

# CREATE A WASTE PAPER BIN

Experimental designers Waste build a whacky paper wheelie bin that can be used by friends and clients as a desk tidy...

**P**aper models have been around for centuries, probably as early as the days of papyrus paper. In China, paper was used for kites over 2,000 years ago, and paper models of all kinds are still popular in many countries today. Called paper-card modelling in Europe, it spans the range from simple folded paper objects to complex three-dimensional models of aeroplanes, ships, buildings and so on.

Paper-card is the key material for this medium, so it's relatively cheap, easy to produce and process, and it can be recycled after use.

Here at Waste, we use paper models to create eye-catching packaging and promotional objects. It's cheap, easy and effective and offers an alternative to flat graphics. Add to this some great

print techniques, and the final outcome will give you a great novelty item you can send out to your clients and friends.

In the following tutorial, we show you how to create a wheelie bin flatpack template, keeping it as simple as possible so it can be put together with minimum cuts and folds. Then you can add the finer detail to the net to give it a greater three-dimensional feel, and use your own sketches and ideas to create a custom toy you can put together to show off and use.



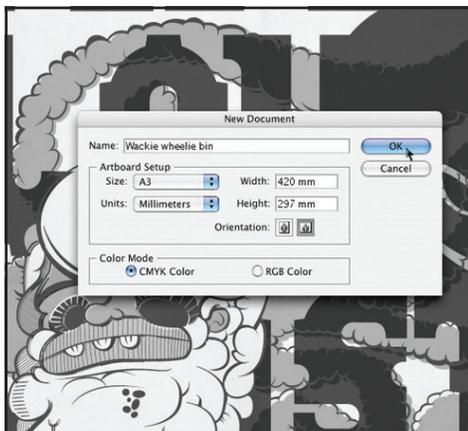
Expertise provided by Waste. Find out more on page 87 and at [www.wasteyourself.com](http://www.wasteyourself.com).



The files you need to work along with this tutorial can be downloaded from: <ftp://ftp.futurenet.co.uk/pub/arts/tutorialfiles/cap92wheeliebin.zip>.

# Part 1: Box basics

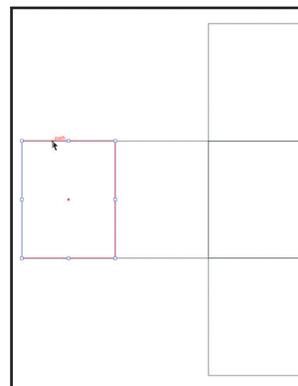
Begin by setting up the basic template, or net, for your wheelie bin...



**1** Create a new A3 landscape document in *Illustrator*, set Units to Millimetres and Colour Mode to CMYK, and give it a name. You also need to make Smart Guides visible, so choose View>Smart Guides (Ctrl/Cmnd+U).



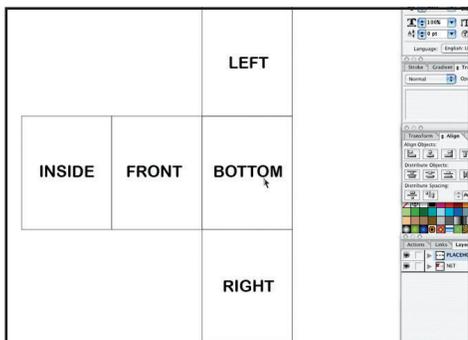
**2** Now you need to figure out how the net for the wheelie bin will look. It helps to have pictures of the object you're trying to create. Choose File>Place>bins.tif from the Wheeliebin folder, which is downloadable from [ftp://ftp.futurenet.co.uk/pub/arts/tutorialfiles/cap92wheeliebin.zip](http://ftp.futurenet.co.uk/pub/arts/tutorialfiles/cap92wheeliebin.zip), and place the photomontage onto your document.



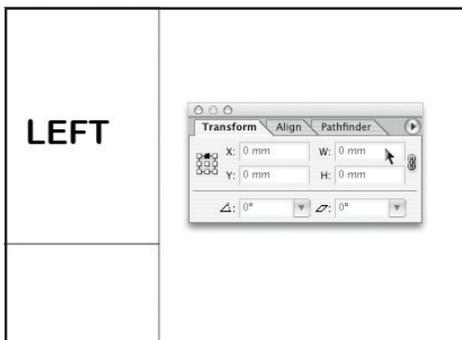
### Snap to it

Smart Guides are temporary 'snap to' guides that help you create, align, edit, and transform objects relative to other objects. You can also use them when rotating, scaling and shearing objects. When Smart Guides are turned on and you move the cursor over your artwork, the cursor looks for object boundaries, and intersections of construction guides to snap to.

