# Ri Off the Shelf Masterclass: Satellite Vision

# Worksheet 1 – Pixel Bingo

You will be presented with a short 10-digit code that represents whether a pixel needs to be shaded in or not. Each number represents a different pixel in the grid. The first number in the code corresponds to the first pixel, the second number to the second pixel, and so on. If a pixel is assigned a 0, then it needs to be kept white. If a pixel is assigned a 1, then it is shaded in. Three examples have been given below:

**Row 1:** 1010101010

**Row 2:** 1100110011

**Row 3:** 0101001010

**Pixel**

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **ROW 1** | ■ | □ | ■ | □ | ■ | □ | ■ | □ | ■ | □ |
| **ROW 2** | ■ | ■ | □ | □ | ■ | ■ | □ | □ | ■ | ■ |
| **ROW 3** | □ | ■ | □ | ■ | □ | □ | ■ | □ | ■ | □ |

## Practice Round:

The session leader will show you the code for the first row. Using a pencil, you will need to shade in any pixels that contain a 1, and leave any pixels that contain a 0 white. The session leader will then repeat this for the second and third rows. Once you have finished each row, check whether your pattern matches with the session leader's pattern.

**Pixel**

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **ROW 1** |  |  |  |  |  |  |  |  |  |  |
| **ROW 2** |  |  |  |  |  |  |  |  |  |  |
| **ROW 3** |  |  |  |  |  |  |  |  |  |  |

## Bingo Round:

The session leader will now reveal the code for each row of the image below, row by row. Using a pencil, you will need to shade in any pixels that contain a 1, and leave any pixels that contain a 0 white. Can you correctly guess what the image is? Once you have finished, check whether your image matches with the session leader's image.



## Extension:

The image below has already been shaded in. Can you write the code for each row of the image? Remember: 0 is for a light pixel, 1 is for a dark pixel that has been shaded in.

**Row 1:**

**Row 2:**

**Row 3:**