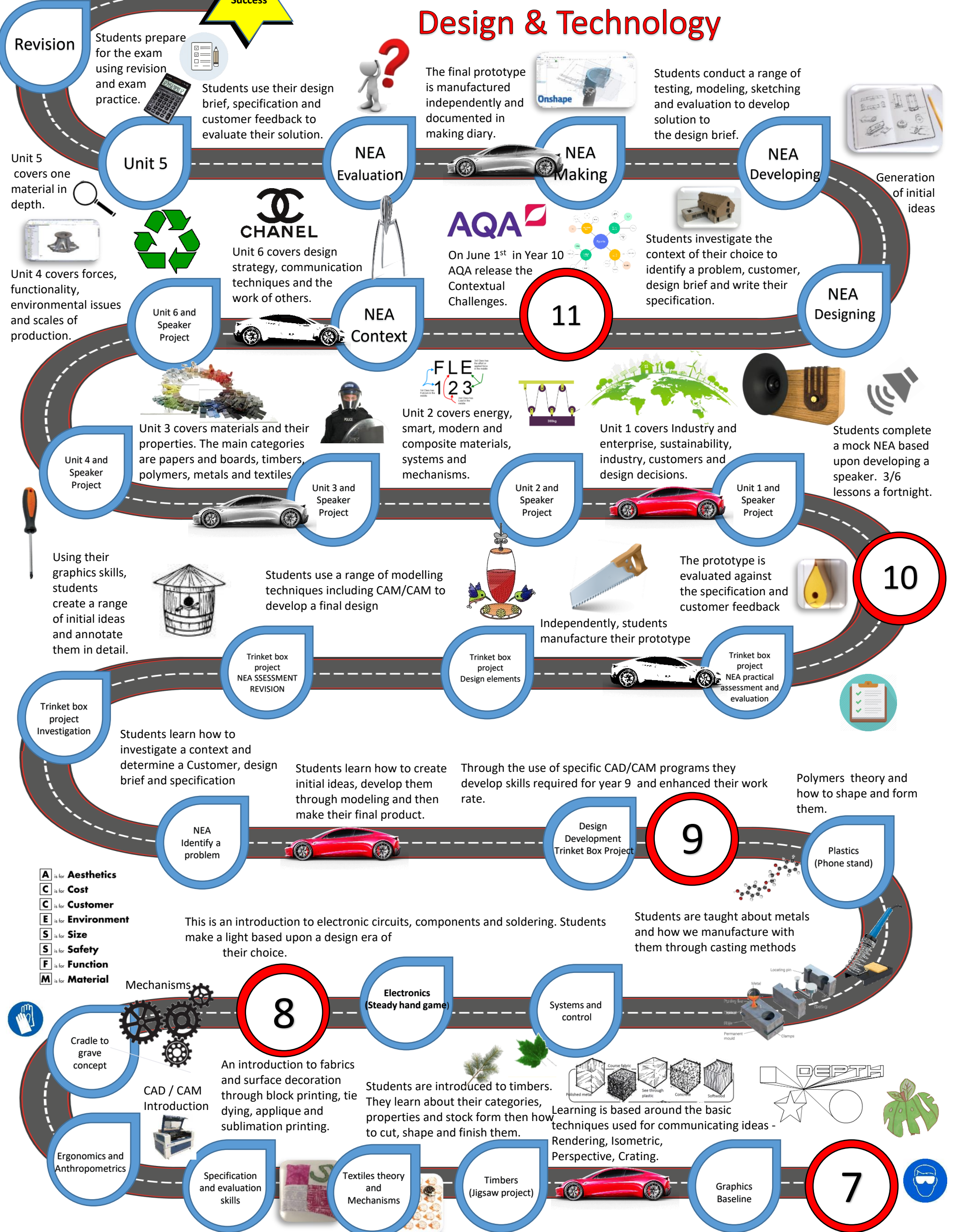


Curriculum Map ADT Design & Technology



Revision

Students prepare for the exam using revision and exam practice.

Students use their design brief, specification and customer feedback to evaluate their solution.

