A collection of objects including a chessboard, medals, a compass, and glasses. The chessboard is in the top left corner, featuring a blue and brown checkered pattern with several white and black pieces. Below it is a blue ribbon with a circular medal. To the right is a silver star-shaped medal with a central emblem. In the bottom left is a round compass with a white face and black markings. In the center is a pair of gold-rimmed glasses with thin temples. The background is a light beige surface.

MAKING MATHEMATICAL GAMES USING TARSIA

PRESENTED BY:
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NATIONAL ICT AWARDEE
(CBSE)



NEED OF MATHEMATIAL GAMES

- ◆ Motivation
- ◆ Positive attitude
- ◆ Positive self image
- ◆ Mode of self learning and self evaluation
- ◆ Breaks the monotonicity of the classroom teaching
- ◆ Encourages group work
- ◆ No fear of failure
- ◆ Develops the feeling of belongingness
- ◆ Develops leadership qualities

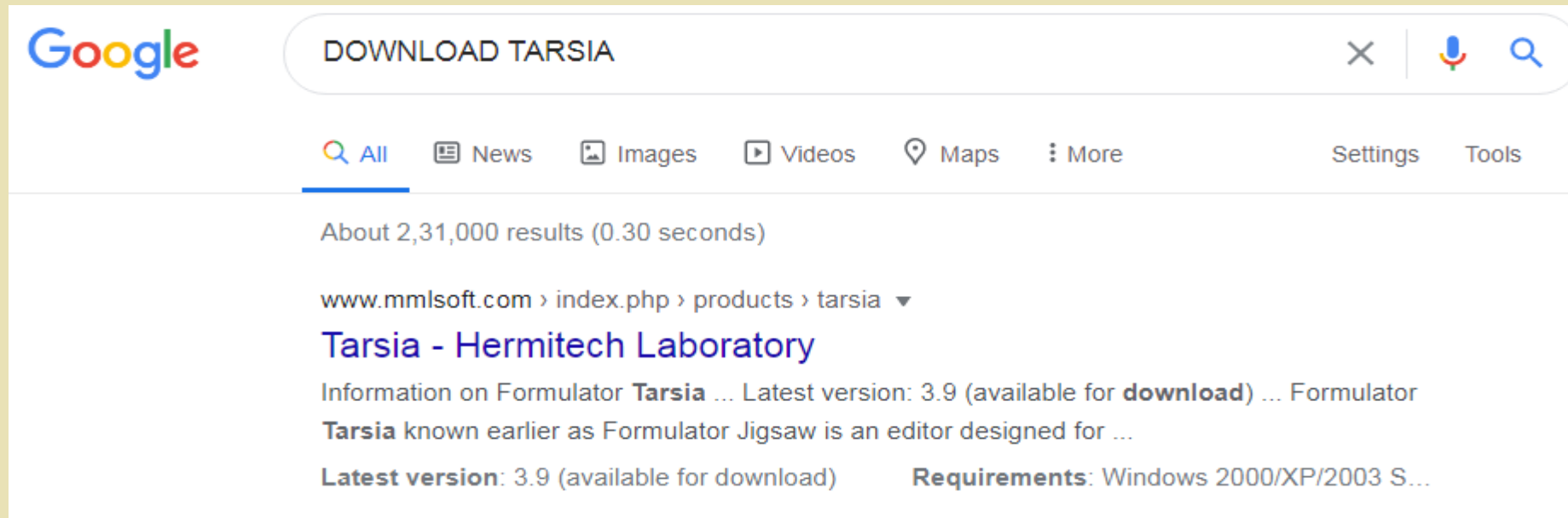


NEED OF THE HOUR DURING ONLINE TEACHING

- ◆ Online to offline
- ◆ Enhances the role of the parent through the teacher
- ◆ Enhances role of family/ siblings through the teacher
- ◆ Bridge between the teacher's and parents' role
- ◆ Age group, subject is no bar

HOW TO DOWNLOAD TARZIA

- ◆ Freeware
- ◆ Search for ‘download tarsia’ in any search engine
- ◆ Click on tarsia – hermitech laboratory



The screenshot shows a Google search interface. The search bar contains the text "DOWNLOAD TARZIA". Below the search bar, there are navigation links for "All", "News", "Images", "Videos", "Maps", and "More". The search results show "About 2,31,000 results (0.30 seconds)". The first result is from "www.mmlsoft.com > index.php > products > tarsia" and is titled "Tarsia - Hermitech Laboratory". The description below the title reads: "Information on Formulator Tarsia ... Latest version: 3.9 (available for download) ... Formulator Tarsia known earlier as Formulator Jigsaw is an editor designed for ...". At the bottom of the result, it states "Latest version: 3.9 (available for download)" and "Requirements: Windows 2000/XP/2003 S...".