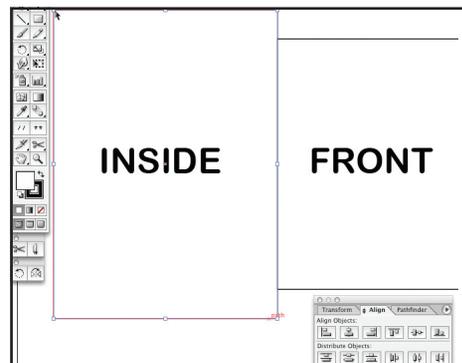
**3** Rename layer 1 as 'Net' and create a box diagram using five rectangles. Select the Rectangle tool (M) and click on the artboard to get the rectangle options dialog. Enter a size of 72x90mm, press OK and duplicate the box five times.



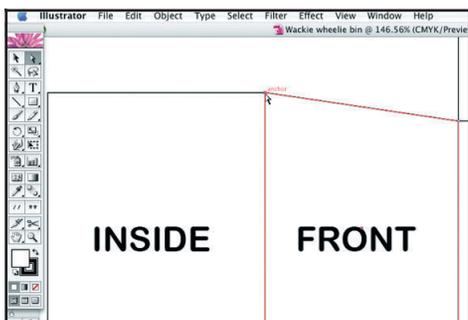
**4** Keep things simple by naming each rectangle so you can keep track of what elements are being edited. Create a new layer and name it Placeholders. Now, starting at the top, name the rectangles Left, Inside, Front, Bottom and Right.



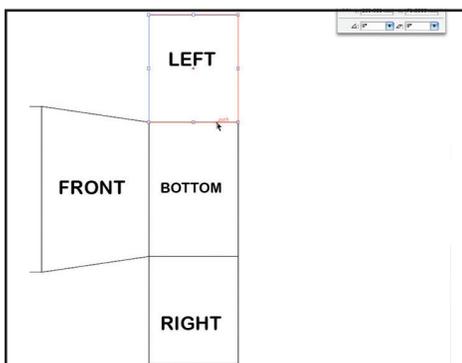
**5** With all the rectangles named clearly, you need to change the shape of them to create the shape of the wheelie bin. Open the Transform panel by choosing Window>Transform (Shift+F8).



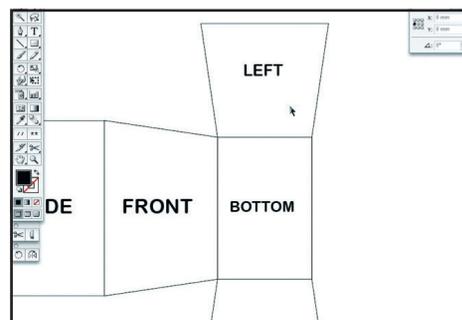
**6** Select the Inside rectangle with the Selection tool (V) and resize it to the larger size of 81x111mm. Then realign it with the Front rectangle.



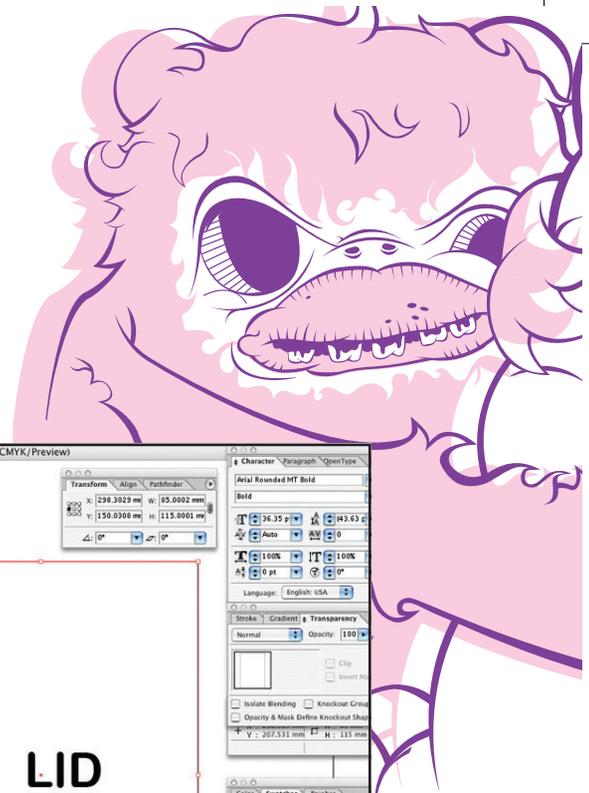
**7** Extend the left-hand anchor point of Front to meet with the right-hand side of Inside. Use the Direct Selection tool (A) to select the top-left anchor point and extend it by pressing Shift+Up three times. This should meet with the top-right anchor point on the Inside. Do the same with the bottom-left anchor to get the angle of the wheelie bin's front.



**8** You need to resize the sides and bottom. Hold the Shift key and select Left, Bottom and Right with the Selection tool (V) and resize to 60mm wide. Now separately select and resize the Left and Right rectangles to 72mm high.

