



**2009 Craft & Design**

**Standard Grade – F/G/C**

**Finalised Marking Instructions**

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## 2009 Craft and Design

### Standard Grade – Foundation

#### Marking Instructions

##### Acceptable answers

1. (a) 1. Hole too close to edge  
2. Tail too thin  
3. Sharp points on tail

Any answer which reflects these points.

- (b) Fourth tick box (Thermoplastic)  
(c) Third tick box (Coping Saw)  
(d) Fourth tick box (Hand vice)  
(e) Third tick box (Support the acrylic)  
(f) Second tick box (Half round)  
(g) (i) Cross file  
(ii) Polish

##### Unacceptable answers or answers for discussion

**Acceptable answers**

2. (a) (i) Woodwork Lathe **OR** Wood Lathe  
(ii) Third tick box (Turning)
- (b) *Stage 1* – Rule and Pencil  
*Stage 2* – Marking Gauge  
*Stage 3* – Tenon Saw  
*Stage 4* – Smoothing Plane
3. (a) (i) On tree  
(ii) Readily available **OR**  
From sustainable forests  
(iii) Sand edges  
(iv) Fixing to tree or shed or garage  
(v) Refilling feeder with nuts
- (b) First box – 90  
Second box – 240  
Third box – 65
- (c) Fourth tick box (Through housing)
- (d) Fourth tick box (Router)
4. (a) Ensure safety guard is down (1 mark) F  
Use machine vice to hold material (1 mark) C
- (b) Wear a leather apron (1 mark) A  
Use tongs to hold material (1 mark) D
- (c) Both hands behind blade (1 mark) B  
Store in tool rack (1 mark) E

**Unacceptable answers or answers for discussion**

lathe

plastic mesh used

**Acceptable answers**

- 5. (a)** (i) Specification  
(ii) Evaluation  
(iii) Sequence of operations  
(iv) Brief
- (b)** Plywood  
Pine  
Copper  
Oak
- (c)** Sander
- (d)** First box
- 6. (a)** Fourth tick box (Aluminium)
- (b)** (i) Third tick box (Thickness of DVD)  
(ii) Fourth tick box (Number of DVDs)
- (c)** (i) Third tick box (Engineer's square)  
(ii) Second tick box (Scriber)
- (d)** (i) Fourth tick box (Junior hacksaw)  
(ii) Tin snips/snips  
(iii) Third tick box (Hide mallet)
- 7. (a)** Second tick box (Template)
- (b)** Fourth tick box (Dowel)
- (c)** First tick box (Metal lathe)
- (d)** A – Head stock  
B – Tool post  
C – Tail stock
- (e)** W – Parallel  
X – Knurling  
Y – Taper  
Z – Facing

**Unacceptable answers or answers for discussion**

shears

## 2009 Craft and Design

### Standard Grade – General

#### Marking Instructions

##### Acceptable answers

1. (a) Joint X – Dowel  
Joint Y – Mortice and tenon  
Joint Z – Cross halving; halving joint
- (b) (i) Tool A – Try square  
Tool B – Marking gauge
- (ii) Tool C – Tenon saw/dovetail/back  
Tool D – Bevel edged chisel
- (c) Any two reasons eg
- easier to clean
  - to protect the wood
  - to make it look better/shows grain
2. (a) (i) Centre punch – to mark the centre of a hole to be drilled, witness marks
- (ii) Jenny callipers  
Odd leg callipers – to draw a line parallel to an edge
- (iii) Dividers  
Spring dividers – to draw a circle/arc to step off sizes
- (b) (i) Pillar/pedestal drill/bench/vertical
- (ii) Any two checks eg
- Position of safety button
  - Chuck key removed
  - Speed checked
  - Chuck guard down
  - Work is held securely
  - Personal safety – eye protection/loose clothing etc/hair
- (c) Folding/bending bars
- (d) Plastic dip coating/blueing/lacquer  
Electro plating  
Galvanising

##### Unacceptable answers or answers for discussion

mortice (on its own)

saw, bench saw  
chisel

easier to apply  
shiny

mark a straight line

drilling machine, drill,  
electric drill, power drill

gloves  
check with teacher

plastic (on its own)

