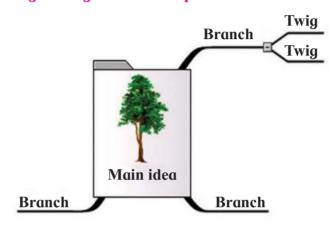
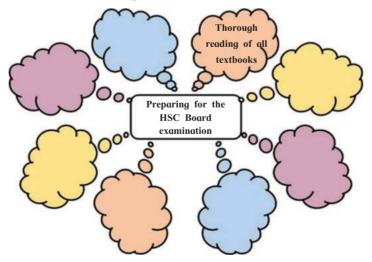


## ICE BREAKERS

**Observe the given figure and complete the activities that follow:** 



- (a) Replace the 'main idea' by any other thought or title of your own.
- (b) Add three supporting ideas to the main idea as their branches.
- (c) Add two ideas to one of the branches that explains the meaning of the branch.
- Complete the given blank spaces / balloons with your ideas in the figure that describes your basic preparation for the HSC Board Examination. Also complete the activities that follow:

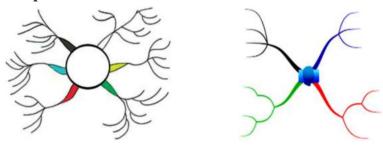


#### **Activity:**

Complete a similar type of detailed graphical figure in your own style showing the thoughts/ideas/concepts that keep on generating in your mind and then you choose a particular style/design or a graphical representation to describe the same idea/facts/situations—then this type of presentation can be called 'Mind Mapping.'

Use different shapes, arrows, lines, connectors, balloons, boxes, curved arrows, callouts, scribbles, scrolls, explosions etc. to describe your point of view.

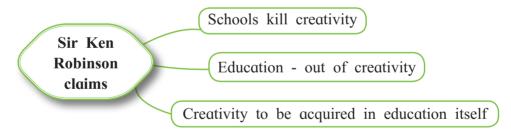
### For example:



Julian Astle is the Director of Education at the RSA. Previously, he worked in No. 10, Downing Street as Deputy Director of the British Prime Minister's Policy Unit and Senior Policy Advisor to Deputy Prime Minister, Nick Clegg. Previously, he was the Director of Centre Forum, a Westminster-based think tank.

He has also worked as a Post-Conflict Advisor to the British Government in Whitehall, and to the United Nations in Bosnia and Kosovo.

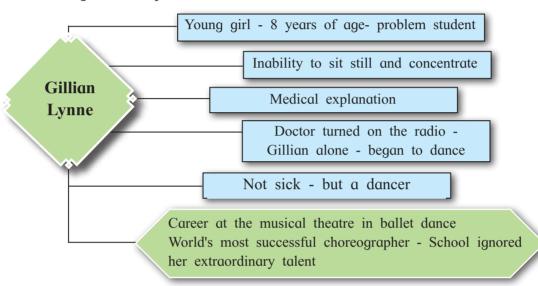
In the most watched TED talk of all times, educationalist Sir Ken Robinson FRSA claims that "schools kill creativity", arguing that "we don't grow into creativity, we grow out of it. Or rather we get educated out of it". Yet to Robinson, "creativity is as important as literacy and we should afford it the same status".



"True creativity", is based on knowledge which in turn is based on literacy". Our schools, where children develop the literacy skills on which all further learning depends, are therefore not killing creativity, but cultivating it by providing the "foundations young people need to be properly creative".

As evidence of how schools kill creativity, Robinson cites the example of a young girl called Gillian Lynne who, at the age of eight, was already viewed as a problem student with a probable learning difficulty due to her inability to sit still and concentrate. When her mother sought a medical explanation for Gillian's constant fidgeting and lack of focus, the doctor suggested they speak

privately. As the two adults got up to leave, the doctor turned on the radio. Left alone in a music-filled room, young Gillian began to dance. Observing her through the window, the doctor turned to her mother. "Gillian's not sick", he said, "she's a dancer". Today, at the age of 92, Gillian can look back on a long career in ballet dance and musical theatre which saw her become one of the world's most successful choreographers, with hits like Andrew Lloyd-Webber's Cats and Phantom of the Opera among her many achievements. Yet her school had all but written her off, mistaking her extraordinary talent for some form of behavioural problem or cognitive impairment.



"A huge amount of research on skill acquisition has found that the skills developed by training and practice are very rarely generalised to other areas and are, in fact, very closely related to the specific training."

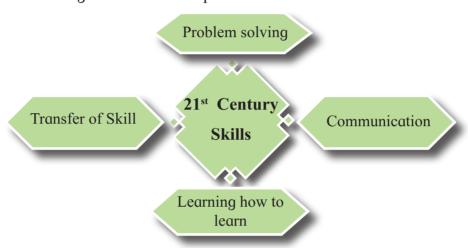
It is certainly unhelpful, and probably wrong, therefore, to talk about 'critical thinking skills'. Critical thinking is an important part of most disciplines, and if you ask disciplinary experts to describe what they mean by critical thinking, you may well find considerable similarities in the responses of mathematicians and historians. The temptation is then to think that they are describing the same thing, but they are not.