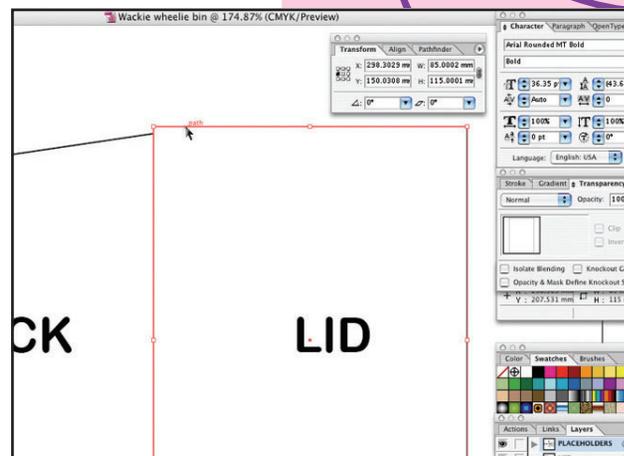
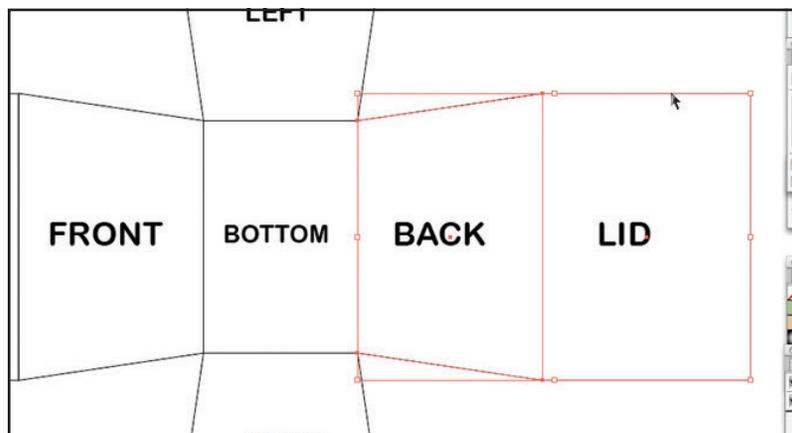


**9** Set your two sides using the same procedure as the angle on the Front. Select the top-left anchor point on Left using the Direct Selection tool (A) and extend the point left. Press Shift+Left arrow key three times and repeat the process with the other anchor points on both Left and Right (top points on Left and bottom points on Right).



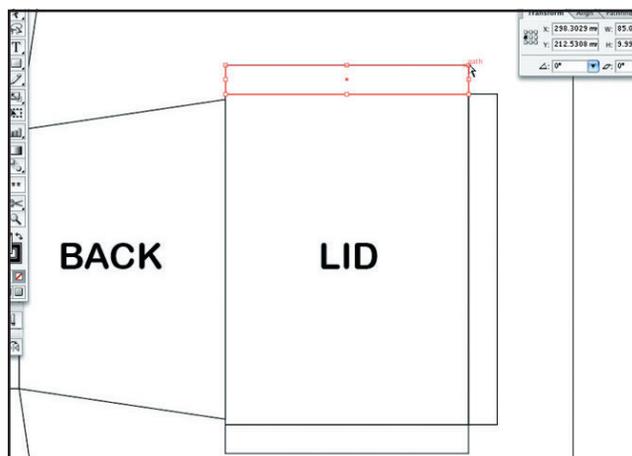
## Part 2: Lid, back and tabs

With the basic net in place, add the lid and flaps that will hold the bin together...

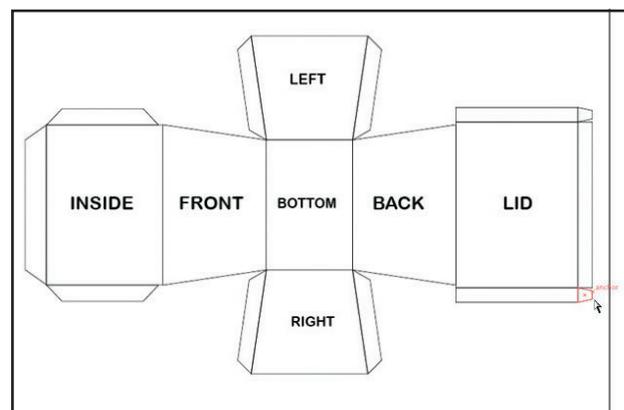


**1** The Back and Lid are pretty much the same as the Top and Front we've just done. Use the Selection tool (V) and Shift key to select the Top and Front panels. Copy and paste them and with the Reflect tool (O) flip them horizontally and move them into the places shown and label them Back and Lid.

**2** Before adding some tabs to the net, you need to add sides and extend the new Lid section. Use the Selection tool (V), select the Lid and resize it to 85x115mm.