Main Menu

Home

Products

↳ MathML Weaver

↳ Online MathML Editor

↳ ActiveX Control

↳ API

Information on Formulator Tarsia

License: Free

Requirements: Windows 2000/XP/2003 Server/Vista/Windows 7/Windows 8/Windows 10

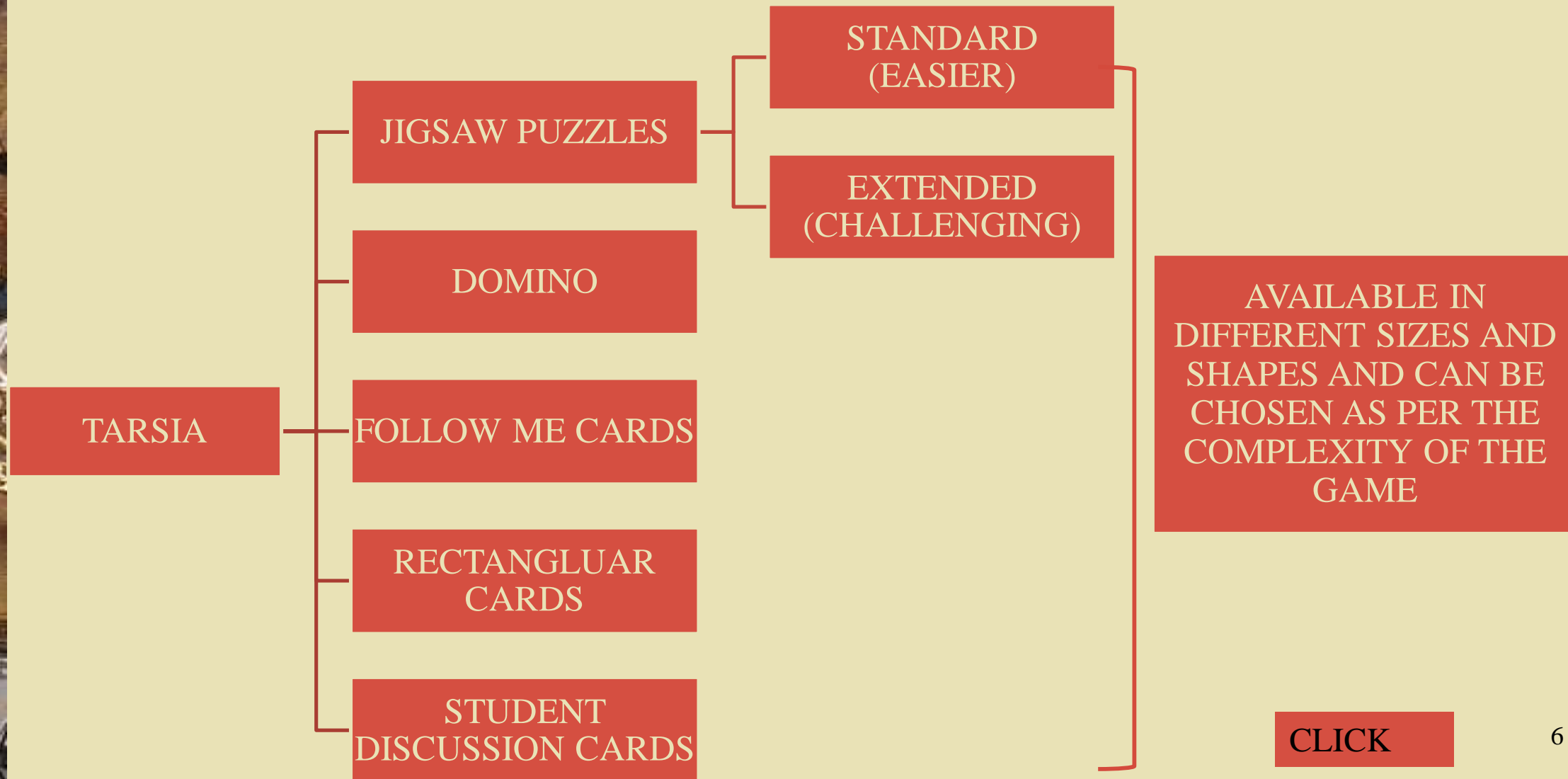
Latest version: 3.9 (available for download)



With this software you will easily be able to create, print out, save and exchange customised jigsaws, domino activities and a variety of rectangular card sort activities. The activities created using this software can be presented in printable form, ready to cut out.

