



**2010 Craft & Design**

**Standard Grade F/G/C**

**Finalised Marking Instructions**

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## 2010 Craft and Design

### Standard Grade – Foundation

#### Marking Instructions

##### Acceptable answers

1. (a) Fourth tick box (It is strong)
  - (b) Flat file  
Ball Pein hammer  
Junior hacksaw
  - (c) Second tick box
  - (d) (i) Third tick box (Fluidiser)  
(ii) Clean metal  
Leave to cool
2. (a) Fault 1 Sharp points on end/sharp edges  
Fault 2 Neck too thin/snap easily  
Any answer which reflects these points
  - (b) (i) First tick box (It is easy to clean)  
Fifth tick box (It bends easily when heated)
  - (ii) Third tick box (Acrylic)
- (c) (i) Any of the following:
  - faster
  - saves time
  - they all turn out the same
  - more accurate etc.
  - (ii) First tick box (Coping saw)
- (d) First stage – Cross file  
Last stage – Apply abrasive polish
- (e) Fourth tick box (Strip heater)

##### Unacceptable answers

how it looks

**Acceptable answers**

- 3. (a)** Third tick box (Plywood)
- (b)** (i) Woodwork Lathe OR Wood Lathe; Lathe
- (ii) Third tick box (Turning)
- (iii) Any two of the following:
- wearing goggles/safety glasses
  - loose hair/clothing tied back
  - work securely fixed
  - no distractions when using machine
  - no button pupils/only one person operates the machine
  - no wearing rings, necklaces, jewellery
  - speed of the machine
  - dust extraction switched on
  - any other acceptable answer.
- (iv) Second tick box
- (v) Second tick box (Checking sizes)
- (c)** (i) First tick box (Bandsaw)
- (ii) First tick box (Forstner)
- (d)** Finish – Acrylic paint
- 4. (a)** Material: Softwood
- Thickness: 12
- Length: 318
- (b)** (i) First tick box (Pine)
- (ii) Housing
- Lap
- (c)** (i) Pedestal drill/Pillar drill/Bench drill
- (ii) First tick box (Material is secured)
- Third tick box (Guard is down)
- Sixth tick box (Chuck key is removed)
- (iii) Prevents plastic from cracking or splitting  
Protects the table on drill
- (iv) Prevents plastic from being scratched

**Unacceptable answers**

wearing gloves  
keep hands away

drill (on its own)

**Acceptable answers**

- 5. (a)** Third tick box (Research)
- (b)** (i) Third tick box (Dowel joint)  
(ii) Fourth tick box (Marking gauge)
- (c)** (i) PVA  
(ii) Suitable for use in a wet bathroom  
(iii) Damp cloth/paper towel  
Chisel  
Using a steel rule  
(iv) Fourth tick box (Try square)
- (d)** (i) Second tick box  
(ii) Screw driver
- 6. (a)** (i) First tick box (Engineer's square)  
(ii) Third tick box (Centre punch)  
(iii) Second tick box (Tin snips)
- (b)** (i) Centre lathe/metalwork lathe/metal lathe  
(ii) Second tick box (Knurling)
- (c)** Second tick box (Threading)
- 7. (i)** Research  
**(ii)** Specification  
**(iii)** Initial ideas  
**(iv)** Sequence of operations  
**(v)** Evaluation

**Unacceptable answers**

waterproof (on its own)  
bathroom (on its own)

finger

lathe

## 2010 Craft and Design

### Standard Grade – General

#### Marking Instructions

##### Acceptable answers

1. (a) Any softwood
- (b) Mortice and Tenon; Dowel
- (c) Lacks strength; breaks easily; not strong enough
- (d) (i) Mallet  
Carpenters mallet  
Bech mallet
- (ii) Bench hook  
Sawing board
- (iii) Mortice chisel
2. (a) Any suitable statement that refers to design factors eg
- free standing
  - material
  - safety
  - target market
  - ergonomics
  - function
  - aesthetics
  - easy to change bulb
  - any other suitable answer.
- (b) Strong  
Easily bent  
Can be painted  
Flexible  
Heat resistant
- (c) 250 length  
50 width

##### Unacceptable answers

balsa

mortice; tenon

stable

chisel

ferrous metal; safe

**Acceptable answers**

- (d) (i) More visible  
Lines cannot be rubbed off  
Easier to see
- (ii) **Name**  
Odd leg callipers  
Jenny callipers
- (iii) **Purpose**  
Draw/scribe lines *parallel* to an edge  
To find centre of metal
- (iv) **Name**  
Hide mallet  
Raw hide mallet
- (v) **Purpose**  
For bending metal  
Does not mark the metal
- (e) (i) Two distinct reasons:  
Easier to clean  
Protection, aesthetics, colour  
Hides scratches
- (ii) Evaluation

3. (a) Stability; stops it rolling

- (b) Shiny, does not require a finish, looks modern.  
Does not rust; easy to work; easy to drill/machine  
Silver in colour

