

Subject: **STEAM**
(SCIENCE, TECHNOLOGY, ENGINEERING, ART, MATHS)

Duration: 2 weeks

Inspiration:
Have a look at this link on Youtube.
<https://www.youtube.com/watch?v=FWSp4dpyqqQ>

Key vocabulary:

Plan: a set of decisions about how to do something in the future

Design: a plan or drawing produced to show the look and function or workings of an object before it is made

Make: form something by putting parts together

Evaluate: to judge the quality of something

Final Outcome:

**CREATE YOUR OWN
MODEL OF YOUR DREAM**

Monday: Getting Inspired!

Today we would like you to watch the inspiration clip on youtube.

You might also want to watch some of the episodes from The Dengineers on CBBC -

<https://www.bbc.co.uk/iplayer/episodes/b083mq2v/the-dengineers>

Start to brainstorm ideas for your Dream Den

Tuesday: Decide on your Dream Den and start the design process. Have a look at the poster 'Den Themes' at the bottom of this document if you need inspiration.

➤: Draw your design on a large piece of paper. This may take several pieces of paper, lots of crossings out and changes of mind! Don't worry this what all the best designers do! Don't forget to include labels and explanations of what things are!

➤➤: **You need to** design a purposeful, functional and appealing den. In other words the den has got to look good, and if we were possible to be built in real-life. Now you must develop, model and communicate your ideas through talking and drawing. Start by jotting down your ideas/sketches on scrap paper. Then when you have you final idea now this can be committed to paper.

➤➤➤: Before beginning your design there are a few important points to address:

<https://www.sciencebuddies.org/science-fair-projects/engineering-design-process/engineering-design-process-steps?from=Newsletter>

Have a look at the link above and answer the questions at each stage before attempting to draw your design on paper.

Wednesday & Thursday: create a 'mood board.' This is your time to research online and in magazines to magpie ideas and inspiration from the outside world.

➤: What colours and patterns do you want in your den? Can you find a picture of what you would like your den to look like? Make a collage of all your ideas.

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➤➤➤: What colours, patterns and textures do you want in your den? Can you find a picture of what you would like your den to look like? Make a collage of all your ideas. Think about the layout of your Mood Board. It's like an information page so it will have Headings, sub-headings, captions and labels. If you are looking for some more technical ideas take a look at this link: <https://www.bbc.co.uk/teach/class-clips-video/design-and-technology-ks2-dengineers/z4rtrj6>

Friday and over the weekend:

➤ Make sure you have everything that you need to start building your den on Monday!

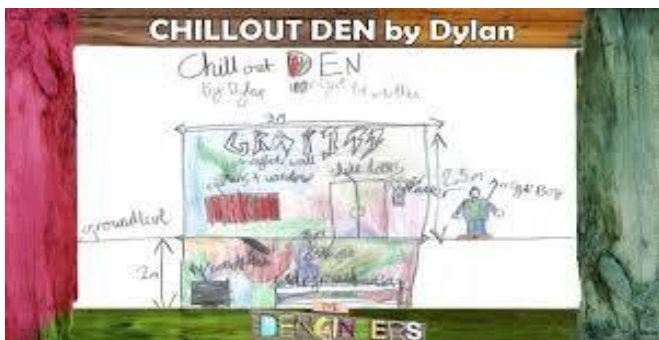
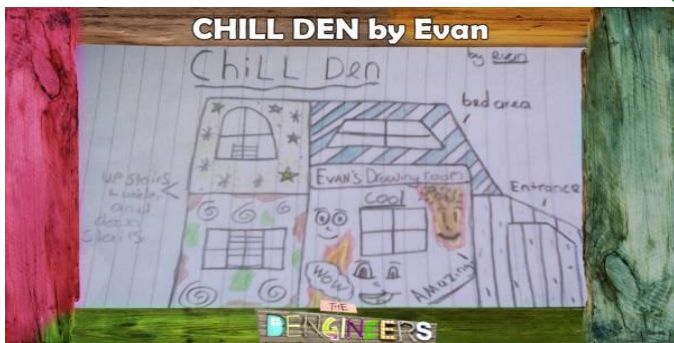
➤➤ Make a list of materials and equipment that you will need.

➤➤➤ Make a list of materials and equipment that you will need. Are there any costs involved? How much would you spend if you had a limitless budget?

EXTRA MATHS/DESIGN CHALLENGE – check out this link to look at how to draw a 3D room plan and floor plan (from above) : <https://www.bbc.co.uk/teach/class-clips-video/design-and-technology-ks1-ks2-drawing-a-room-plan-in-3d/zj6gf4j>

Look at this clip to show you how to build your own 3D room:

<https://www.bbc.co.uk/bitesize/articles/zrf6hbk> Remember you don't have to do it this way, a cardboard box is more than suitable!



Second week - Monday and Tuesday: Spend these two afternoons building your Dream Den.

➤: Build the main structure of your den. Try it out the way you planned and if it doesn't work try something else!

➤➤: Select and use a range of tools and equipment that will help you to build your den. For example which tools are best for cutting or shaping then what equipment will be best to help with the joins? Try and use a wide range of materials and components. What building/construction materials have you got?

➤➤: Select and use a range of tools and equipment that will help you to build your den. For example, which tools are best for cutting or shaping accurately? What equipment/techniques will be best to help with the joins? Try and use a wide range of materials and components. What building/construction materials have you got? Are there other textiles and ingredients that are going to be useful because of their characteristics/properties (what they look/feel like?) When you are building your structure, how can it be reinforced/made stronger, stiffer and more stable?

Could you include a mechanical system in your den – could there be a pulley system if your den is over 2 floors?