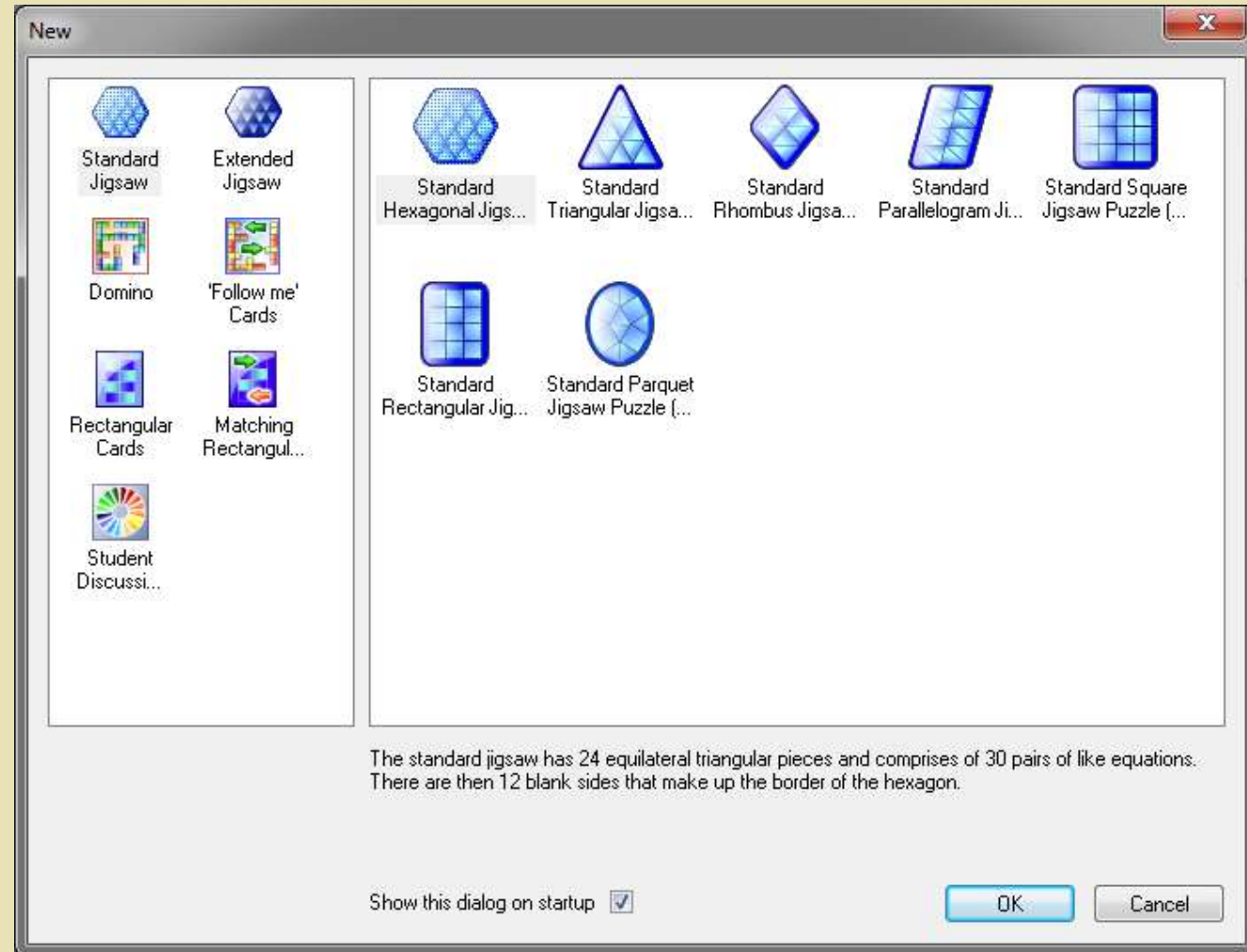
- ◆ Click here
- ◆ Follow the commands to download
- ◆ Open the installed file, it will give some tips. You may go through them (or just close the dialogue box) and then start creating the desired games.

ATTRIBUTES OF THE SOFTWARE



CREATING JIGSAW PUZZLES

- ◆ Open tarsia from the start menu
- ◆ Close the dialogue box that appears
- ◆ Choose any one of the puzzles displayed. For jigsaw, choose standard jigsaw (recommended). Then choose the desired shape and number of card puzzle



Standard Presentation Content **CHOOSE FOR MATH SYMBOLS**

$\frac{d}{dx}$ \int $\frac{d}{dt}$ $\frac{d}{dy}$ $\frac{d}{dz}$ $\frac{d}{dx}$ $\frac{d}{dy}$ $\frac{d}{dz}$ $\frac{d}{dx}$ $\frac{d}{dy}$ $\frac{d}{dz}$ $\frac{d}{dx}$ $\frac{d}{dy}$ $\frac{d}{dz}$ $\frac{d}{dx}$ $\frac{d}{dy}$ $\frac{d}{dz}$