(c) Hacksaw

- (d) (i) Chuck, three jaw chuck  
Hole for chuck key

(ii) Tail stock

(e) Personnel or machine checks acceptable

- (f) X - facing, facing off  
Y - chamfer, taper  
Z - twist, jobber

**Unacceptable answers**

callipers

mallet

aesthetics

lightweight; weight

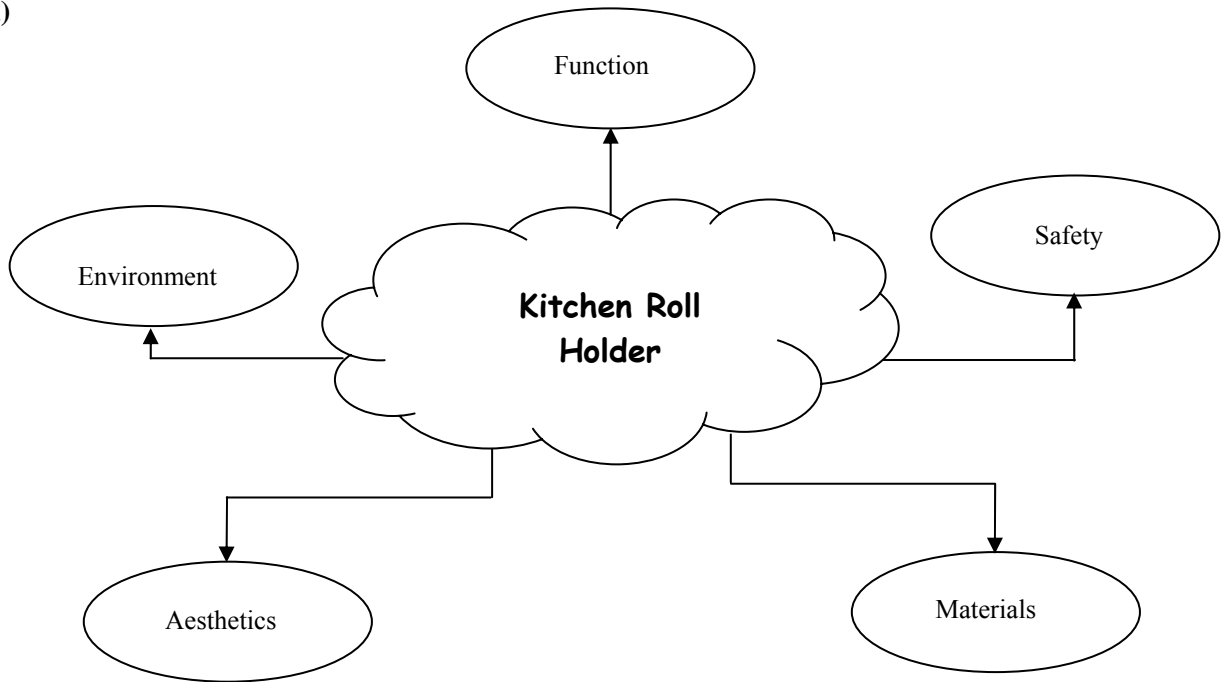
junior hacksaw

jacobs chuck

**Acceptable answers**

**Unacceptable answers**

**4. (a)**



**(b)** Acrylic or any other suitable plastic

**(c)** (i) Bench vice

(ii) Coping saw

(iii) Draw file

Polish; use brasso; steel wool and soap

(iv) Oven

**Acceptable answers**

5. (a) Casting
- (b) Low melting point; melting point
- (c) (i) Riser
- (ii) Cope
- (iii) Spats, leather apron, boots or any other suitable answer
6. (a) Vacuum forming
- (b) (i) Rounded edges
- (ii) Taper
7. (a) Ensure user spends appropriate time brushing teeth, or similar answer
- (b) Ferrous  
Manufactured board  
Hardwood  
Thermoplastic  
Non-ferrous
- (c) Anything from the cutting list is acceptable or details of construction; number of parts; scale; method of construction, joints, materials, sizes
- (d) Sander
- (e) (i) Coping saw; fretsaw; abrafile
- (ii) Hegner or jigsaw or scroll saw or bandsaw  
Fretsaw
- (f) Attractive to young people or it stands out  
Bright; strong colours; contrast; looks nice

**Unacceptable answers**

apron; boiler suit; long coat; goggles

finishes  
what it looks like



## 2010 Craft and Design

### Standard Grade – Credit

#### Marking Instructions

##### Acceptable answers

1. (a) The depth of the blade  
The angle of the blade  
The width of the mouth
- (b) Step 1 – Set the spurs to be 12mm apart  
Step 2 – Set the stock to place spurs centrally
- (c) To raise the grain; bring out the grain
2. (a) Any two of the following:
  - thought shower/brain storming
  - morphological analysis
  - take your pencil for a walk
  - shape manipulation
  - analogies
  - themes
  - moodboard
  - SAM
  - mind maps
  - market research
  - spider diagram
  - existing products.
- (b) Ash, Beech, Mahogany, Oak, or any other suitable hard wood (NOT Balsa)
- (c) Cross halving; halving
- (d) Any of the following:
  - rotate or turn to angle
  - height of the tool rest
  - position along the lathe
  - the distance from the blank
  - remove toolpost
- (e) Gouge, scraper; skew chisel
- (f) Outside callipers
- (g) Increase the speed of rotation on lathe