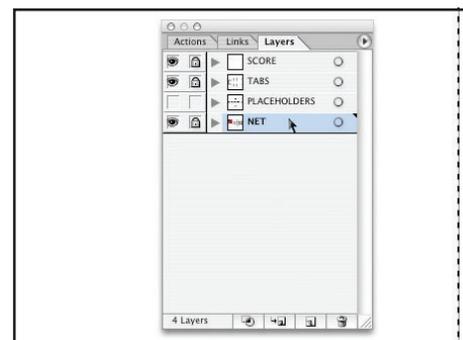
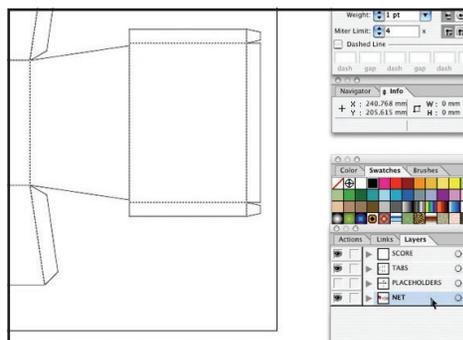
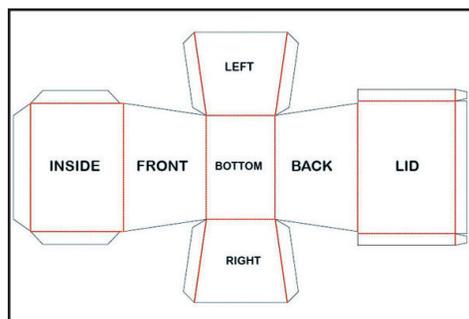


**Scaling**  
Scale an object relative to a handle on the object's bounding box by selecting a handle on the reference point locator in the Transform palette, and then entering a new value in the Width or Height text box, or both.



**3** Next use the Rectangle tool (M) to create three rectangles, two at 85x10mm and one at 115x10mm. These are the lid sides, so position them as shown.

**4** Next up, create a Second Layer called Tabs. There are nine tabs needed for this particular model. Use the Pen tool (P) to draw your isosceles trapezoids (the shape of a tab) and place them on either side of the Right and Left panels, on all three sides of the Inside panel and two smaller tabs on the Lid.



**5** Now you need to create the score lines. Create a new layer named Score. Place a dashed line on each line that needs to be folded. Change the colour and thickness of the line so it's easy to see on varying background colours.

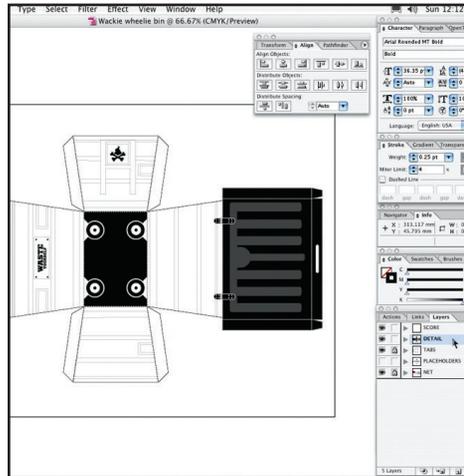
**6** At this point, you can hide the Placeholders layer. In the Layers palette, simply click the eye icon next to the item you want to hide.

**7** You can also lock the remaining layers to prevent any movement on the template. Click the edit column button (to the right of the eye icon) to lock your chosen layer.

## Part 3: Decorate your bin

Now you have your wheelie bin template, it's time to start adding the finer details...

**1** The next step is to create a new layer called Detail. You can open the Detail.ai file contained in the Wheeliebin folder or, if you want to really test yourself, try using the photo montage imported at the beginning of the tutorial as a reference for what details are needed to make the model look like a wheelie bin. Draw the various elements using the Pen tool (P) and add them to their corresponding place on the template. And don't forget the wheels.