NEA Evaluation

The final prototype is manufactured independently and documented in making diary.



Students conduct a range of testing, modeling, sketching and evaluation to develop solution to the design brief.

NEA Developing



Generation of initial ideas

Unit 5

Unit 5 covers one material in depth.



Unit 6 covers design strategy, communication techniques and the work of others.

NEA Context



On June 1st in Year 10 AQA release the Contextual Challenges.

11

Students investigate the context of their choice to identify a problem, customer, design brief and write their specification.

NEA Designing

Unit 6 and Speaker Project

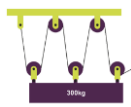
Unit 4 covers forces, functionality, environmental issues and scales of production.



Unit 3 covers materials and their properties. The main categories are papers and boards, timbers, polymers, metals and textiles



Unit 2 covers energy, smart, modern and composite materials, systems and mechanisms.



Unit 1 covers Industry and enterprise, sustainability, industry, customers and design decisions.



Students complete a mock NEA based upon developing a speaker. 3/6 lessons a fortnight.

Unit 4 and Speaker Project

Unit 3 and Speaker Project

Unit 2 and Speaker Project

Unit 1 and Speaker Project

Using their graphics skills, students create a range of initial ideas and annotate them in detail.



Students use a range of modelling techniques including CAM/CAD to develop a final design



Independently, students manufacture their prototype

The prototype is evaluated against the specification and customer feedback



10

Trinket box project Investigation

Students learn how to investigate a context and determine a Customer, design brief and specification

Trinket box project NEA ASSESSMENT REVISION

Trinket box project Design elements

Trinket box project NEA practical assessment and evaluation



NEA Identify a problem

Students learn how to create initial ideas, develop them through modeling and then make their final product.

Through the use of specific CAD/CAM programs they develop skills required for year 9 and enhanced their work rate.

Design Development Trinket Box Project

9

Polymers theory and how to shape and form them.

Plastics (Phone stand)

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This is an introduction to electronic circuits, components and soldering. Students make a light based upon a design era of their choice.

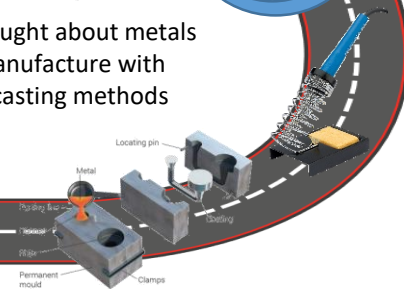
Students are taught about metals and how we manufacture with them through casting methods

Mechanisms

8

Electronics (Steady hand game)

Systems and control



Cradle to grave concept

An introduction to fabrics and surface decoration through block printing, tie dying, applique and sublimation printing.

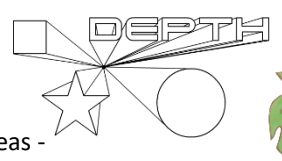
CAD / CAM Introduction



Students are introduced to timbers. They learn about their categories, properties and stock form then how to cut, shape and finish them.



Learning is based around the basic techniques used for communicating ideas - Rendering, Isometric, Perspective, Crating.



Ergonomics and Anthropometrics

Specification and evaluation skills

Textiles theory and Mechanisms

Timbers (Jigsaw project)

Graphics Baseline

7



Curriculum Map ADT Engineering

Success

UNIT 3
EXAM PART 1

UNIT 2 ASSESSMENT C PRACTICAL OBSERVATION RECORD
DEVELOPING A PRODUCTION PLAN

UNIT 3
EXAM PART 1

EXAM PREPARATION FOR PART 1 AND PART 2
PRACTICE EXAM PRACTICAL TASKS
PRACTICE EXAM QUESTIONS
INTERPRETATION OF DATA
MANUFACTURING PROCESSES
CIRCUIT DIAGRAMS
VARIATIONS IN APPROACH TO SOLVE A PROBLEM
DESIGN FOR MANUFACTURE
EXAM TOP TIPS