QUESTION INPUT

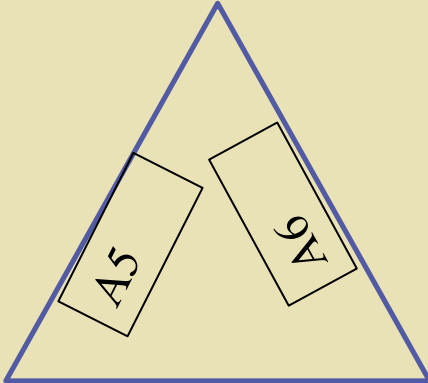
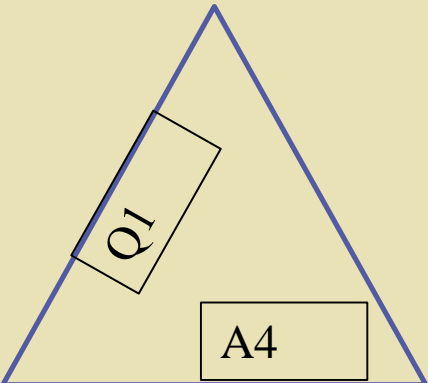
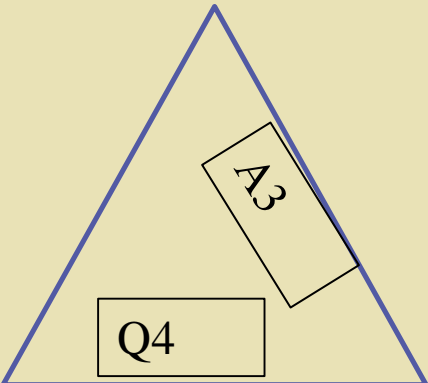
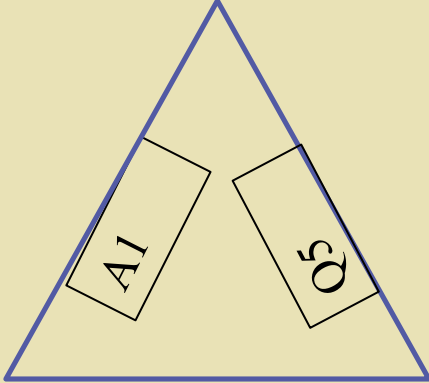
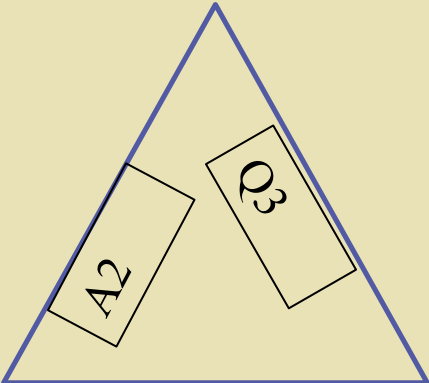
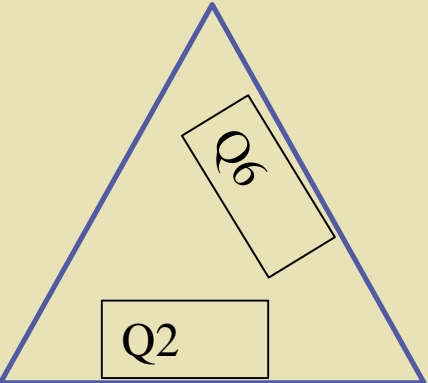
SET OF CARDS



ANSWER INPUT

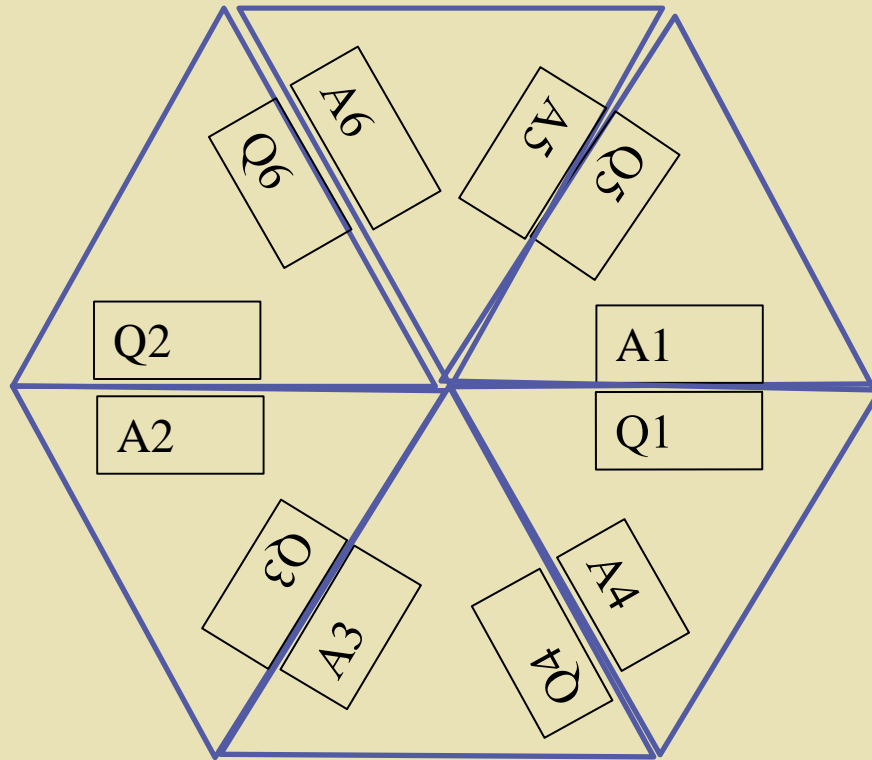
INPUT: TO TYPE QUES AND ANS
TABLE : TABLE OF QUES AND ANS
OUTPUT : TO BE PRINTED, CUT AND THE PIECES GIVEN TO THE STUDENTS
SOLUTION: FINAL ANSWER TO THE PUZZLE