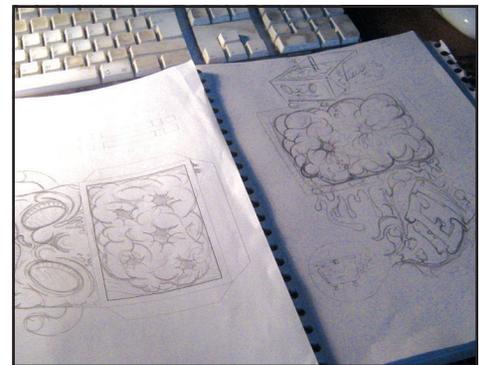
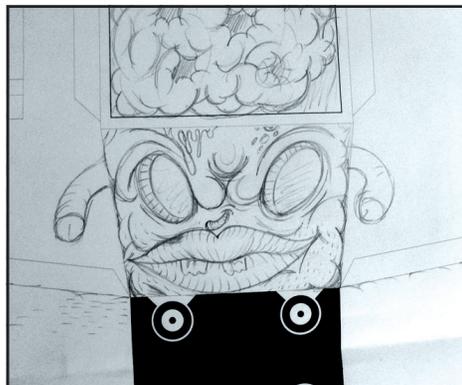
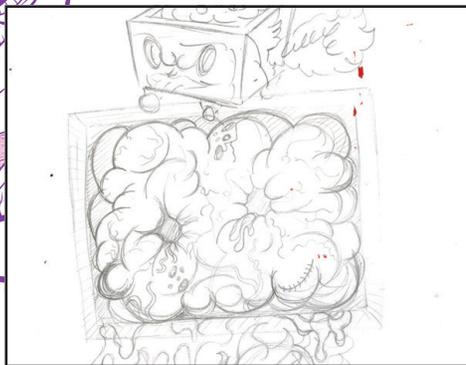
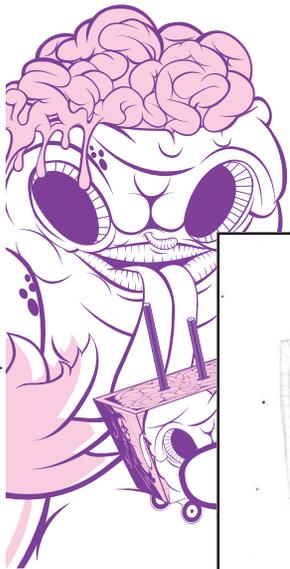


### Strokes

The Outline Stroke command changes the stroke of a selected object into a filled object that's the same width as the original stroke. This command enables you to modify the outline of an object in more ways than you could if it were only a stroke.



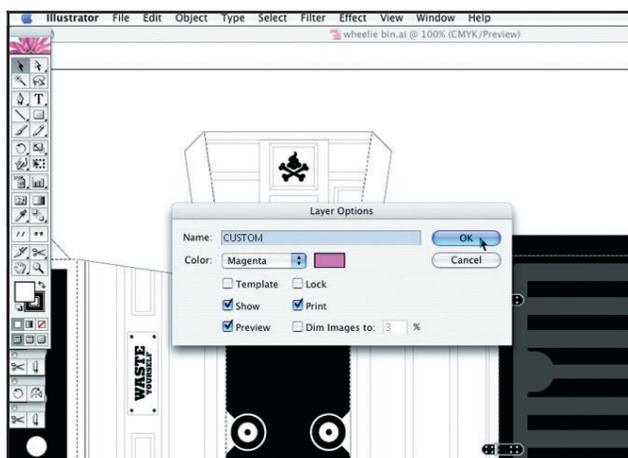
**2** Now you need to come up with some ideas for customising your wheelie bin. Turn off your computer, get your sketch book and some pens and start thinking about the character you're going to create. If you're going to be using your bin as a desk tidy, remember to mark out holes for your pens to go into. If you're stuck for ideas, check out the ills.ai file in the Wheeliebin folder.



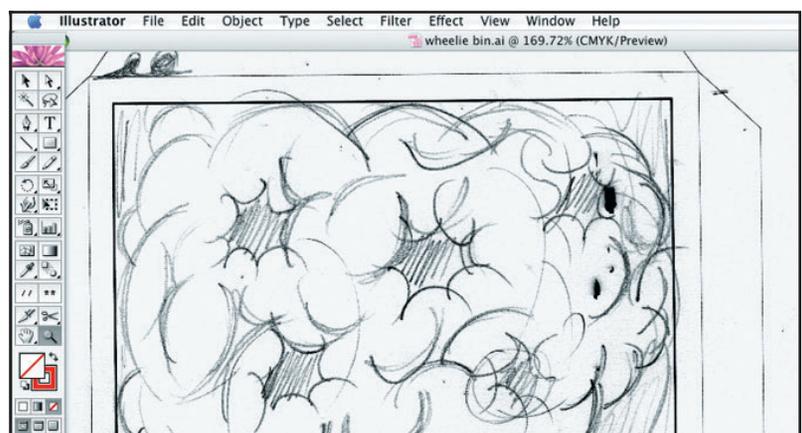
**3** When designing the character, think about how it will work with the shape of the medium. A quick 3D sketch can give you an idea of this and maybe spark off additional ideas. You can add or edit features to enhance its appearance.

**4** Alternatively, print out your newly made template and use this to draw your character on. This way you can consider where things will be placed.

**5** Once you're happy with your character sketches, turn the computer back on. You can either scan the drawings and import them into *Illustrator* to trace or keep them to hand for indirect reference.

