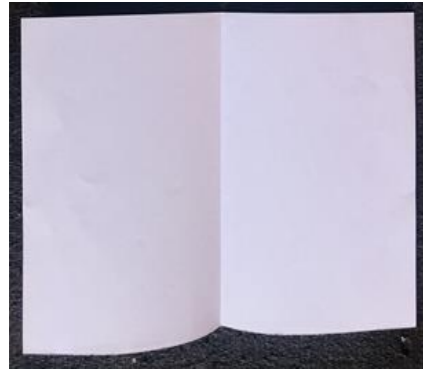
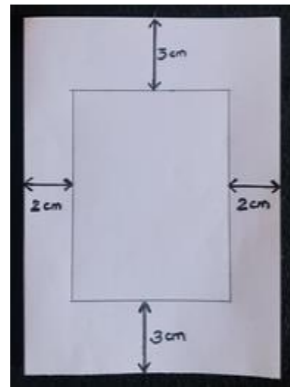


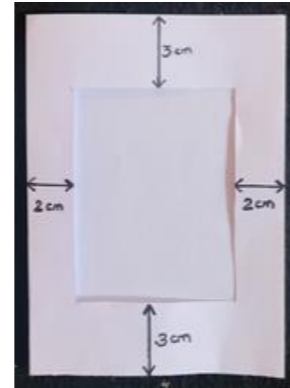
Learning Frames



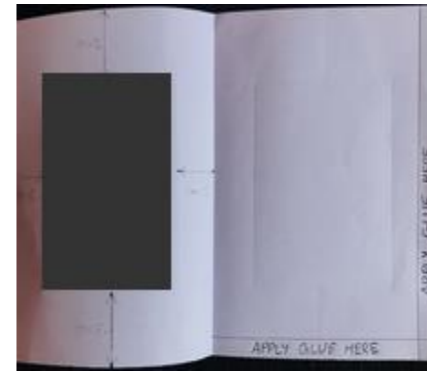
Step 1: To make the frame, first take an A5 size sheet and fold it into half.



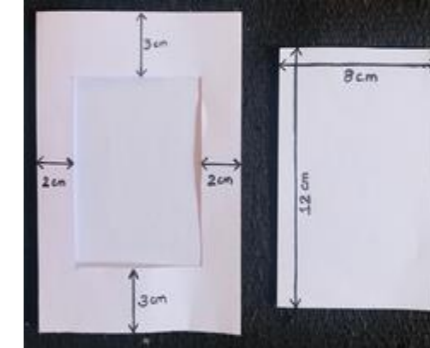
Step 2: On the front half, make a rectangle at a distance of 2 cm and 3 cm from the sides as shown in the image.



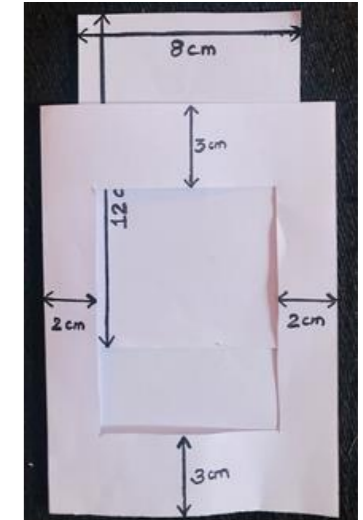
Step 3: Now, carefully cut the rectangle part with a cutter. It will look like a frame or a window.



Step 4: Once you have cut the inside rectangle, open the sheet and on the inside part stick the right and bottom sides with the help of glue. This is done such that the top side is left open and the frame appears like a pocket.



Step 5: After making the frame, make the insert cards of 12 cm X 8 cm each. Make (at least) the same number of inserts as the number of frames. The inserts can be more than the frames depending on the content.



Step 6: You can either write, draw or paste information on the insert cards and then place it inside the frame from the top. Multiple inserts can be used with each frame as per your teaching-learning need.

A few examples to use the learning frames

(1) Learning new terminologies: This game is focused on learning terms to build scientific vocabulary and uses categorization to do so. For instance, while teaching 'natural resources' you may use examples from categories such as, noble gases, metallic or non-metallic minerals, etc., to make the frame inserts. For each category, make at least 3 to 5 insert cards. To play the game, randomly distribute the prepared frames among students and then display category names. Ask the students to stand up if they think they have a card belonging to the said category. If the responses are correct then students can come forward and keep their cards under the category. Incorrect or doubtful answers may be discussed and resolved. The game continues until all the cards are kept under the correct categories.

(2) Memory game: With the same frames and a new set of inserts, another game can be played. Prepare a set of text cards (eg. with element names) and a set of visual cards (with uses of those elements). For this game, you need 20 frames kept on a table face-down in a 4 by 5 grid. The game is similar to what is commonly called the "Memory Game" where players need to pick two matching cards from an assorted set of cards. In this adapted version, students have to flip one frame at a time to see what is underneath. It will either be a text or a visual card. Players have to find the correct match for the card by flipping another frame. They succeed if they find the correct matching pair (For example, an element and its use forms one correct pair). But if they are unable to find the match they have to place both the frames upside down again. The next student will be at an advantage if they memorize the locations of the previous cards and are aware of the matching answers.

Background: Richard E. Mayer, an educational psychologist, in his recommendation of twelve learning principles suggests information chunking or 'segmenting' as an important principle for providing more control to the learner. Chunking (Miller, 1956) refers to the method of breaking down information into small segments rather than presenting as one long continuous unit. In the context of education, chunking has been used as an effective method to help students focus, understand and remember complex information for a longer time. The learning frames have been designed on the same principle of breaking down information and presenting it to students in small units. "Learning Frames" are easy to make, hands-on educational aids, which promote active class participation and employ game formats to aid in student engagement (Granic, Lobel & Engels, 2014; Cooper, 2014). Learning frames can be designed with separate insert cards depending on what a teacher wishes to focus on. This feature makes "Learning frames" open-ended, subject and language independent, reusable and flexible.

References:

- Mayer, Heiser and Lonn (2001). Cognitive Constraints on Multimedia Learning: When Presenting More Material Results in Less Understanding. *Journal of Educational Psychology* Vol. 93(1), pp187-198.
- Miller, G. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *The Psychological Review*, 63, 81-97.
- Cooper, S. (2014). *A framework for scientific discovery through video games*. New York: Morgan & Claypool Publishers.
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- George, H., Malhotra-Dalvi, A., Muralidhar, A., Ladage, S., & Chunawala, S. (2020, July). Sing, draw, play or invent. *Teacher Plus* 18(6), 16-18.