JIG SAW PUZZLES





SOLUTION TO JIG SAW



COORDINATE GEO_CLASS 10_DIST BET 2 POINTS_jigsaw.fjsw



jig saw basic numbers.fjsw



CREATING DOMINO PUZZLE

- ◆ Exactly on the same lines as we created jig saw puzzle, domino puzzle is also created. The only difference is the output arrangement obtained. Each card consists of a question and an answer. The first card of the puzzle begins with **start** and a question card and the last card consists of answer to the last question and **finish**.

DOMINO CARDS

START	Q1
-------	----

A2	Q3
----	----

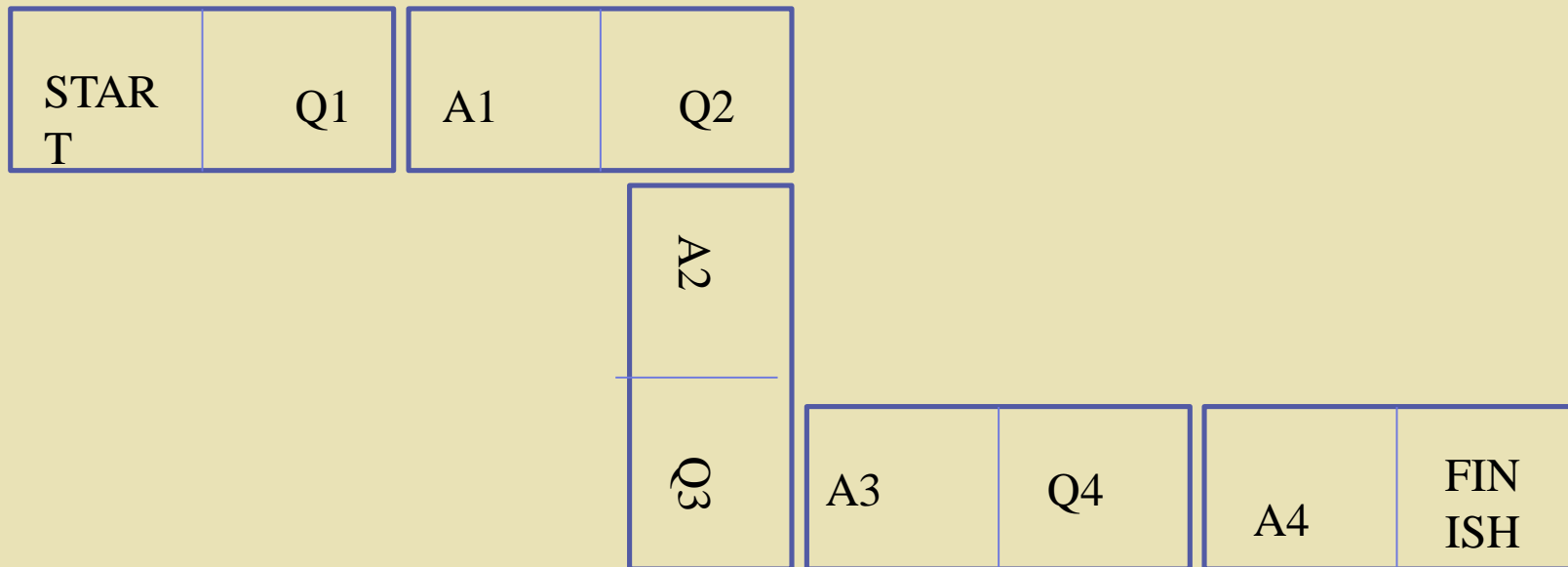
A4	FINISH
----	--------

A1	Q2
----	----

A3	Q4
----	----



SOLUTION TO DOMINOS



DIFFERENCE BETWEEN THE GAMES

- ◆ **Jigsaw standard and extended** : standard has nothing printed on the edges of the final figure but extended has some expressions printed on the edges of the final answer figure which don't have any pairing.
- ◆ **Domino and follow me cards**: domino cards have a start and finish, but follow me cards don't.
- ◆ **Rectangular cards and Matching Rectangular cards**: rectangular cards don't have the solution set for the teacher, while matching rectangular cards has solution set
- ◆ **Tip**: for printing clarity, if a card game is to be created with pictures: use rectangular cards or matching rectangular cards

BACK



trigo 2.xjsw



trigo2.pdf



trigo 3.xjsw



trigo3.pdf



USING TARZIA FOR PRIMARY AND LOWER PRIMARY LEVELS

- ◆ Can insert images: for eg., Match the picture card with the numeral, match the picture card with the name of the animal or flower, etc
- ◆ Matching the factors of a given number, or picking up the factor/multiple cards
- ◆ Using card games for teaching of grammar: such as using cards with appropriate articles/prepositions etc. to be matched with another set of statement cards