### Acceptable answers

- 3. (a) (i)** Any two from:
- the size of a DVD
  - the number of DVDs
  - where it is going (location)
- (ii)** Copper  
Aluminium, acrylic/perspex  
Brass
- (b)** Aesthetics – colour, shape etc
- Ergonomics – ease of use, easy to see titles,  
location of unit
- Safety – stability, able to be fixed to a wall  
– no sharp edges
- (c) (i)** 2. draw file the edges  
4. polish the edges with Brasso/  
polish/steel wool
- (ii)** It is more difficult to do after the material  
has been shaped/can't get into all the  
bits/easily held in vice
- (d) (i)** Strip heater/line bender
- (ii)** Wear heat proof gloves/gloves/tongs
- (iii)** It would break/snap/crack
- (e)** Evaluation
- 4. (a)** Research/investigation
- (b)** Colour, weight  
Appearance, magnetic, rust, scratch test
- (c)** To protect the material from being scratched
- (d)** Oven
- (e) (i)** Metalwork lathe/metal lathe  
centre lathe
- (ii)** Handle B/D
- (iii)** Handle C
- (f)** Knurling

### Unacceptable answers or answers for discussion

tin

easier

heater, line heater, bender

analysis

ferrous/non-ferrous,  
melting point

lathe (on its own) – 0

## Acceptable answers

5. (a) Base (on its own), Wide/Thick/Heavy Base
- (b) (i) A Fork centre  
(ii) B Tailstock  
(iii) C Tool rest
- (c) Material tight/speed set/tool rest not touching material/tool rest tight/tailstock tight
- (d) Plane
- (e) Any two stages
- fill in blemishes
  - sanding sealer
  - wet surface (raise grain)
  - remove all pencil marks
  - sand surfaces – rough/smooth
  - remove dust from surface
  - use plane
6. (a) (i) Beech  
(ii) Pine
- (b) (i) PVA  
(ii) Sash cramp/clamp
- (c) Any two advantages
- faster
  - saves time
  - they all turn out the same
  - more accurate etc
- (d) (i) Machine tool – band saw/hegner saw/jig saw/scroll saw/fret saw  
(ii) Hand tool – coping saw/bow saw/fretsaw

## Unacceptable answers or answers for discussion

personal safety guard

file

steel wool

superglue, pvc

cramp/clamp (on its own)

easier

Abra file

## 2009 Craft and Design

### Standard Grade – Credit

#### Marking Instructions

##### Acceptable answers

1. (a) A plastic that can be reheated and reshaped or shaped  
Plastic memory
- (b) Any of the following two
- recycled
  - no finish required
  - aesthetics
  - large sheets
  - available in many colours
  - shiny
  - can be formed into complex shapes
  - lightweight
  - hygienic/easily cleaned
  - easily shaped
- (c) Easily scratched/broken/cracks  
Not strong  
Not durable  
Cost
- (d) Any of the following:
- Proper alignment of holes
- To allow the fourth hole to be drilled in perfect alignment to the others
- To make sure that all the bolts can fit
- (e) By using a former/jig
2. (a) Additional play/exercise/skateboarding, standing on, climbing, attractive/looks, sculpture, secure bike etc
- (b) (i) Anthropometrics
- (ii) Research or Investigation
- (iii) Park bench too big for those people  
Small people unable to use bench

##### Unacceptable answers or answers for discussion

easy to cut  
cheap/cost  
hard wearing  
strong  
durable  
flexible

template

comfortable, safety

analysis



## Acceptable answers

- (c) (i) A metal which contains iron
- (ii) Any of the following two
- doesn't rust
  - low maintenance/easily cleaned
  - weather resistant/used outside
  - strong
  - durable/hard wearing
  - looks modern/attractive/shiny
  - difficult to vandalise
  - does not require a finish
2. (d) (i) Facing off/facing (on its own)
- (ii) Safety – to prevent cuts  
To start die  
Helps location
- (iii) Compound slide
- (iv) Parting off/parting (on its own)
- (e) Any of the following two
- depth of cut
  - use correct tool
  - speed of lathe/feed rate/steady feed
  - sharp tools
  - work secure
  - slow down for knurling
  - tools secure
  - cutting fluid/lubricated
  - tools set to the correct height
  - high speed/low feed
- (f) (i) Micrometer
- (ii) More accurate/greater accuracy
- (g)
- lubricant
  - cut forward then back/clear swarf
  - cut at 90° to axis
  - adjust die
  - taper end of bar