The same is true for creativity. Creativity is not a single thing, but in fact a whole collection of similar, but different, processes. Creativity in mathematics is not the same as creativity in visual art. If a student decides to be creative in mathematics by deciding that 2 + 2 = 3, that is not being creative, it is just silly since the student is no longer doing mathematic. Creativity involves being at the edge of a field but still being within it.

Similar arguments can be made for other '21st Century Skills' such as problem-solving, communication and learning how to learn. There is some evidence that students who learn to work well with others in one setting may be more effective doing so in other settings, so some transfer is definitely possible.

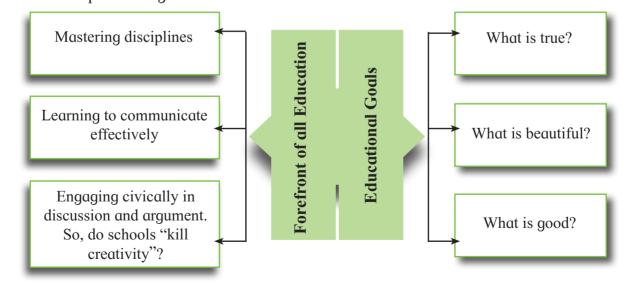
However, the really important message from the research in this area is that if you want students to be creative in mathematics you have to teach this in mathematics classrooms. If you want students to think critically in history, you have to teach this in history.

"Mastering disciplines, learning to communicate effectively, engaging civically in discussion and argument – these have been, and should remain, at the forefront of all education. The ancients talked about the importance of understanding what is true (and what is not); what is beautiful (and what is not worth lingering over); and what is good (in terms of being a worthy person, worker and citizen). These educational goals should be perennial".



The short answer is 'no', although they certainly can if they forget two important lessons:

First, that if the maximum number of children are to be given the greatest possible chance of realising their creative potential, schools need to provide rich and broad curriculum that includes the so-called creative subjects that are the visual and performing arts.



And second, that if they are serious about cultivating real creativity across the curriculum, they need to remember that creativity describes a whole collection of similar, but different processes. In other words, they need to understand the central place of the disciplines in education, and take them as their starting point in curriculum design.

- Julian Astle

## **BRAINSTORMING**

# (A1) Study the given tabular column. In pairs, tell your partner the importance of each given below:

Enhance Activities with Mind Mapping		
1	Explore new ideas and concepts	Help students get a better understanding of new ideas by having them create a mind map. A mind map can assist with understanding because it conveys hierarchy and relationships, allowing students to see the big picture.
2	Brainstorm	Get creative juices flowing with mind mapping. Mind maps are a great brainstorming tool and can help students let their thoughts flow freely while making important connections between ideas and concepts.
3	Take Notes	Encourage students to engage in active thinking instead of transcription by using mind maps for note taking. Mind maps encourage students to focus on keywords and ideas instead of just writing down what the teacher says.
4	Write essays	Students can create an essay outline, gather arguments and quotes or brainstorm ideas for your essays with mind maps.
5	Memorize information	Mind maps activate many levels of brain activity and are a great tool to help with memorization — from vocabulary words to a foreign language.
6	Create presentations	Have students use mind maps to present information in an interesting and engaging way with mind maps. Students can use mind mapping software to create a presentation in advance or create one on the spot during a live presentation.
7	Study for an assessment	Mind maps are a great way for students to gather all the information that may be covered on an examination including class notes, textbook chapters and reading lists.
8	Execute group projects	By using a mind map, students can visualize what needs to be done and who needs to do it. Using an online mind mapping programme is best for group projects so students can easily share it.

(A2) Given below is a 'Mind Mapping' template. Use your ideas/thoughts/concepts to illustrate/develop them. (Develop your ideas in the form of main branch, sub-branches and tertiary branches respectively).



Also, write a paragraph on the mind map you have completed.

(A3) Develop a 'Mind Mapping' frame / design to show the development in your personality seen within yourself in the last 5 years. You can take the help of the following points in order to develop each of them into further branches:

(Development in Physique, Self-learning Process, Communication Skills, Social Awareness, Family Responsibility)

(A4) Develop a 'Mind Mapping' frame / design to show the 'Benefits of games and sports' to the students. You can take the help of the following points in order to develop each of them into further branches:

(Fitness and stamina, team spirit and sportsmanship, group behaviour, killer's instinct, will to win)

- (A5) Browse the internet to know the following:
  - 1. Different Frames/Designs on Mind Mapping
  - 2. Benefits of Mind Mapping
  - 3. Uses of Mind Mapping in Note-Taking
  - 4. Difference between Mind Mapping and Concept Mapping