulary accurately.

Avg EOY8	4	<p>Limited design possibilities are identified with some subject knowledge shown. Whilst there has been investigation into the client, limited reference is made to the client throughout.</p>	<p>Students can produce design ideas, that show some or little links to the design brief and specification. Design ideas will use limited drawing techniques. Where possible, students develop their ideas, either through a range of drawing techniques or through CAD with help and guidance. Students can present their ideas on their design page with some level of creativity. They can add little rendering techniques to their designs to help with design communication. Some of the design ideas have been annotated with language that is not always the correct technical language. Students may understand wider issues and include one within their designs.</p>	<p>Students can name tools and equipment and justify their choices with prompting. Students name the materials and processes they are using with some level of accuracy. They consider the finish of their products and can work safely in the classroom.</p>	<p>Students sometimes analyse their work against the project brief and specification to produce a basic modification and then evaluate the success of their own work. There is cognisance of feedback received from third parties and there is evidence of some analysis and evaluation.</p>	<p>Students apply their knowledge and understanding of material, and components and work with them with some accuracy. Students sometimes use subject specific vocabulary accurately.</p>
Avg EOY7	3	<p>More than one design possibility is identified with a basic level of terminology used. There is some investigation into the user/client but limited reference is made throughout.</p>	<p>Students can produce only a few different design ideas, that show some or little links to the design brief and specification. The drawing techniques used are quite weak and lots of guidance is given. Students find it difficult to present their ideas on their design page with some level of creativity. Their rendering is limited and not very strong. Only a few designs have design ideas have annotations and they are not always relevant and technically correct. Students may not understand wider issues, and rarely include within their designs.</p>	<p>Students can name tools and equipment and have a basic understanding of their uses. Students name the materials and processes they are using briefly but with mistakes. They consider the finish of their products and can work safely under direction of the teacher.</p>	<p>Students briefly analyse their work against the project brief and specification and evaluate the success of their own work. They get feedback from third parties and show some evidence of analysis and evaluation.</p>	<p>Students understand some subject specific vocabulary.</p>
Avg EOY6	2	<p>There is a single design possibility or fixated ideas are shown in reference to one user identified. Market research is conducted with support but does not inform design decisions.</p>	<p>Students find it challenging to produce a variety of design ideas and they do not always link to the design brief and specification. The drawing techniques used are weak and lots of guidance is given. Students find it difficult to present their ideas on their design page with some level of creativity. Their rendering is limited to only one style and not very strong. Annotations around the design ideas are basic and not always relevant with little to no technical language. Students may not understand wider issues but are unable to link to their designs.</p>	<p>Students can name a few tools and equipment and have a basic understanding of their uses. Students name the materials but not always explain the processes well. They consider the finish of their products and can work safely under close direction of the teacher.</p>	<p>Students try to analyse their work against the project brief and specification and attempt to evaluate the success of their own work. They get feedback from third parties and attempt analysis and evaluation.</p>	<p>Students have encountered key terminology but have a limited recall of meaning.</p>
	1	<p>Single design possibility is identified with little to no explanation. Sometimes the user is stated with support.</p>	<p>Students tend to fixate on one design idea without being creative. The drawing techniques used are weak usually in 2D or in an incorrect 3D technique even after lots of guidance is given. Students design presentation is weak and basic. There may be no evidence of rendering Annotations around the design ideas are basic and not relevant with little to no technical language. Students are unable to understand wider issues and implement them into their designs.</p>	<p>Students can name a couple tools and equipment and have a basic understanding of their uses with prompting. Students are learning the materials. They consider the finish of their products and can work safely under close direction of the teacher.</p>	<p>Students try to analyse their work against the project brief with assistance from the teacher. They are helped to get feedback from third parties and to attempt analysis and evaluation.</p>	<p>Students have encountered key words but often cannot remember them or what they refer to.</p>