## Unacceptable answers or answers for discussion

Magnetic  
Rusts

cost

Type of metal

knurling (on its own)  
slow down (on its own)

see measurement

slowly  
check for missing teeth

### Acceptable answers

3. (a) Any of the following
- mood boards/mind map
  - thought shower/brain storming
  - morphological analysis/style board
  - take your pencil for a walk
  - shape manipulation/SAM
  - analogies/lateral thinking
  - existing products/market research
  - any other acceptable answer
- (b) How the product looks/attractive
- (c) Any of the following three
- colour
  - shape
  - line
  - texture
  - pattern
  - balance/symmetry
  - contrast/harmony
  - form
- (d) Layer's grain criss cross  
Each layer's grain is 90 degrees to the next

### Unacceptable answers or answers for discussion

another theme

size  
material  
style  
finish

**Acceptable answers**

**Unacceptable answers or answers for discussion**

<p><b>4. (a) (i)</b> Any of the following two</p> <ul style="list-style-type: none"><li>• to find out about existing products</li><li>• to establish if there is a demand for product</li><li>• to find out what people want from product</li><li>• to find out how much people will pay for product</li><li>• to find out if people like the product</li></ul> <p><b>(ii)</b> Any of the following two</p> <ul style="list-style-type: none"><li>• survey</li><li>• questionnaire</li><li>• internet</li><li>• looking through catalogues</li><li>• going to shops/market</li></ul>	
<p><b>(b)</b> Any of the following two</p> <ul style="list-style-type: none"><li>• identifying manufacturing techniques</li><li>• to see the product in 3D/aesthetics</li><li>• to show the client</li><li>• to test the product</li><li>• to establish any faults in the design</li><li>• to change/improve the design</li></ul>	cost
<p><b>(c)</b> Any of the following two</p> <ul style="list-style-type: none"><li>• tapered edges/draft angle</li><li>• screw hole in the top</li><li>• rounded corners</li><li>• smooth finish</li></ul>	chamfered edges
<p><b>(d)</b> Aluminium – low melting point</p>	cost, rust, recycled
<p><b>(e)</b> Using masking tape or a mark on drill bit Using the depth stop on pillar drill Adjust the table</p>	

**Acceptable answers**

**Unacceptable answers or answers for discussion**

5. (a) Any of the following (does not have to be in order)

- draw circles on ends
- mark diagonals on the ends of wood
- centre punch/drill hole in one end
- cut Vee shape in one end
- mark out corners
- plane the corners of the blank/create octagon

faceplate

(b) (i) Parting chisel/Parting tool/skew chisel

(ii) Gouge/Round Nose Scraper/scrapper

- (iii)
- revolving centre does not require lubricant
  - wood does not heat up/burn
  - reduces friction

smoother

(c) Forstner bit/forstner drill

(d) (i) Any of the following

- easier to bend/crack
- to make the metal malleable
- to reverse work hardening
- to relieve internal stresses
- soften metal

easier to use  
easier to work with

- (ii) Two stages (1 mark for each):  
Rub soap on metal  
Heat with control  
Heat up till soap turns black  
Allow metal to cool  
Note non ferrous metal can be cooled slowly or quickly when annealing

heat (on its own)

6. (a) Any of the following

- carry more than one at a time
- easily carried by user/portable
- easily stored in home
- easily transported in a car
- saves space

light

**Acceptable answers**

- (b) (i) Any of the following
- how a person and product interact
  - how easy the product is to use
  - how comfortable the product is to use
  - human engineering
- (ii) Any of the following
- comfort (with reason)
  - lightweight, easy to carry
  - folds easily
  - takes shape of person sitting on chair
- (c) Ash, beech, mahogany, oak, or any other suitable hard wood
7. (a) Mortise and tenon joint
- (b) (i) Mortise gauge
- (ii) Any of the following
- The distance between the spurs can be adjusted
  - The distance between first spur and stock can be adjusted
- (c) Dowel joint, Butt, Bridle, Tee Halving, Halving, Biscuit joint
- (d) To make sure the joint fits together properly before gluing
- (e) (i) To change angle of the blade  
Level/straighten blade
- (ii) To lower or raise the blade  
Change depth of cut

**Unacceptable answers or answers for discussion**

how it works  
human sizes  
“design for people”

comfort (on its own)  
strong  
soft

jelutong  
balsa

glued and screwed  
housing (any type)  
knock down fitting

“putting it together without glue”

[END OF MARKING INSTRUCTIONS]