Wednesday and Thursday: spend these 2 afternoons decorating and furnishing the inside of your den.

➤: What things do you have around your house that you could use to decorate the inside of your den? Lego, playdough or dolls house furniture? Will you use felt tips to decorate the walls and floors? What items are mini/small enough for your model?

➤➤: What things do you have around your house that you could use to decorate the inside of your den? Lego or dolls house furniture? Could you design some wallpaper for the walls of your den – have a look online at some wallpaper designs, there are thousands out there. Eg. <https://www.ilovewallpaper.co.uk/wallpaper-c1> what repeated patterns could you use?

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What mini versions of things from your own house could you make for your den? What are the best materials to use for items that are so small? What materials would you use if you were to make life-size versions of them?



Friday: Evaluation.

Look at your den model. Now write down the following things:

➤: What went well? How did you have to change your ideas and try things out? What would you change next time or what other den would you like to build and why?

➤➤: Can you evaluate your Dream Den? What went well? What didn't? Which bits were tricky and why do you think this was? Present your evaluation however you like.

➤➤➤: Have a think about evaluating your Dream Den. Present your ideas however you like but make sure you think about what went well, which bits were more tricky and think about why. What could have helped you? What resources did you have to change? Look closely at your original design – how effective was the design. Ask another person for their opinion on your finished product – what are their views and opinions – are they helpful and could they be used to improve your design? Can you have a think about the costs involved if you were to make this in real size? How many times bigger would you have to make everything?

DEN THEMES

Your dream den is all about you. Choose a theme for your personal space. What are you passionate about? Why do you need a special space? Is it a place to escape or a space to share with friends? Make sure every little detail fits with your chosen theme to create the most perfect dream den for you. Check out the 16 themes in this section for ideas, or use them as inspiration to come up with your own dream den style!



Take your theme to the extreme! Transform both the inside and outside of your den in your chosen style.



Magic or music? Sport or sewing? Find the theme that's just right for you!



Make even the smallest of spaces look totally awesome! The little details can all add up to mega wow factor.

DO YOU NEED A SPACE TO...

- ☐ Make some noise without complaints?
- ☐ Craft and create in peace?
- ☐ Dance like no one's watching?
- ☐ Plan secret missions?
- ☐ Get together with friends?

MAGIC DEN

ROLL UP,
ROLL UP!

Whether you're into classic tricks, sleight of hand or witchcraft and wizardry, make your dream magic den appear with these ideas from the programme.

WHERE TO BUILD?

Magicians never reveal their tricks! Find yourself a private place to practise your craft in peace until it's perfect. You might want to add in an area to perform your magic show, too. Try transforming your fitted wardrobe into a secret planning space, building a magical blanket den under a table or even pitching a mystical pop-up tent.



DENGINEERS' TOP TIP!

Magic is full of surprises, so make sure your den has some unexpected elements. Maybe it could have a secret entrance, a false wall or a hidden box for all your tricks.
- Emma

GOING CLASSIC

The Dengineers designers delved into their box of tricks to create this traditional yet modern magic dream den, full of cards, illusions and classic colours. Try these ideas for your own magic den, if classic magic is your thing.

BLACK, WHITE AND RED

Take colour inspiration from the magician's all-important piece of equipment: a pack of playing cards.



INSPIRATION!



SHOWTIME

Make yourself a space to perform your show. This could be a cleared area in front of your den or a large piece of cardboard laid down flat. Paint the cardboard in a black and white grid pattern for a theatrical effect.

SECRET SPACE

Put up a blanket or cardboard screen to create a space behind your stage where you can prepare your tricks in private.

FLOATING CARDS

Ask an adult to help pierce a small hole in the top of playing cards with a needle. Thread clear fishing line through each hole and tie this to the ceiling to create the illusion that each card is floating in the air.



CRAFT DEN

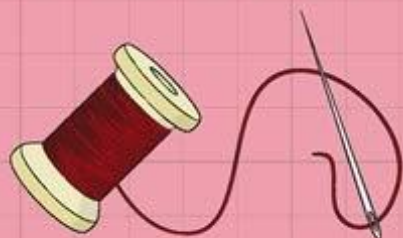
Escape to a world of creativity in your very own craft den. Whether you're creating just for fun or you dream of becoming a famous artist or designer, make yourself a special space to let your imagination run free.

WHERE TO BUILD?

The ideal craft den would have a crafting table and loads of storage for supplies. If you have space for these two things, that's the space for your den! A section of your room or a spare room would do nicely, or ask an adult to help you fix up an unused shed, if possible. If space is limited, instead make yourself a blanket or cardboard den that can become an inspirational space to craft in. Just bring your supplies in, and get crafting!

PATCHWORK PERFECT

Give your crafting den a true homemade feel with a patchwork floor. Cut equal-sized squares from different coloured pieces of card. Tape these together at the edges, then lay the large patchwork piece over your den's floor. If you're a sewing whizz, you could sew together squares of fabric instead of paper to make a patchwork blanket to lay down on the ground.



SEW GOOD!

CUTE AS A BUTTON

Decorate your den with giant buttons like *The Designers* designers did. For your version, cut large circles out of coloured card. Draw four black dots on each circle to make the buttonholes. Stick the buttons on your den's walls using sticky tack (or safety pins if your den is made of sheets and blankets).

INSPIRATION!



DESIGNER'S DESK

If you've got space, give yourself a crafting table in your den. You could build the den around an existing desk, or ask an adult to help you bring one in. If you're using a blanket or cardboard den, just clear a working space on the floor and protect it with newspaper or plastic sheets. You could even buy a mini ironing board that you could bring in for a crafting table on the go. Just fold it away when you're done!