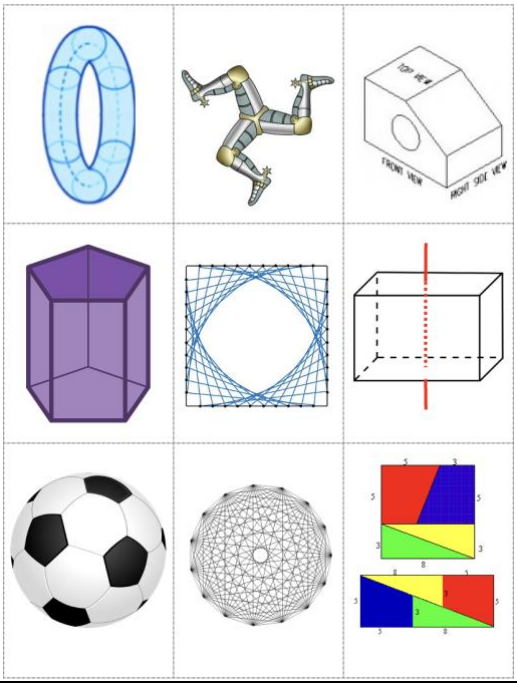
DRAW AND TALK

Resources: Pencil, paper and ruler for each player. Pack of 36 cards; click here to download then print and cut out the cards making sure the text on one side of the card matches the picture on the other side.



RULES OF THE GAME: Shuffle the cards. The first player takes the top card and describes the image giving clear instructions for the other players to draw the image, taking care to avoid naming the object or showing either side of the card to the other players (there are descriptions on the backs of the cards). Players can ask questions which the narrator must answer. When the players decide to stop drawing and talk, the card is shown to everyone. All the players then show their drawings and talk about the patterns, shapes and mathematical ideas that they see in the picture.

This is not a competitive game. Drawing is just to get everyone involved in thinking about the picture and what it depicts.

HELP

Players don't need to spend long drawing unless they want to. Every card has a story to tell. Talking about what different players see in the pictures will uncover some of the story. Following up on the notes on the reverse side of the card, and studying more mathematics, will uncover more.

NEXT

Although this is not a competitive game, if the group agrees, then players can give the narrator a mark out of 10 for his or her description, and the narrator can give the other players a mark out of 10 for their drawings. Each time they play the game, the players will be able to visualise more detail in the pictures. Players can make extra cards with their own pictures.

NOTES FOR TEACHERS

Why do this activity?

Draw and Talk is not a game to teach any specific mathematical content. It is an enrichment activity to introduce representations of mathematical ideas, to stimulate learners to look closely at these representations and to take an interest in finding further information for themselves about the concepts that they depict.

Learning objectives

- Development of mathematical vocabulary and communication skills;
- Widening of vision and appreciation of mathematics.

Origins of the game

This is a new game invented, by Alan and Toni Beardon, published by Tarquin in the book *Let's Play Mathematically AIMSSEC Family Games* and on the AIMING HIGH TEACHER NETWORK.

Suggestions for teaching

Players may like to choose the cards they want to describe and discuss. Perhaps choose 2 or 3 cards so that the group can discuss what is the same and what is different about the images on the cards.

Key questions

Don't be put off if you find the drawing difficult, it's just a way of getting started. The talk/discussion is much more important. For each card, ask each other:

1. What patterns can we see?
2. What shapes can we see?
3. What is the best way to describe the picture and the details in it?
4. Can we see a meaning in the picture?
5. What connections can we see between the pictures?
6. Can we see any symmetries in the picture?
7. The notes on the backs of the cards tell a bigger story about the pictures; what else can we find out?

Follow up

Learners could look for interesting pictures that tell a mathematical story and use these pictures for the game. They could also write their own notes about the pictures from what they see and what they can discover.

Note: The Grades or School Years specified on the AIMING HIGH Website correspond to Grades 4 to 12 in South Africa and the USA, to Years 4 to 12 in the UK and up to Secondary 5 in East Africa. New material will be added for Secondary 6. For resources for teaching A level mathematics see https://undergroundmathematics.org/
Note: The mathematics taught in Year 13 (UK) and Secondary 6 (East Africa) is **beyond** the school curriculum for Grade 12 SA.

	Lower Primary Age 5 to 9	**Upper Primary Age 9 to 11**	**Lower Secondary Age 11 to 14**	**Upper Secondary Age 15+**
South Africa	**Grades R and 1 to 3**	**Grades 4 to 6**	**Grades 7 to 9**	**Grades 10 to 12**
USA	**Kindergarten and G1 to 3**	**Grades 4 to 6**	**Grades 7 to 9**	**Grades 10 to 12**
UK	**Reception and Years 1 to 3**	**Years 4 to 6**	**Years 7 to 9**	**Years 10 to 13**
East Africa	**Nursery and Primary 1 to 3**	**Primary 4 to 6**	**Secondary 1 to 3**	**Secondary 4 to 6**