

# Experiences

STEAM

## STEAM Choice Boards

These choice boards have been designed to encourage short and simple STEAM explorations that develop creative and critical thinking, problem solving, inquiry and collaboration. They are perfect for differentiating tasks depending on individual learning preferences, interests and abilities. And because they give learners a choice - hence the name choice boards - in the challenges that they complete, they motivate students with a feeling of ownership of their learning.

Choice boards can be very useful in classrooms in which free play is encouraged, where a teacher wants to include short STEAM challenges or in a makerspace. They can also be used as homework or as a card up your sleeve for early finishers.

These choice boards can be printed out for learners to cross off tasks as they complete them or you can make your own and personalize it for your context. Use a choice board over time or in one sitting. You might give learners a time frame, e.g. complete three STEAM challenges this week.



## Alternatives

- Place one compulsory task in the centre of the choice board. Ask learners to complete three challenges, one of which must be the task in the centre square.
- Use a 3x3 choice board as a noughts and crosses grid, in which learners must complete three tasks in a row (horizontally, vertically or diagonally). Design a 4x4 grid and make it "Four in a Row".
- Create different choice boards for differentiated instruction, e.g. extension activities for higher achieving learners and review activities for lower achieving learners.
- Create your own choice boards that include the activities you have planned connected to a topic or project.
- Some squares can be left blank for learners to write their own challenges.

In this downloadable pack you will find the following STEAM choice boards:

### 1. STEAM Choice Board

An example choice board that contains nine STEAM challenges to print out for learners to tick off as they complete the tasks. Remember to give them a time frame or a number of challenges they must complete. They might be done individually or in groups to hone collaborative efforts.

### 2. Visual STEAM Choice Board

#### How tall can you build a tower out of ?

Learners choose the material they would like to build a tower out of from these eight choices, with the middle one being a choice of their own. These are all materials that are easily found in the classroom or at home. As it is a visual choice board, it encourages younger learners who still do not read in English to become more autonomous. This can be used as a noughts and crosses choice board or give them a random number of squares they should tick off. Ask learners to measure their towers at each step while they build, and write in the squares the number of inches or centimetres their towers were before they fell down.

### 3. Blank STEAM Choice Board

Print out the blank choice board and write in your own challenges. You can also make your own, or have older learners create their own for another group of learners, for 4, 6, 9, or 12 choices.

## Learner-made Choice Boards

After working with STEAM for some time, encourage your learners to create a STEAM choice board for another group of learners. They will have to decide together how many choices they will offer (4, 6, 9 or 12). They can 'steal' STEAM challenges they have already done, or make up their own. This is also very useful as a reflection and assessment exercise to go back through all the STEAM work they have done over a month or a year and select those that they enjoyed the most.

Older learners can think of ways of adapting STEAM experiences they have had, developing problem solving, creative and critical thinking skills, e.g. learners have previously done this STEAM activity: Build a pencil case out of cardboard that will hold 10 pencils. And so learners might now suggest Build a pencil case out of paper that will hold 20 pencils. Groups of learners will assign each other choice boards, and might discover impossible STEAM challenges, which is also a good reflection exercise. Presentation and reflection after carrying out the challenges is key for solid feedback.

**Other STEAM challenges** you might like to add to a choice board:

- Recreate a famous landmark: the Eiffel Tower, London Bridge, an Egyptian pyramid.
- Design and build a staircase of eight steps that a paper clip will fit on.
- Design and build a fence that is 10 cm high and has six posts.
- Design a new playground for your school.
- How tall can you build a structure that can hold one apple?
- Build a bridge that is strong enough to hold a can of food.
- Build an unsinkable raft out of craft sticks that can hold a toy passenger.
- How can you make an action figure (or LEGO figure) fly without touching it?
- Make a tent/house/car/train/slide/swing/seesaw.
- Make a paint brush out of elements from nature.
- Design and create a paper clip out of random material.

# STEAM CHOICE BOARD

Choose \_\_\_\_\_ (Number of activities) activities to be completed by \_\_\_\_\_ (Date)

Name/s: \_\_\_\_\_

<p>Research fun facts about an animal or plant and create a presentation.</p>	<p>Create a secret code. Write a message. See if others can crack the code.</p>	<p>Find 20 objects and organize them into groups. See if someone else can figure out how you decided to group them.</p>
<p>Find a famous painting and recreate it using everyday objects.</p>	<p>Without using a ruler, measure the dimensions of two different tables. What did you use? Did you use the same measuring instrument both times? Why/Why not?</p>	<p>Make 100 dots on a piece of paper. Connect the dots to make a picture.</p>
<p>Design and draw a building using only squares. Then, only triangles. Lastly, only circles.</p>	<p>Make a Venn Diagram to compare and contrast things of your choice.</p>	<p>Make a waterproof shelter for an object or toy.</p>



# VISUAL STEAM CHOICE BOARD

Choose \_\_\_\_\_ (Number of activities) activities to be completed by \_\_\_\_\_ (Date)

Name/s: \_\_\_\_\_

How tall can you build a tower out of...?

		
	YOUR CHOICE  (DRAW)	
		



# BLANK STEAM CHOICE BOARD

Choose \_\_\_\_\_ (Number of activities) **activities to be completed by** \_\_\_\_\_ (Date)

Name/s: \_\_\_\_\_