RISKS AND HAZARDS
ENGINEERING MAKING PROCESS 3

ENGINEERING MAKING PROCESS 2



ENGINEERING MAKING PROCESS 1

UNIT 2 ASSESSMENT B

UNIT 2C



PRODUCT DESIGN SPECIFICATION AND SAFE WORKING SKILLS

DISASSEMBLY TECHNIQUES AND TOOLS



UNIT 2B PRACTICAL ENGINEERING SKILLS



UNIT 2A

UNIT 2 ASSESSMENT A



ENGINEERING PROCESSES: CUTTING
ENGINEERING PROCESSES: SHAPING
ENGINEERING PROCESSES: JOINING

ENGINEERING MATERIALS: FERROUS METALS
ENGINEERING MATERIALS: NON-FERROUS METALS
ENGINEERING MATERIALS: POLYMERS FORMING
ENGINEERING MATERIALS: PROPERTIES



11

PROTOTYPE CONSTRUCTION INDUSTRY PLAN OF MANUFACTURE EVALUATION DESIGN PEER REVIEW MODIFICATIONS

G.A DRAWING

FINAL DESIGN



CAD DESIGN



Assignment 2 – Learning Aim B of Component 1 (assignment example p.11 of spec, assessment guidance p.14) • Focus on, and review of, topics B1 • Students will be given a brief and respond to this with design sketches, models and evidence of design meetings Assignment support and submission.

DESIGN IDEAS

EXISTING PRODUCTS

THE ENGINEERING DESIGN AND MAKE PROCESS

Unit 1B



- A** is for **Aesthetics**
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- S** is for **Safety**
- F** is for **Function**
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ENGINEERING JOB ROLES

DESIGN BRIEF

THE ENGINEERING BRIEF

LEARNING AIM A ASSESSMENT
FEEDBACK AND IMPROVEMENT

PRACTICAL SKILL TRIP 1

LEARNING AIM A ASSESSMENT

ENGINEERING
SPECIALIST FUNCTIONS

CAREER OPPORTUNITIES

ROLE DEFINITIONS

• Focus on, and review of, topics A1 and A2 • Students will be given an engineering product to investigate the sectors involved in its manufacture and organisations from the sector.



ENGINEERING COMPANIES



ENGINEERED PRODUCTS

TYPES OF ENGINEERING SECTORS

WHAT IS ENGINEERING?

Unit 1
A

10



THE NEED FOR ENGINEERS

APPLICATION OF PRACTICAL KNOWLEDGE

ENGINEERING ORGANISATIONS :LARGE AND SMALL

Curriculum Map ADT YEAR 9 Design Technology & Engineering

Success

PRACTICAL FEEDBACK AND MODIFICATIONS

Final Assessment		
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓

Student response and improvements (Very important)
 Feedback on responses and use feedback to improve the components of the product.

PRACTICAL SKILLS: PRODUCT THREE



ASSESSMENT 2 FEEDBACK AND IMPROVEMENT

Feedback and Improvements

ASSESSMENT TASK 2: EVALUATION

PRACTICAL SKILLS: PRODUCING ACCURATE FINISHING TECHNIQUES

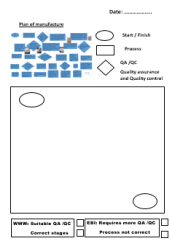
ASSESSMENT TASK 2



PRACTICAL SKILLS: CHALLENGE TASK TO CREATE A TABLET/PONE STAND FROM A POLYMER

PLAN OF MANUFACTURE

Use of materials



PRACTICAL SKILLS: HOW TO CONSTUCT PRODUCT TWO



MODELLING AND COSTING SKILLS

Bill of Materials

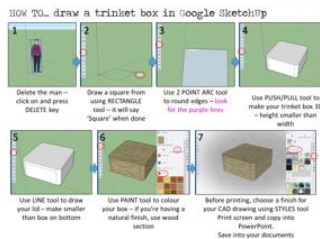
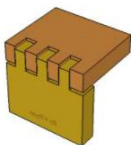
PRACTICAL SKILLS: HOW TO CONSTUCT LID AND BASE PRODUCT 1

