Waterford Institute of Technology

## Bee symmetry

Not every day may be a day to go outside and spend time in nature. But every day is a day we should think about the importance of biodiversity, in particular also the importance of small living things such as bees, bumblebees, butterflies and other pollinators. Pollinators are attracted to flowers and plants from which they take nectar. They move from flower to flower and while doing so they accidentally transport pollen from one to another.

This creative a symmetry activity which brings biodiversity, maths and art together. If you have water-based paint, paper, and a scissors you are ready to go. The type of symmetry is reflection symmetry, sometimes known as mirror symmetry. One half on the image is the reflection of the other half.

## What you need

White paper
Paintbrushes
Paint
Pencil
Scissors

## What to do

1. Place a piece of paper in front of you and fold it in half, so that the left side touches the right. With a pencil, draw one side of the bee on the folded sheet.
2. Paint the bee's head in black and the body with yellow paint. Use the paint liberally, only colouring in one half of the bee.
3. Fold over the paper and press together to ensure the paint transfers to the other half.
4. Open the paper and you will see a symmetrically shaped bee's body (if you need to add more paint and fold again then go ahead and do that).
5. Next, on the original half of the sheet, paint in the bee's stripes and wing outline with black paint. Repeat steps 3 and 4 again.
6. Leave the page aside and allow time for the paint to dry
7. Once the paint is dry, you can fold the page in the opposite direction and cut out the bee, making sure you are cutting both sides of the paper.

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[^0]:    Draw only one side of the body and head first and fold the paper. Then repeat with the wings. Photos: Diane Murphy

