

Northern Territory Government




## Making Maths Marvellous and Multi-dimensional with Manchester Manipulatives and Movement

Gay West 2011 MAV Conference


DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

NT



Darwin



[gabrielle.west@nt.gov.au](mailto:gabrielle.west@nt.gov.au)

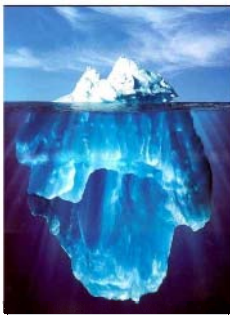
<http://makingmathsmarvellous.wikispaces.com/>

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

## Tip of the iceberg!

They estimated the weight at 300,000,000 tons



DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

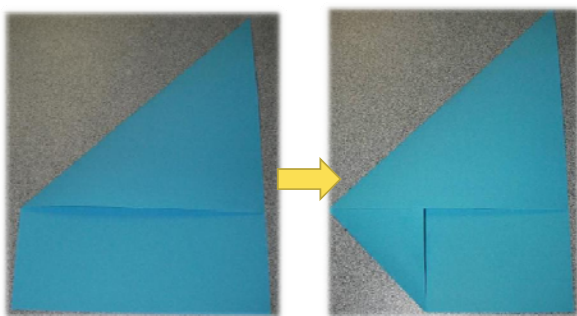
## Let's fly with shapes



DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

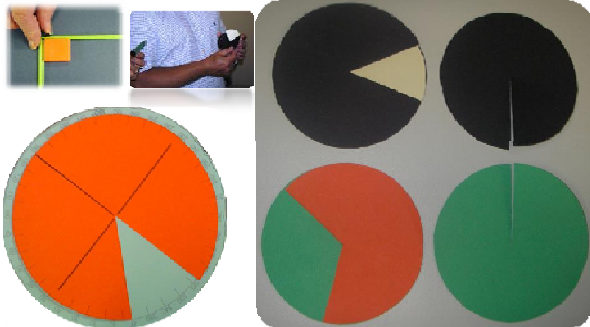
## Folding shapes



DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

## Estimating and measuring angles

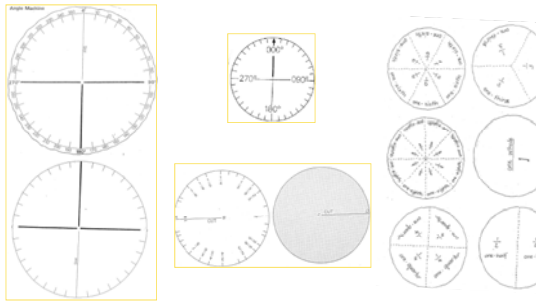


DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

### Angle Wheels

36 24

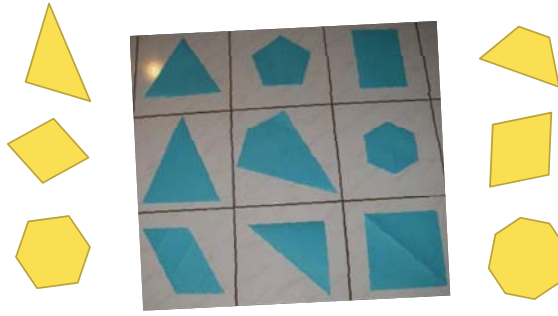


DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

This slide shows various circular materials for an 'Angle Wheels' activity. It includes a large circular protractor with degree markings, several smaller circular templates with different internal lines and angles, and a circular template with a shaded sector. The Northern Territory Government logo is in the top left corner.

Northern Territory Government

### No cutting no measuring



DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

This slide illustrates a 'No cutting no measuring' activity. It features a central grid of nine squares, each containing a different colored geometric shape (triangles, quadrilaterals, pentagons, hexagons). Surrounding the grid are several yellow geometric shapes, including triangles, diamonds, and hexagons, which are likely used to identify or match the shapes in the grid. The Northern Territory Government logo is in the top left corner.

Northern Territory Government

### Create and investigate

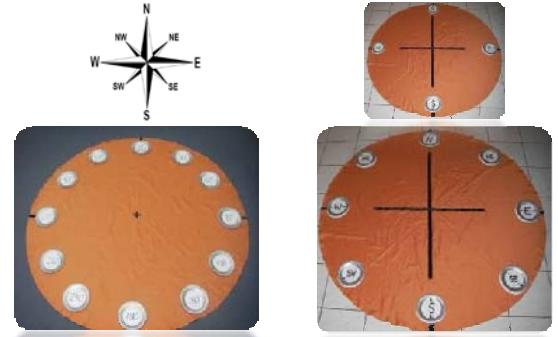


DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

This slide displays a collection of colorful geometric patterns and designs created using various shapes and colors. The patterns include stars, spirals, and abstract shapes. The Northern Territory Government logo is in the top left corner.

Northern Territory Government

### Degrees, bearings and compass points



DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

This slide shows a compass rose and two circular diagrams. The compass rose is labeled with cardinal and ordinal directions: N, NE, E, SE, S, SW, W, NW. The circular diagrams are orange and feature a crosshair with numbers 1 through 12 around the perimeter, likely representing a clock face or a bearing scale. The Northern Territory Government logo is in the top left corner.

Northern Territory Government

### 1 o'clock, 2 o'clock, 3 o'clock rock ...

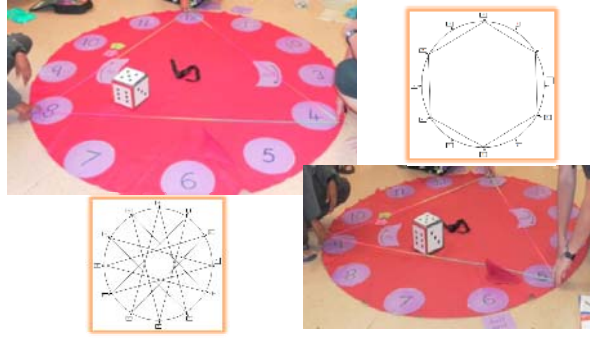


DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

This slide shows several circular diagrams and a photograph of a rock formation. The circular diagrams are orange and feature a crosshair with numbers 1 through 12 around the perimeter, similar to the 'Degrees, bearings and compass points' activity. The photograph shows a rock formation with a similar circular pattern. The Northern Territory Government logo is in the top left corner.

Northern Territory Government

### Hunting for shapes



DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

This slide shows a large circular diagram with numbers 1 through 12 around the perimeter, similar to the 'Degrees, bearings and compass points' activity. The diagram is divided into sections, and a small cube is placed on it. The Northern Territory Government logo is in the top left corner.

**Number patterns, calendars and time**

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

**100 grid: Counting by ..., tables and number patterns**

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

**Jump method on the 100 grid**

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

**Jump or split?**

**Tens and Ones**

There are 28 children at a party and 13 more arrive. How many children are there altogether?

eg 79 - 33

Method 1: -1 -1 -1 -10 -10 -10

Method 2: -3 -30

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

**Cut: horizontally, vertically, jigsaw etc.**

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

**Laminated Placemats**

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

### Grids: 1-100, 101-200, 0.01-1.00, 1-100%

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

### Place Value Cards

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

### Calculator slido

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

### X and Y axes, grids and ordered pairs

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)

Northern Territory Government

### The 4 quadrants – patterns, tables, graphs

N	sticks
1	3
2	5
3	7

DEPARTMENT OF EDUCATION AND TRAINING [www.det.nt.gov.au](http://www.det.nt.gov.au)