MANUFACTURING THEORY: POLYMERS



PRACTICAL SKILLS: HOW TO CONSTUCT LAP AND COMB JOINTS

CAD / CAM : CAD DESIGN



DESIGN IDEAS



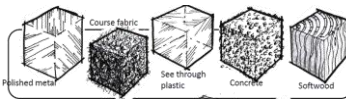
ASSESSMENT TASK 1 SPECIFICATION

ASSESSMENT TASK 1

Feedback and Improvements



Keywords



TECHNICAL DRAWING: TWO POINT PERSPECTIVE

ASSESSMENT FEEDBACK AND IMPROVEMENT



- A** is for **Aesthetics**
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- S** is for **Safety**
- F** is for **Function**
- M** is for **Material**

PRODUCT ANALYSIS



PRACTICAL SKILLS: HEALTH AND SAFETY

PRODUCT INVESTIGATION



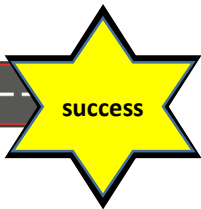
DESIGN CRITERIA



start



Curriculum Map ADT YEAR 8 Design Technology & Engineering



Final Assessment		
Assessment 1	Assessment 2	Assessment 3
Assessment 4	Assessment 5	Assessment 6
Assessment 7	Assessment 8	Assessment 9
Assessment 10	Assessment 11	Assessment 12

Student response and improvements (Very important)
Please use appropriate, clear feedback and comment on the assessment criteria, objectives, responses.

PRACTICAL FEEDBACK AND MODIFICATIONS

PRACTICAL SKILLS: PRODUCT THREE



ASSESSMENT 2 FEEDBACK AND IMPROVEMENT

Feedback and Improvements	
Assessment 2	Assessment 2
Assessment 2	Assessment 2
Assessment 2	Assessment 2

ASSESSMENT TASK 2: EVALUATION

PRACTICAL SKILLS: PRODUCING ACCURATE FINISHING TECHNIQUES

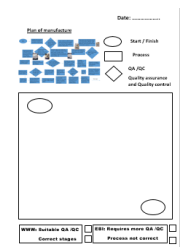
ASSESSMENT TASK 2	
Assessment 2	Assessment 2
Assessment 2	Assessment 2



PRACTICAL SKILLS: CHALLENGE TASK TO CREATE A TABLET/PONE STAND FROM A POLYMER

PLAN OF MANUFACTURE

Task	Start Date	End Date	Status
Task 1			
Task 2			
Task 3			
Task 4			
Task 5			
Task 6			
Task 7			
Task 8			
Task 9			
Task 10			



PRACTICAL SKILLS: HOW TO CONSTRUCT PRODUCT TWO



MODELLING AND COSTING SKILLS

Material	Quantity	Cost
Material 1		
Material 2		
Material 3		
Material 4		
Material 5		
Material 6		
Material 7		
Material 8		
Material 9		
Material 10		

PRACTICAL SKILLS: HOW TO CONSTRUCT LID AND BASE PRODUCT 1

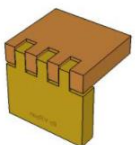
MANUFACTURING THEORY: ELECTRONICS

Task	Start Date	End Date	Status
Task 1			
Task 2			
Task 3			
Task 4			
Task 5			
Task 6			
Task 7			
Task 8			
Task 9			
Task 10			

PRACTICAL SKILLS: HOW TO CONSTRUCT LAP AND COMB JOINTS

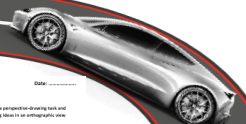
CAD / CAM : CAD DESIGN

DESIGN IDEAS



Design Idea	Start Date	End Date	Status
Design Idea 1			
Design Idea 2			
Design Idea 3			
Design Idea 4			
Design Idea 5			
Design Idea 6			
Design Idea 7			
Design Idea 8			
Design Idea 9			
Design Idea 10			