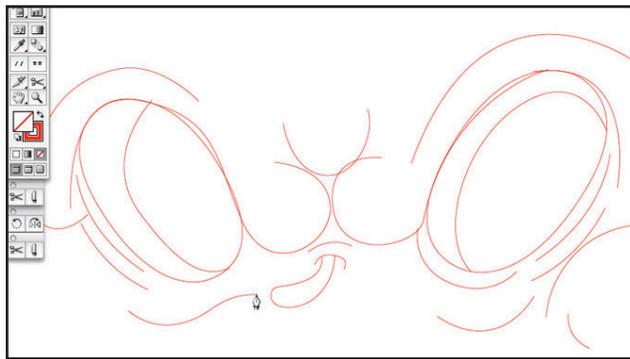


**6** With your sketch complete, create a new layer named Custom. This will be your final layer and the home of your character.



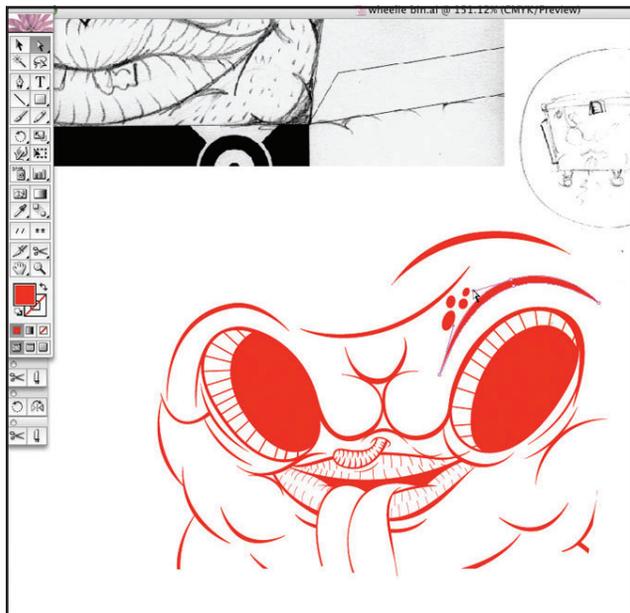
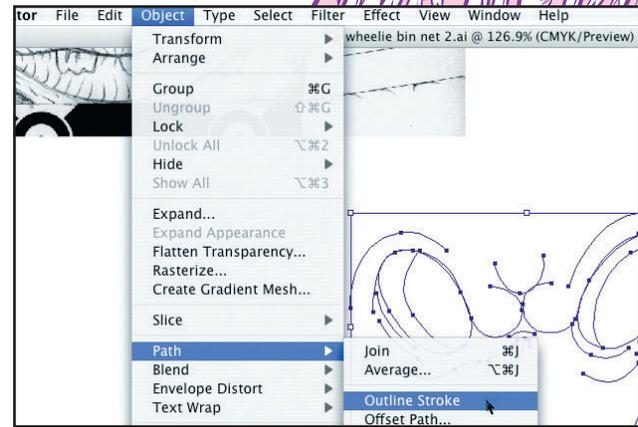
**7** If you're going to trace your sketch, choose File>Place to import your scan into *Illustrator*. Move your scan outside the artboard and lock it so it won't get in the way when you begin to trace it. Select your scan and choose Object>Lock>Selection (Ctrl/Cmnd+2).

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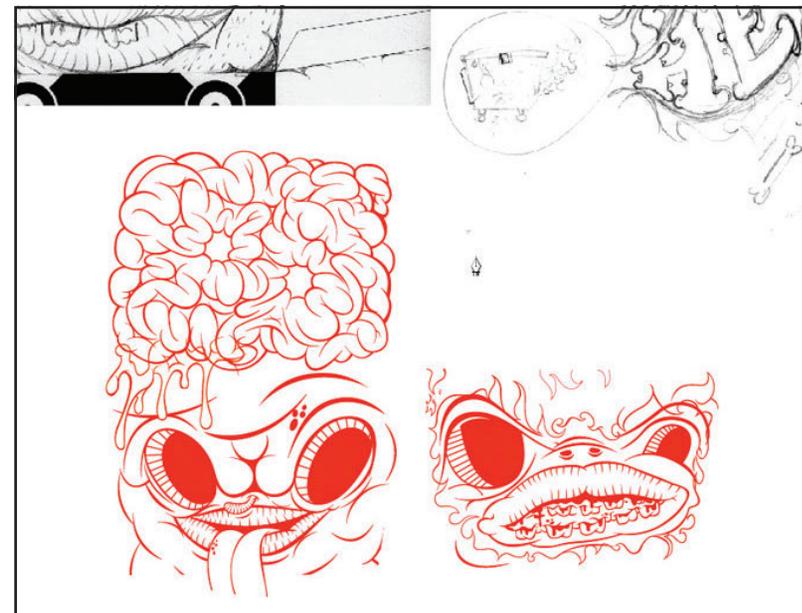


8 Use the Pen tool (P) to trace your character(s). Here, we use the Pen tool (P) with a 0.25 pixel red stroke and an empty fill for the initial tracing.