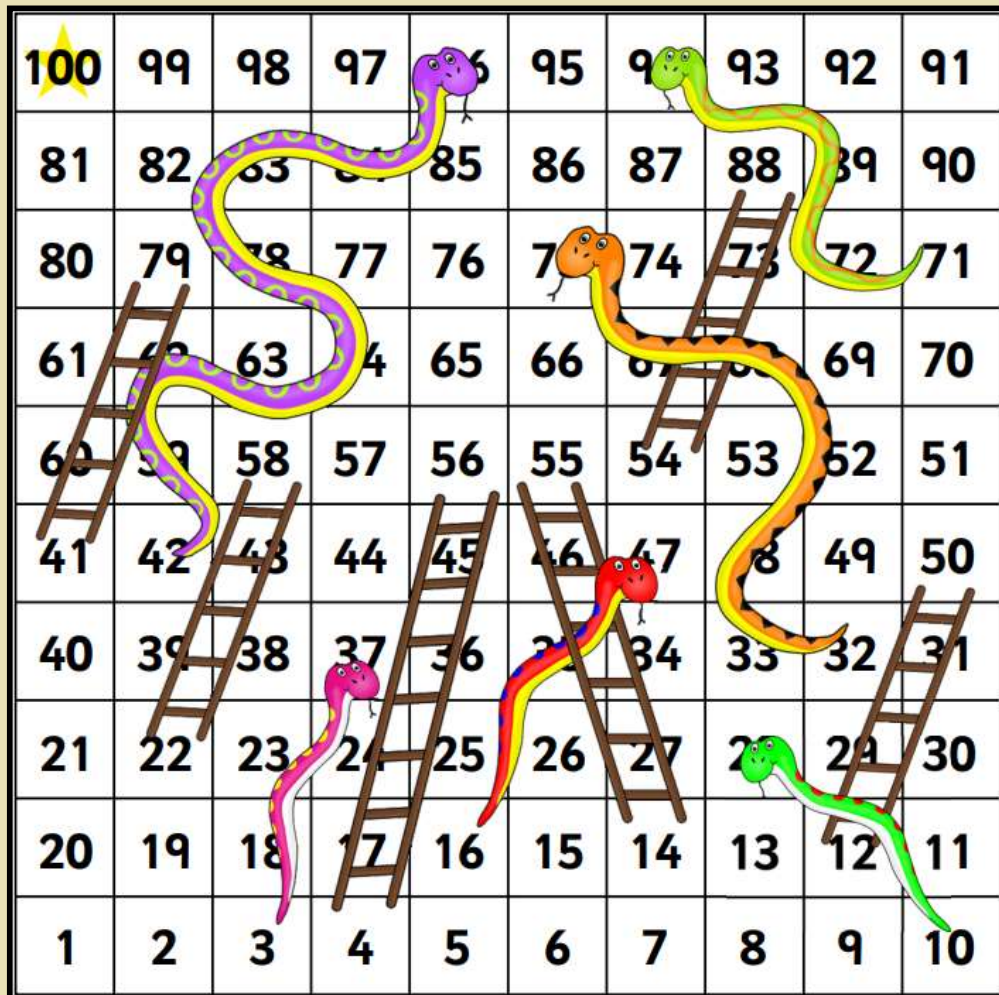


USING TARSIA IN SUBJECTS OTHER THAN MATHEMATICS

- ◆ In science subjects to label and identify the parts in a given diagram
 - ◆ In language for matching the correct meanings/filling in the blanks with the correct grammar
 - ◆ In history to learn the timeline of events
-and many more, the list is endless. It depends upon how innovatively the teacher uses it

EXTENDING TARSIAS CARDS TO OTHER GAMES

1. SNAKES AND LADDERS BOARD GAME



$\sec \theta$	$\frac{1}{\cos \theta}$
$\operatorname{cosec} \theta$	$\frac{1}{\sin \theta}$
$\cot \theta$	$\frac{\cos \theta}{\sin \theta}$
$\tan \theta$	$\frac{\sin \theta}{\cos \theta}$
$\cot \theta \tan \theta$	1
$\cos^2 \theta =$	$1 - \sin^2 \theta$
$1 + \tan^2 \theta =$	$\sec^2 \theta$
$1 + \cot^2 \theta =$	$\operatorname{cosec}^2 \theta$
$\tan^2 \theta =$	$\sec^2 \theta - 1$
$\cos \theta \tan \theta =$	$\sin \theta$
$\sin \theta \cot \theta =$	$\cos \theta$
Start	Finish



FRAME THE RULES...

- ◆ The teacher should frame the rules for the game and intimate the same to the class.

For eg., In the snakes and ladder game:

Rule 1: Pose a question when the student gets a snake bite. If answered correctly, proceed further, else do down to where the snake bite takes you

Rule 2: Pose a question when the student gets a ladder. If answered correctly, climb the ladder, else remain where you are.



