



## 20 Home Learning Technology challenges

Challenge 1-10: Hospitality and Catering activities

Challenge 11-20: D&T/ Engineering activities

It is completely up to you which activity you complete. Try to complete one activity a week and email to your teacher.

## Challenge 1: Nutritional analysis of a meal

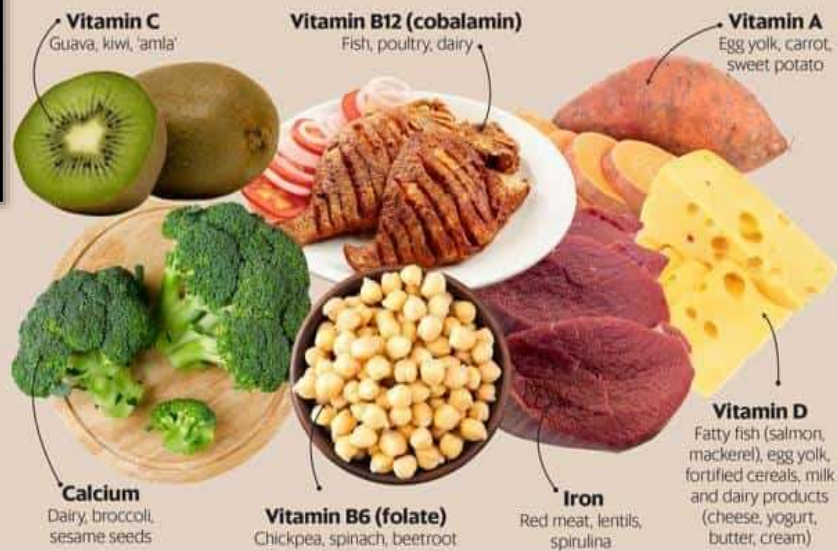
Think about the last meal which you ate. What nutrients were in this? Did it have any protein, carbohydrates or fats? What ingredients were these in? What does the body need these nutrients for?



## MACRONUTRIENTS



## NUTRIENT-RICH FOODS FOR A HEALTHY DIET

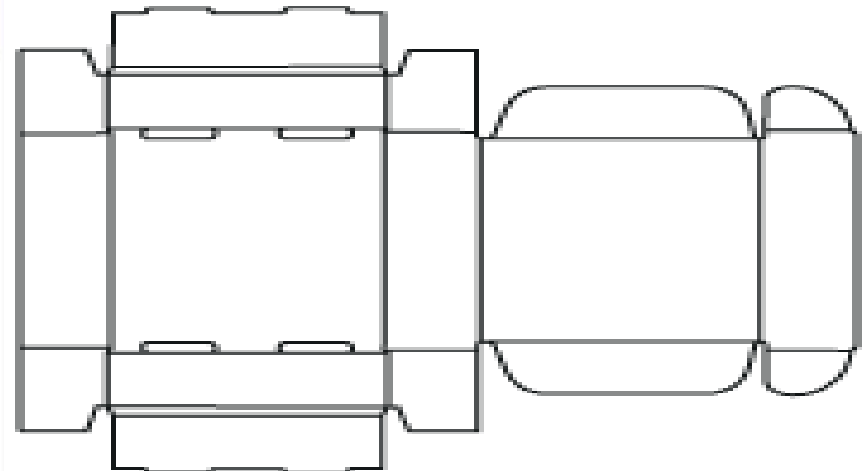
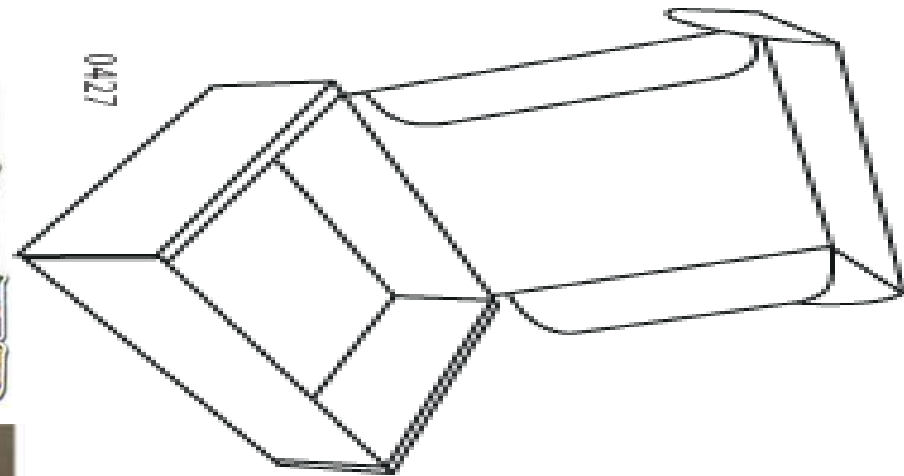




