

## National 5 Design and Manufacture - Idea generation

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| <p>What do I need to know about idea generation?</p> | <p>In the question paper you may be asked to describe:</p> <ul style="list-style-type: none"><li>◆ how you would use idea generation techniques</li><li>◆ the stages of morphological analysis and brain storming</li></ul> <p>In the coursework assessment task you will have to generate a range of ideas as potential solutions to a given brief. You may use any idea generation technique(s) to do this.</p>   |
| <p>What does good idea generation look like?</p>     | <p>Good idea generation will result in ideas which:</p> <ul style="list-style-type: none"><li>◆ are aimed at specification. You will not receive credit for ideas that have no relevance to the brief or do not look like an idea, e.g. a random shape.</li><li>◆ cover an effective range. At this early stage, you should try to generate as many ideas as quickly as possible. The focus at this stage is quantity of ideas not the quality. Remember you are generating initial ideas, you will develop them through your exploration and refinement. You may show ideas through graphics or models (or both) – use whichever method(s) works best for you.</li><li>◆ are creative. Be careful that you do not simply draw or model copies of existing ideas.</li><li>◆ have differences between them. Be careful you do not sketch/model ideas, which are very similar. There are many variables, which can be changed in your ideas. If you use morphological analysis to generate ideas, you should give careful consideration to the parameters and attributes you use.</li></ul> |
| <p>How do you generate ideas?</p>                    | <p>You may use idea generation techniques such as:</p> <ul style="list-style-type: none"><li>◆ morphological Analysis</li><li>◆ brainstorming</li><li>◆ pencil for a walk</li><li>◆ mood boards</li><li>◆ existing products</li></ul> <p>Note that in the coursework assessment task you do not have to include evidence of the technique, e.g. a morphological analysis table of a mood board, only the ideas generated from it. This will save you space.</p>   |

**NOTE:** The following tasks are designed as skill builders. They should be used to introduce/develop candidates skills in generating ideas, prior to working on a design task.

Candidates can complete the task in 2D or pictorial but they will require some basic skills in graphics.  
The tasks can also be adapted to teach exploring using modelling.

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| <p><b>Task 1: Generating ideas using taking pencil for walk/modelling</b></p> <p><b>Resources</b></p> | <p><b>Task 2: Generating ideas using pencil for walk/folding</b></p> <p><b>Resources</b></p> |
| <p>"Pencil for walk" A3 card<br/>Pencil<br/>Scissors</p>  | <p>A4 card<br/>Pencil<br/>Scissors<br/>Sellotape</p>   |

### Task 1: Generating ideas using taking pencil for walk/modelling

| Stage                       | Time(m) | Instruction   | Observation/comments  |
|-----------------------------|---------|---|---|
| <b>Using line</b>           |         |   |   |
| Cut card                    | 2       | Cut the 2 strips marked on card.  |   |
| Fold                        | 10      | Fold one of the strips of card to follow the profile marked out on the A3 card to produce something to hold a pencil. | Profile is starting point. Other folds or twists may be added.  |
| Draw own profile and repeat | 104     | Draw your own profile on A3 card and repeat previous step.  | Candidates have now generated two different ideas within 10 minutes. Ideas may be rough but will have scope for development.  |
| <b>Using shape</b>          |         |   |   |
| Cut shape                   | 2       | Cut out shape already marked on card.   |   |
| Fold                        | 10      | Fold shape to produce something that it holds pencil.   | There are no restrictions on the way a pencil can be held. The class should be able to generate a wide range of ideas. Pieces may be cut off or added but the starting point must be given shape. |
| Draw own shapes             | 10      | Use lines on card to draw further shapes and repeat.  | Candidates (and class) should now have wide range of possible solutions.  |

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|------------|--|--|--|
| and repeat |  |  |  |
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### Task 2: Generating ideas using pencil for walk/folding

| Stage      | Time(m) | Instruction  | Observation/comments                    |
|------------|---------|--|---|
| Cut card   | 1       | Fold and cut A4 card into 2 A5 pieces  |   |
| Mark lines | 5       | On one piece of card draw lines (straight or curved) to split the card into 3 random shapes<br>On the other piece draw 3 straight lines across card. Lines can be any angle but must not cross each other. |   |
| Cut card   | 10      | Cut the first card into the 5 pieces and combine to create a structure which will hold plastic cup above desk.   | Card can be slotted or taped (or both). |
| Fold card  | 5       | Fold card along lines to create a structure which will hold plastic cup above desk.  | Card can be cut.                        |