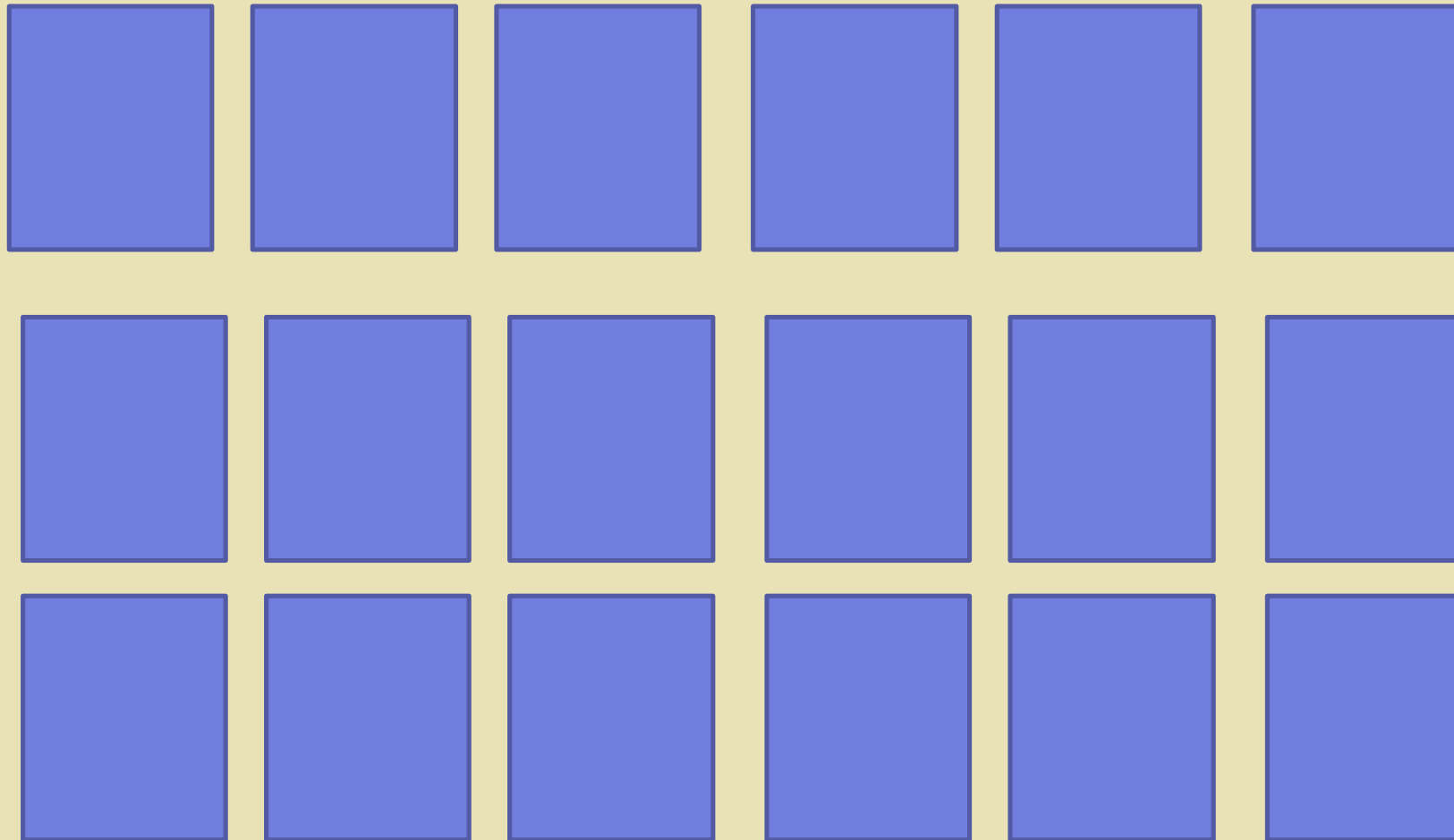
EXTENDING TARSLIA CARDS TO OTHER GAMES

2. FIND THE MISTAKES...

- ◆ The teacher can give a solved game pattern to the students and find out the wrong cards amongst them. In this way the students will need to solve all the given questions and pick out the wrong matches
- ◆ This strategy can be used by the teacher to reinforce the general misconceptions/errors made by students. This can be an excellent way of self learning from their own mistakes.
- ◆ Matching rectangular cards game would be a better option for such an activity