##### Unacceptable answers

- length of blade
- remove scratches and bumps
- research
- parting tool
- callipers; external callipers
- adjust the speed

**Acceptable answers**

- 3. (a) (i)** To allow easy removal  
Less likely to damage mould on removal
- (ii)** To allow the separation of cope and drag boxes  
To prevent the moulds sticking together  
Easy removal of pattern
- (b)** To allow gases/steam to escape  
To prevent the top mould 'exploding'  
'Vents'; relieve pressure
- (c) (i)** Tapered/rounded end
- (ii)** Die/die holder
- (iii)**
- Loosen the locking screw.
  - Tighten the adjustment 'grub' screws to close split die.
  - Tighten the locking screw.
- (d) (i)** Bends/shapes without fracturing  
Bends and stays in 'bent shape'  
Workable  
Bendable  
Easier to bend
- (ii)** Annealing
- (iii)** It turns black when the aluminium is the correct temperature.
- 4. (a)** Anthropometrics
- (b)** 95<sup>th</sup> percentile
- (c)** The lathe tool is incorrectly positioned, not aligned to the centre of work  
OR  
The tool was not moved far enough along the face of the work
- (d)** Parting tool
- (e) (i)** To give grip; aesthetics
- (ii)** Set the lathe to a slow turning speed

**Unacceptable answers**

'air' to escape

'file' (on its own); lubricant

'stock' (on its own)

adjust screws (on its own)

flexible

normalising

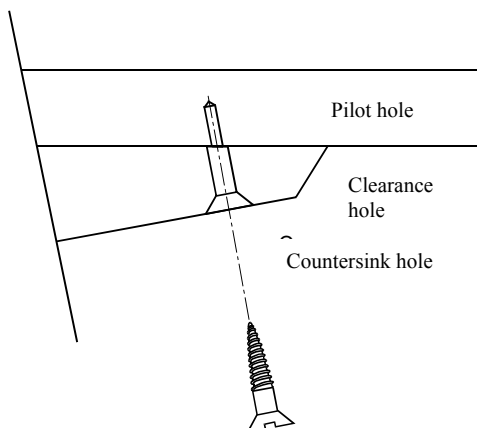
**Acceptable answers****Unacceptable answers**

<b>(f)</b>	(i) Centre drill/Slocomb/Combination drill	
	(ii) To drill pilot hole OR To drill a small hole in the centre of metal	
	(iii) Using the vernier gauge, (ruler), on tail stock Use masking tape	depth stop
<b>(g)</b>	(i) The tap could break if it hits the bottom of the blind hole Strip the thread	
	(ii) Taper tap; 1st tap	
	(iii) Plug tap; bottoming tap	
<b>(h)</b>	Stage 1 Clean metal of rust, oil and dirt	
	Stage 2 Heat metal with temperature control	reheat
	Stage 3 Dip metal into <u>fluidiser</u> and remove and allow to cool	
<b>(i)</b>	The metal was not hot enough when placed in the fluidiser	
<b>5. (a)</b>	Any three of the following:	
	<ul style="list-style-type: none"> <li>• materials</li> <li>• safety</li> <li>• manufacturing techniques</li> <li>• target market</li> <li>• function</li> <li>• maintenance/durability</li> <li>• running costs</li> <li>• economics</li> <li>• environmental concerns</li> <li>• any other suitable answer.</li> </ul>	no sub-categories of aesthetics or ergonomics  size (on its own) angle (on its own)
<b>(b)</b>	(i) Initial ideas; ideas	
	(ii) Presentation drawing/final idea/solution/client or customer drawing	working drawing
<b>(c)</b>	Any of the following:	
	<ul style="list-style-type: none"> <li>• jigs/formers/stencils</li> <li>• templates</li> <li>• batch production techniques</li> <li>• automated machines</li> <li>• mass production</li> <li>• production line.</li> </ul>	robots

**Acceptable answers**

6. (a) (i) Easy to use/comfortable
- (ii) Any two of the following:
- rounded/smooth edges
  - curved shape to fit hand
  - dimples for fingers
  - rubber to give extra grip
  - soft rubber is more comfortable to hold
  - plastic/rubber lightweight for holding.
- (b) (i) To make features stand out  
To make product 'eye catching'
- (ii) Any two of the following:
- different finishes (gloss/matt)
  - using a combination of different shapes
  - using a combination of different materials
  - using a combination of different styles/fashions
  - contrast/textures.
- (c) Customer survey/survey/market research/feedback/  
consumer test/poll/user trial
7. (a) Any two of the following:
- does not twist or warp
  - available in large sheets
  - defect free
  - cheaper than 'natural' wood
  - has a good surface to paint on
  - easy to work shape.

(b) Each must have sketch and label in correct position



**Unacceptable answers**

- size
- size (on its own)
- sizes
- strong  
light  
environmentally friendly

[END OF MARKING INSTRUCTIONS]