# Challenge 2: Food Packaging

How would you design packaging for the last thing you ate? What brand/ logos would be included? What information will be on the packaging? What will the packaging be made from? Why?

Extension: Can you make you packaging?





# Challenge 3: Multicultural foods

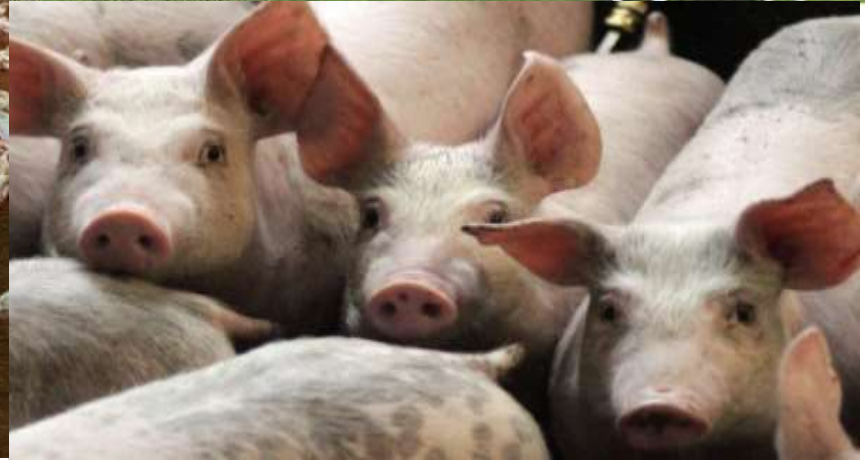
Choose a country from around the world and suggest a traditional dish which is served there. How is this cooked? What ingredients does it include? What festivals/ celebrations is it served at?





# Challenge 4: Food production

How is food made? Choose an ingredient and research how it is made. Think about primary and secondary processing. Look at 'Jimmys food factory' or 'the food factory' on the internet to help.





## Challenge 5: Menu design

Redesign the menu for your favourite restaurant/ takeaway business. What is shown on the menu? How are dishes made appealing to customers? What fonts/ colours are used?





## Challenge 6: Business investment





# Challenge 7: Ethical diets

What is a vegetarian diet? Why are different people vegetarian? Research/ produce a vegetarian recipe by adapting a current dish. Suggest the health benefits/ changes needed with a vegetarian diet.

## Vegetarian & Vegan Diet Pyramid





# Challenge 8: Medical special diets

Research what the health implications are for a specific special diet. This could be lactose intolerance, coeliac, or low fat diet. Suggest alternative ingredients and how the special diet affects the body.

## Nuts Coconut Shellfish Seeds Mango

- ❗ I have a life-threatening allergy to all nuts (almonds, cashews, walnuts, pine nuts, hazelnuts, pecans, pistachios, chestnuts), nut oils, coconut (coconut oil, coconut milk), shellfish (lobster, shrimp, clams, crab, mussels, oysters, scallops), seeds (poppy, sunflower, flax, sesame) and mango.
- ⊕ If I eat this food or any food that has been cooked with it or touched it, I will need immediate medical attention.
- ❓ Does this food contain any of the foods listed above?





# Challenge 9: Food critic review

Imagine you are a food critic. Write a review for the last food which you ate. Include opinions on the presentation, service, flavours, the surroundings where it was eaten and your overall recommendations (or not!)

★★★★★ 9/13/2018

Great place for the locals. The food is great and had a party of 6 and everyone loved everything ordered, especially the steak special which I would recommend if you are in Vegas.

