Class Presentation of 3A

A: Hey, have you seen a TV program on magic performance recently?

B: Yes, it's so popular and everyone seems fascinated.

A: Today, I'll do a magic trick which is related to Mathematics.

B: A magic trick about Mathematics?   Wow, it seems fantastic.   What is it?

A: I just use two ordinary pieces of paper which are turned into two identical paper bands.   Can you please check to see if I'm cheating?

B: Okay, let me check them carefully.   (Ask the audience) Is there anything tricky?   Yes?   No?   I can't find anything tricky.   I think you are sincere.

A: I'm going to do the magic trick right away.   Please have your full attention here.   Can you see a red line here? Please help me to tear your paper band along the red line while I'm tearing mine at the same time.   What can you see?

B: Marvellous!   Look at this one.   You can see that it has just been separated into two thinner bands.   Now, take a look at the other one, can you see that it has been turned into two thinner bands that are linked together?   Why?   Why?   Tell me why!

A: Is that magical?   Ha ha!   Actually, there is a mathematical theory behind this trick.   You will realize it when you study Mathematics at university.

B: But, I'm still puzzled.   Can you give me some hints on the name of the theory?   I want to search for more information

about it.

A:　Okay, it's related to 'Topology' (拓撲數學).　You may check it out yourself or consult your Maths teacher.　Do try to look for the answer of today's magic trick.　That's the end of our presentation today.

A & B:　Thank you.

Rounding up

Lee: Well done, Class 3A.   Mr Lau, can you tell me a little bit more about Topology as it sounds so new to me?

Lau: **Topology** is the mathematical study of shapes and spaces. It is a major area of mathematics concerned with the most basic properties of space, such as <u>continuity</u> and <u>boundary</u>. It is the study of properties that is related to bending, but not tearing or <u>gluing</u>. It then developed as a field of study out of <u>geometry</u> and <u>set theory</u>.

Lee: Wow, it sounds interesting.   If students are interested in it, how can they get to know more about it?   Are there any books that are related to it?

Lau: If you are keen to know more about Topology, you may search 'Topology' on Youtube.

Lee: That's great.   Thank you, Mr Lau and let's give a round of applause to the magicians from Class 3A again.