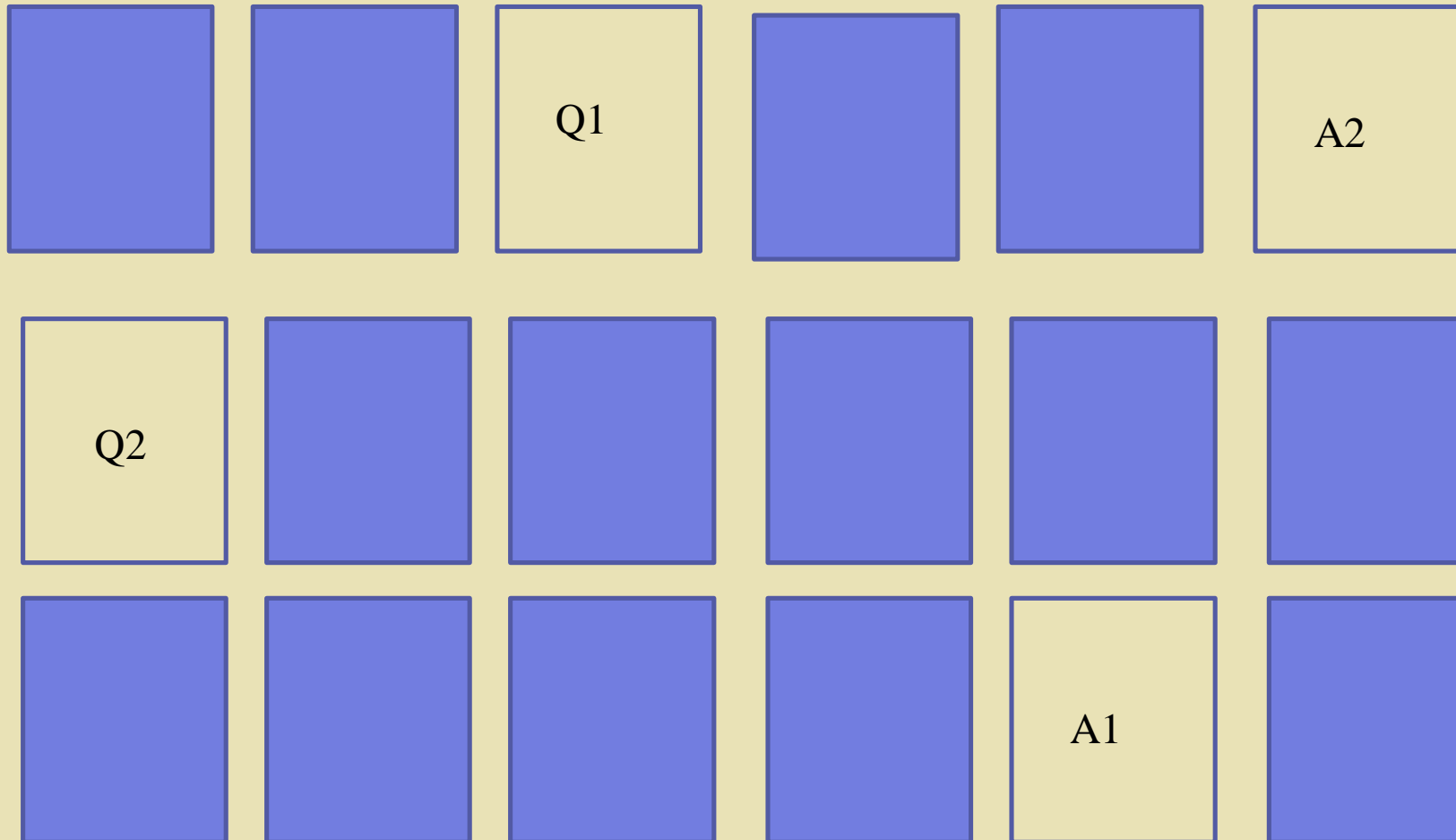
EXTENDING TARSIYA CARDS TO OTHER GAMES

- ◆ **3. MATCH THE CARDS** CARDS ARE KEPT UPSIDE DOWN



SOLUTION TO MATCH THE CARDS


TURN THE CARDS OPEN ONE BY ONE AND MATCH THE CARDS WITH THE ANSWER CARDS





USES OF THE GAME

- ◆ Promotes collaborative group work
- ◆ Family game during the lock down which can contribute to a stronger bond development between the child and the family, coordinated by the teacher
- ◆ Students can self evaluate themselves
- ◆ Promotes self learning
- ◆ Revision and reinforcement of concept taught
- ◆ It can be used for any grade level and any subject
- ◆ For interdisciplinary study
- ◆ It can be extended to other activities, if used innovatively



LINKS TO FREELY DOWNLOADABLE TARSIA QUIZES

- Tarsia puzzles organised for Australian Curriculum

<https://www.dropbox.com/sh/3nb7mfl8gx7a9on/AADVzeI5C0mc0UTvjOt6wBgFa>

- 2. <http://www.mrbartonmaths.com/teachers/rich-tasks/tarsia-jigsaw.html>

- <https://www.tes.com/teaching-resource/maths-tarsia-puzzle-zip-file-11387510>



Note for the teachers....

- ◆ Pen down the objective of each game before you make one
- ◆ Make multiple groups of students in small number rather than large groups
- ◆ The game should be so designed that it doesn't take too long to get over
- ◆ Level of the game should be chosen as per the learner's age group and level of understanding. Infact, multiple games on the same concept can be framed and given to the students as per their level of understanding
- ◆ The teacher can encourage the students to participate in the development of such games



THANK YOU