Apply it!

Use rotations and reflections in Microsoft Word to create a design

Use your skills in Microsoft Word to create your own design for wrapping paper or material for clothing. The design checklist on page 42 shows you what to include.

Example 12 Designs made from only two shapes.

<table>
<thead>
<tr>
<th>In this design only two shapes are used. Only one shape is rotated and reflected.</th>
<th>This design also uses only two shapes. Only one shape is rotated and reflected. This design is more ordered, with shapes arranged in rows.</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Design 1" /></td>
<td><img src="image2.png" alt="Design 2" /></td>
</tr>
</tbody>
</table>
Example 13 Designs made from three shapes with more rotations and reflections.

This design is made from 3 shapes.

All three shapes have been reflected or rotated, then placed to create a random design.

http://www.conranshop.co.uk/content1.aspx?postingid=GiftWrap&language=en-GB

Now it’s your turn.
Before you create your design there are some things to consider:
The market you’re design is aimed at, the images or shapes you will use, how you will reflect and rotate the shapes in your design.

Further Resources > Design in MS Word

When you open this file you will find a collection of images and shapes, and a blank canvas.

- Decide whom your gift wrap or clothing material design is aimed at: kids, teenagers, adults, birthday, special occasion.

- Firstly go over the rubric below to help guide you to attain a quality SEND item as you proceed through this task.

- Remember that you need to show use of digital technology to create and re-create patterns involving combinations of reflections (flips), translations (slides), rotations (turns) and enlargements or reductions.

- Fill in the checklist that follows.

# Maths In Gift Wrap/ Clothing Design Rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>High Established</th>
<th>Medium Consolidating</th>
<th>Low Beginning</th>
<th>Not shown</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive paragraph: Use of terms</strong></td>
<td>At least 5 Specific Mathematics terms were used such as transformations, congruent shapes, reflections in X or Y axes, translations and rotation, enlargements or reductions.</td>
<td>At least 2 Specific Mathematics terms were used such as transformations, congruent shapes, reflections in X or Y axes, translations and rotation, enlargements or reductions.</td>
<td>Only 1 Specific Mathematics term was used such as transformations, congruent shapes, reflections in X or Y axes, translations and rotation, enlargements or reductions.</td>
<td>No Maths terms were used</td>
</tr>
<tr>
<td><strong>Descriptive paragraph: Use of measurement</strong></td>
<td>At least 4 Specific measurements were identified, such as angle of rotation, number of translation units and directions, scale factors.</td>
<td>At least 2 Specific measurements were identified, such as angle of rotation, number of translation units and directions, scale factors.</td>
<td>Only 1 specific measurement was identified, such as angle of rotation, number of translation units and directions, scale factors.</td>
<td>None</td>
</tr>
<tr>
<td><strong>Actual Design: Use of digital technology to experiment with, create and re-create patterns involving combinations of reflections (flips), translations (slides), rotations (turns) and enlargements or reductions.</strong></td>
<td>Design demonstrates at least 4 transformations.</td>
<td>Design demonstrates at least 2 transformations.</td>
<td>Design only 1 transformation.</td>
<td>No use of digital technology</td>
</tr>
<tr>
<td><strong>Images on 2 grids</strong></td>
<td>4 or more transformations were clearly identified using tools such as labeling, angles descriptions, number of translation units and directions. Points identified e.g. A to A’.</td>
<td>2 to 3 transformations were clearly identified using tools such as labeling, angles descriptions, number of translation units and directions. Points identified e.g. A to A’.</td>
<td>A transformation was clearly identified using tools such as labeling, angles descriptions, number of translation units and directions. Points identified e.g. A to A’.</td>
<td>No transformations were identified.</td>
</tr>
</tbody>
</table>

**Total**
A checklist for your gift wrap/cloth design

1. For whom is the gift wrap/cloth designed? Highlight which one you chose.
   - □ kids
   - □ teenagers
   - □ Christmas
   - □ adults
   - □ birthday
   - □ thank-you
   - □ other …………………

2. What was the inspiration for your choice of images in your design?

3. a) Write a descriptive paragraph that explains the maths in your design.

b) Point out the transformations in your design in detail on the grids below, (a) and (b).
   Refer to the rubric. Draw at least two sets of congruent shapes, shape and its image after transformation, on the number planes (a) and (b) and demonstrate the shape changes using the correct identification naming rules, e.g. STUV → S'T'U'V'.
   a) ………………………………………………………………………………………………………………………

SEND: Work for Submission: Your completed checklist, rubric and your design