Adam C. voted for this review

 Useful 1

 Funny

 Cool

**Olivia C.**  
Chicago, IL  
21 reviews  
1 photo

[Share review](#)  
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[Follow Olivia C.](#)

★★★★★ 11/1/2018  
I really hate to leave bad reviews, but the service here was so incredibly bad last week that I had to. The hostess (Alicia? Alyssa?) was the rudest I have ever encountered. And I mean that. Not just "mean rude." She was on purpose, creatively rude. She found a way to have an attitude about every single interaction. We got there pretty much when they opened and the place was empty. Asked for a table for 7. She rolled her eyes when we said we didn't have a reservation and said she "guessed" she could seat us. Took us upstairs, where we were the only people in sight. It was very very warm and she was about to seat us in the sun. I wouldn't have minded, but our friend has two small children, and he asked if we could move to a shaded table right next to the one in the sun. She stared at him like he was speaking gibberish and then said "no." Our friend is the nicest guy in the world but even he was a little taken aback. He said "Please? My kids are going to be pretty hot. I can move the silverware over to the other table, you don't even have to worry about it." She rolled her eyes again and said "I mean, I guess. If you want that table, it really doesn't matter to me." If it doesn't matter to you, why did you say no? I could go on and on. At one point my husband and I were literally laughing because her attitude was so outrageous. Maybe she was having a bad day. But dude I've worked in service, and sometimes you have to suck it up. As the hostess, you're the first impression of a restaurant, and if this is the impression they want to give...well, mission accomplished. We won't be back.





# Challenge 10: Making food!

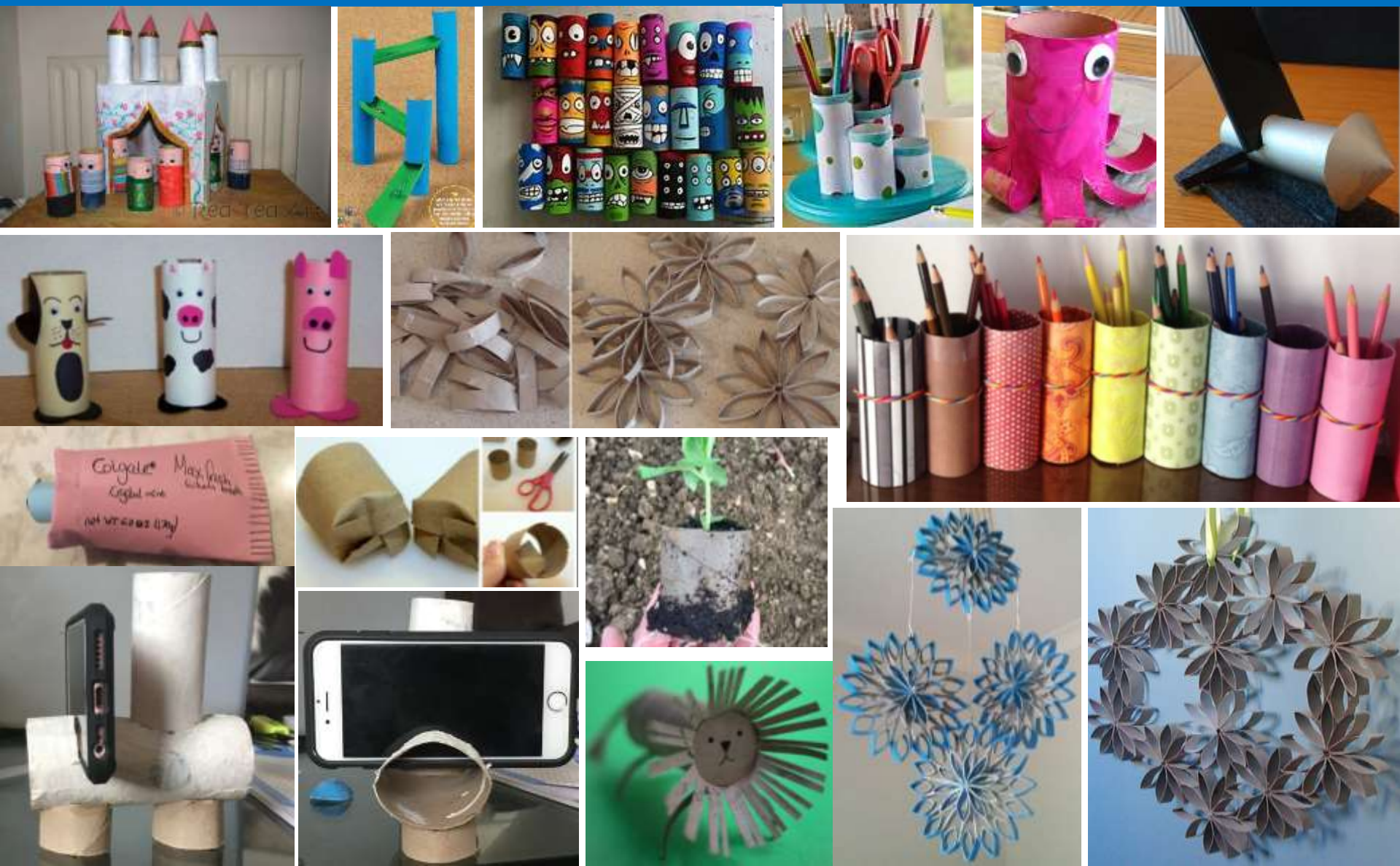
Make one of Mr Fawcetts recipes set through show my homework! Remember to send the photos!