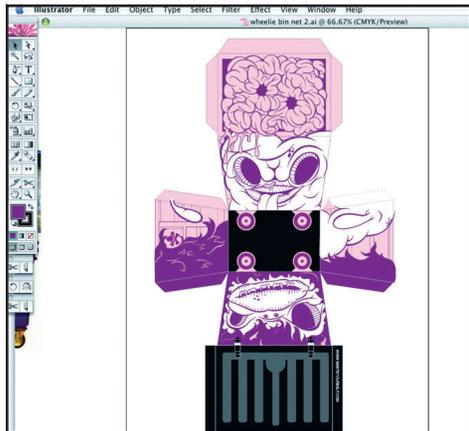
9 Once you've traced your character, you'll need to edit the lines to make them look more appealing. Select your traced illustration with the Selection tool (V) and choose Object>Path>Outline Stroke.



10 Modify the filled objects using the Direct Selection tool (A) by selecting various anchor points and moving them in or out to change the thickness of the lines.



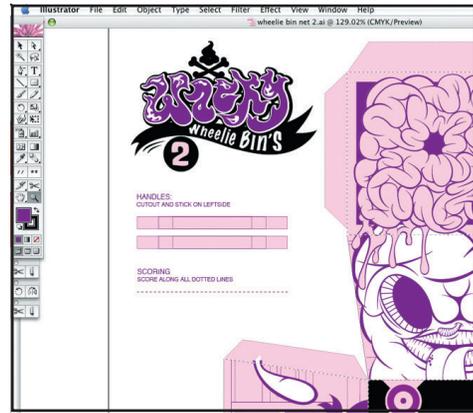
11 It's a good idea to apply small details to your character to make it that little bit more individual. For example, here we add some hair and slime.



12 Once your character is completed, add your illustration to the corresponding places on the net.



13 It's a good idea to add notes around the template to help people to assemble your flatpack object. For instance, "Score along dotted line" is a useful tip.

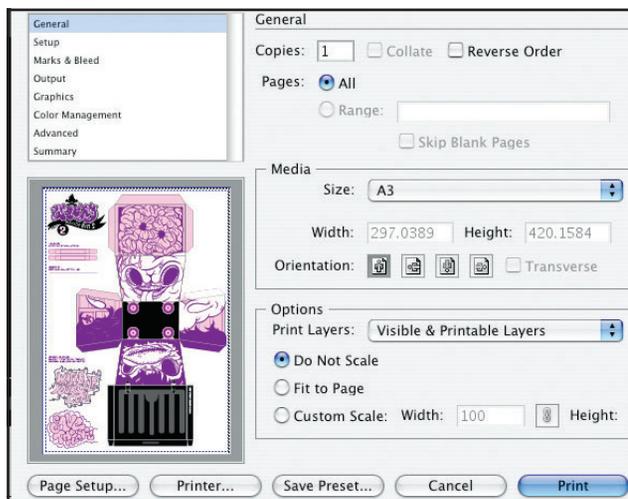


14 Apply any extra branding to the template, such as your logo or website URL and any other decoration you think might help make the flatpack base more appealing.

## Part 4: Try it out

With all the planning and designing work done, it's time to get building...

**1** Print the template on some thick paper-card – the thicker the better. We use 300gsm because it's nice and sturdy without being too difficult to bend and cut. Now's the time to see if your design works.



**2** Cut along the outside of the template and around the wheels and pencil holes using a sharp scalpel.



**3** Score the dotted lines by running your scalpel blade gently along them making sure not to cut through. Using an old blade to score your lines makes it much easier and you're less likely to cut through by accident.



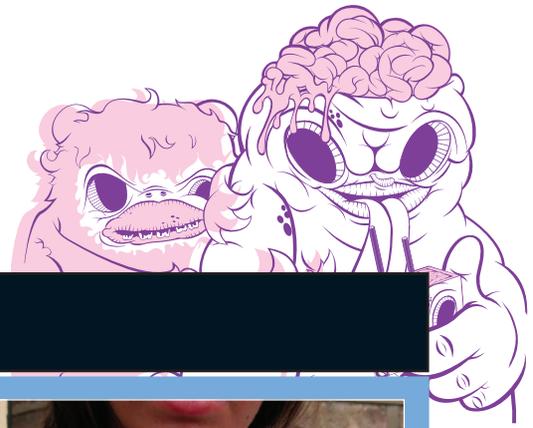
**4** Bend all the scored lines to make sure you haven't missed any. It's best to find out about any problems now rather than when you've added the glue or tape.



**5** Cut small strips of double-sided tape and apply them to all the tabs on the template. Leave the backing on the tape for the time being – removing that one bit at a time makes things easier to handle.