Task	Start Date	End Date	Status
Task 1			
Task 2			
Task 3			
Task 4			
Task 5			
Task 6			
Task 7			
Task 8			
Task 9			
Task 10			



ASSESSMENT TASK 1: SPECIFICATION

ASSESSMENT TASK 1	
Assessment 1	Assessment 1
Assessment 1	Assessment 1

Feedback and Improvements	
Assessment 1	Assessment 1
Assessment 1	Assessment 1



TECHNICAL DRAWING: ORTHOGRAPHIC

Task	Start Date	End Date	Status
Task 1			
Task 2			
Task 3			
Task 4			
Task 5			
Task 6			
Task 7			
Task 8			
Task 9			
Task 10			

ASSESSMENT FEEDBACK AND IMPROVEMENT



Task	Start Date	End Date	Status
Task 1			
Task 2			
Task 3			
Task 4			
Task 5			
Task 6			
Task 7			
Task 8			
Task 9			
Task 10			

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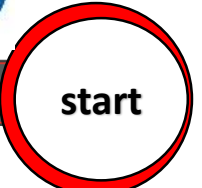
PRACTICAL SKILLS: HEALTH AND SAFETY

PRODUCT INVESTIGATION

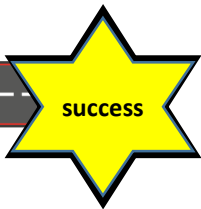
DESIGN CRITERIA



PRODUCT ANALYSIS



Curriculum Map ADT YEAR 7 Design Technology & Engineering



Final Assessment			
Assessment 1	Assessment 2	Assessment 3	Assessment 4
...

Student response and improvements (Very important)
Please use response cards, peer feedback and complete the assessment criteria response cards.

PRACTICAL FEEDBACK AND MODIFICATIONS

PRACTICAL SKILLS: PRODUCT COMPLETE



ASSESSMENT 2 FEEDBACK AND IMPROVEMENT

ASSESSMENT TASK 2: EVALUATION REVIEW: USE OF TOOLS AND EQUIPMENT

ASSESSMENT TASK 2	
...	...

...
...

PRACTICAL SKILLS: PRODUCING ACCURATE FINISHING TECHNIQUES



**IMPROVING FUNCTIONALITY OF MATERIALS
MECHANICAL DEVICES: ROTARY SYSTEMS**

MATERIALS AND THEIR WORKING PROPERTIES

CRADLE TO GRAVE: THE FALCON X ROCKET



MECHANICAL DEVICES: LEVERS

PRACTICAL SKILLS: HOW TO CONSTRUCT JIGSAW INSERT



MECHANICAL DEVICES: MOTION

ERGONOMICS AND ANTHROPOMETRICS



TECHNOLOGY PUSH AND MARKET PULL

PLAN OF MANUFACTURE

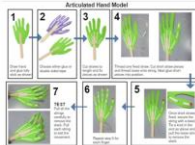
PRACTICAL SKILLS: HOW TO CONSTRUCT LID

WORKING WITH HAND TOOLS



MODELLING AND COSTING SKILLS: ARTICULATED HAND MODEL

CAD / CAM : CAD DESIGN



...	...
...	...

PRACTICAL SKILLS: HOW TO CONSTRUCT BASE AND SIDES



TEXTILES AND TYPES OF PRODUCTION

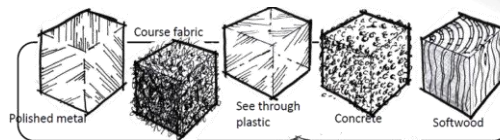
TIMBERS AND TYPES OF PRODUCTION THEORY



DESIGN IDEAS

ASSESSMENT TASK 1	
...	...

Feedback and Improvements	
...	...



ASSESSMENT TASK 1: SPECIFICATION

ASSESSMENT FEEDBACK AND IMPROVEMENT

TECHNICAL DRAWING: ISOMETRIC DESIGN



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PRODUCT ANALYSIS

PRODUCT INVESTIGATION

DESIGN CRITERIA

PRACTICAL SKILLS: HEALTH AND SAFETY



...	...
...	...