# Challenge 11: How creative can you be with a toilet tube...

Use whatever junk materials you can find at home and create a fabulous model. Take a picture of it (from lots of different angles) and upload it onto Show My Homework – show me how creative you can be! Enjoy the challenge!





# Challenge 12: Research into a job in which you would use design and technology skills and knowledge...

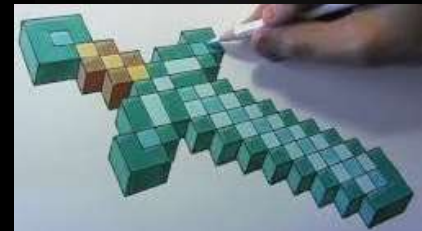
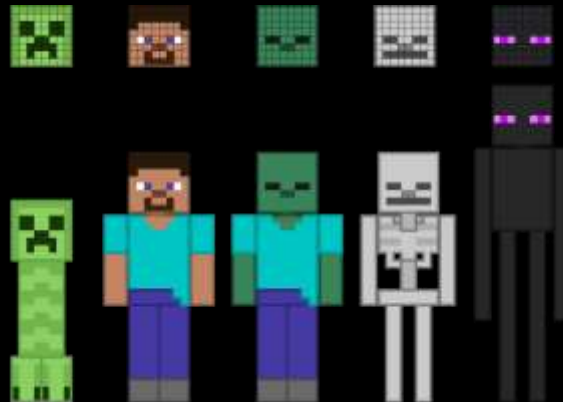
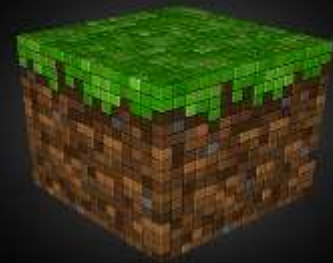
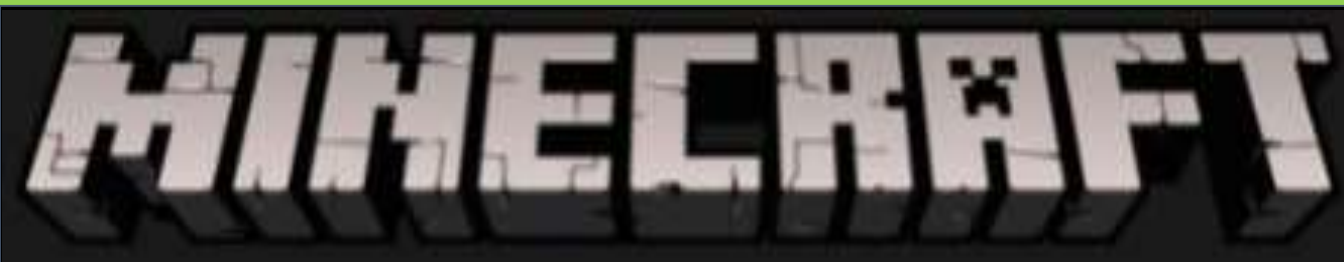
Produce a page of research about your chosen job – What is your chosen career? Why did you chose this? What do they do? What are their responsibilities? What skills do they use? What training did they need to do their job? How much do they earn? Take a picture of your research page – can be hand written or you could use ICT skills - upload it onto Show My Homework – Enjoy the challenge!