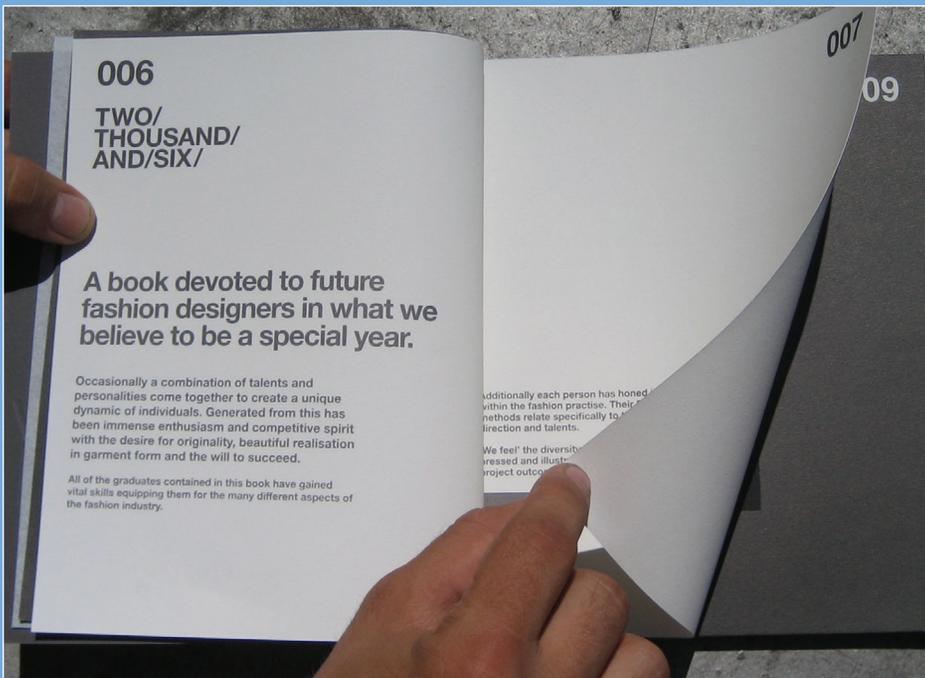
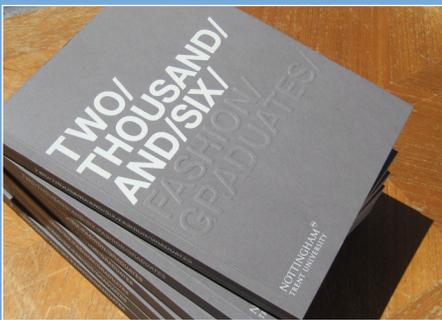


**6** Now begin to assemble your wheelie bin. Try to stick the tabs in an orderly fashion by finishing one side before moving on to the next, or you could end up with hard-to-reach areas. That's it. You should now have your very own whacky wheelie bin. **CAP**



## Expert profile: Waste

Waste is an outlet for the experimental design work of Daniel Lowe and Norman Hayes...



**Above:** This book provided a showcase for the graduates of 2006 at Nottingham Trent University. It was designed using various papers, four-colour process print plus special throughout, and a silk-screened cover with blind embossing.

**Top middle:** Set of two luxury Waste goodies featured in the 'inkthis' exhibition ([www.inkthis.co.uk](http://www.inkthis.co.uk)). Entitled Love/Hate and

One-eyed Snake, these silk-screen posters were designed to accompany two brand new font families.

**Top right:** Branding for Liverpool-based street golf tournament Pigeon Putt, which will be held in three major cities across the UK (Liverpool, Birmingham and London) For information about the event visit [www.pigeonputt.com](http://www.pigeonputt.com).

### BACKGROUND:

Daniel Lowe and Norman Hayes graduated with BA(Hons) degrees in graphics arts from Liverpool John Moores University before moving to Burn design studio, Liverpool, and Cuckooland, Leicester, in 2002. At Cuckooland, the two worked on projects for, among others, Robot Records, FACT, Nottingham Trent University, and Bunker Mentality. In 2005, the pair founded Waste as an outlet for their experimental design work, publications, limited edition posters and exhibitions, which have included 'inkthis', 'in/at/on' and 'graphic design keeps us fat'.

### YEARS PRACTISING AS CREATIVES:

Eight years combined.

### CLIENTS:

Waste has worked with clients including Nottingham Trent University, Bunker Mentality, Peppered Sprout, Polished T gallery, Simplify Design, Wadezig & Tembobomber in Indonesia, and *Plastic Rhino* magazine.

### MISSION STATEMENT:

"Waste works with design, illustration, typography and mixed media for different commercial and personal projects. Our aim is to produce work to our full potential in a positive and creative environment, creating original and innovative design solutions across a wide range of media, through a diverse client base," the company says.

### WEBSITE:

[www.wasteyourself.com](http://www.wasteyourself.com)