# Challenge 13: Create a new character for Minecraft...

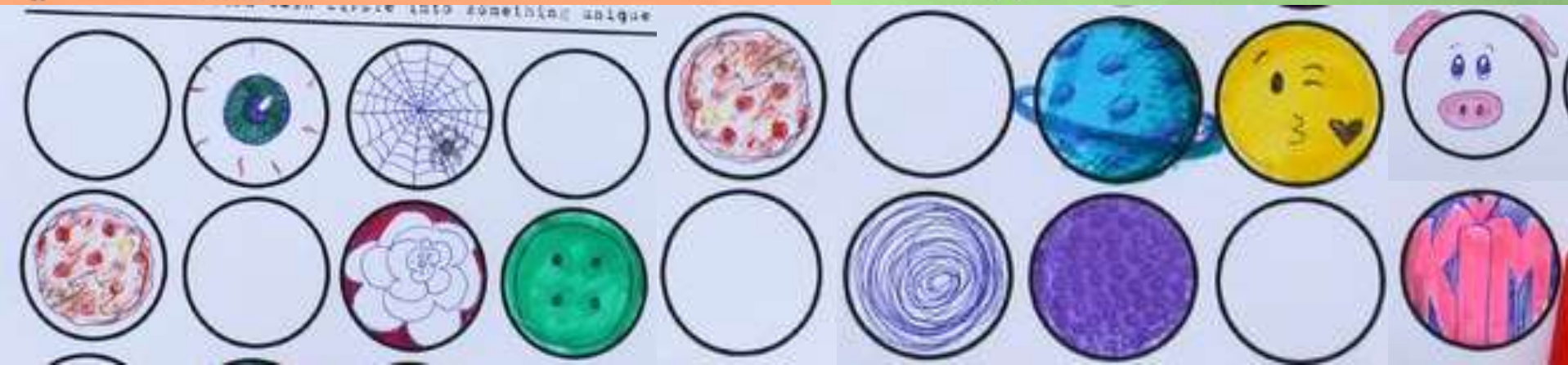
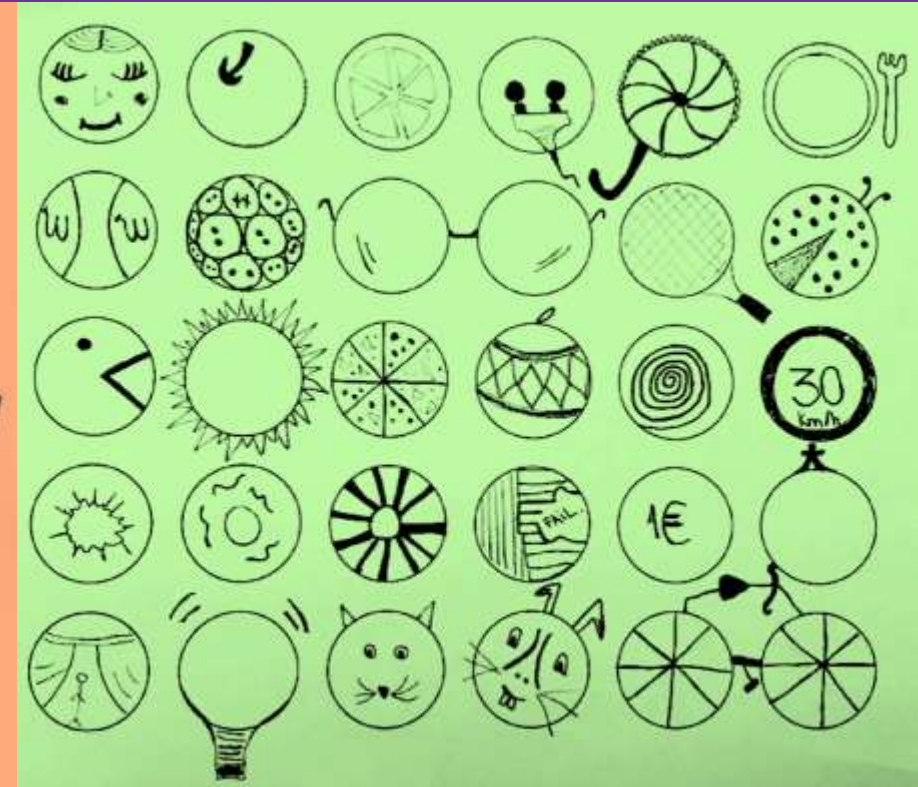
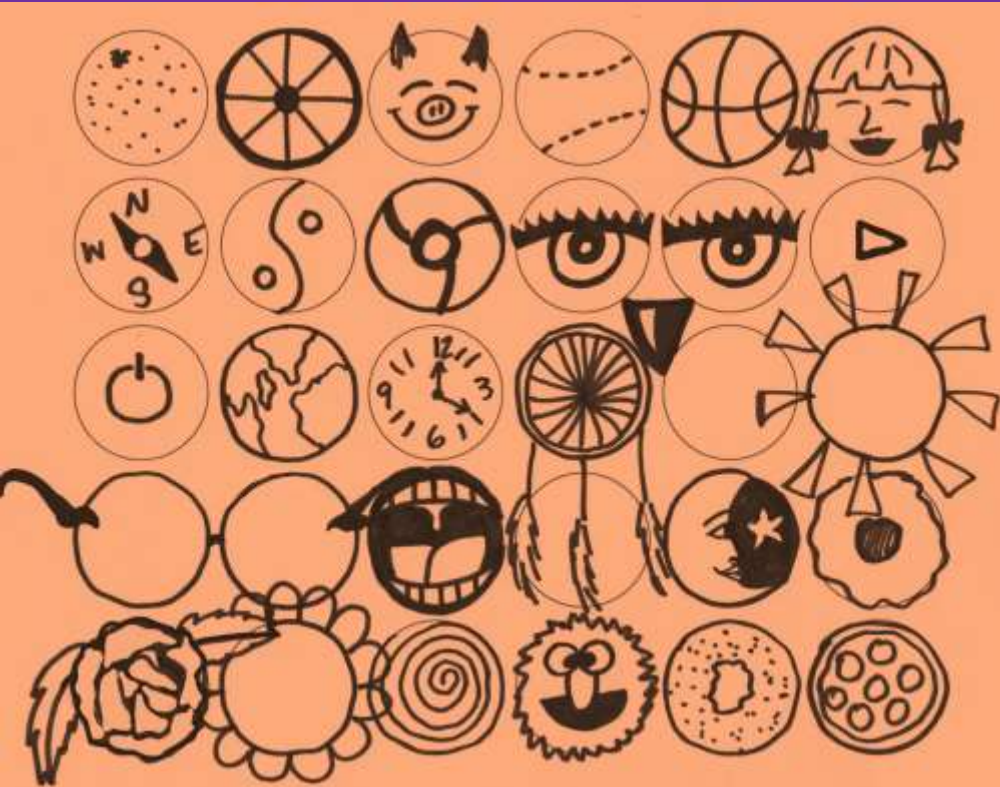
I am looking for creativity here – what can you design that is cool and interesting? Draw up your character – then take a photo and upload it onto Show My Homework. You can draw this flat in 2D-I challenge you to do it in 3D isometric drawing! Enjoy the challenge!





## Challenge 14: Sketch a circle and turn it into something else..

I am looking for creativity here – what can you draw that is cool and interesting? Complete as many circles as you can in 30 minutes, then take a photo and upload it onto Show My Homework.....Enjoy the challenge!





# Challenge 15: Design and build a helicopter using only paper and paperclips...

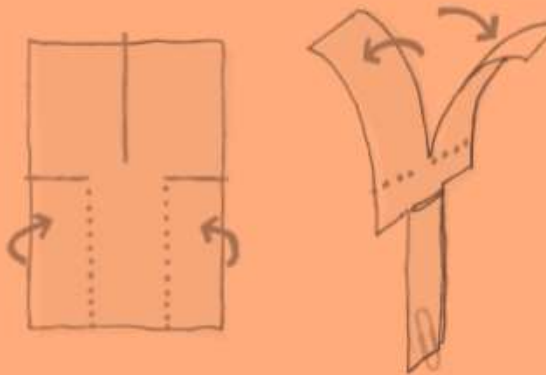
Experiment with different papers and cards. Try and weight the helicopter down – what happens?  
Remember to take a photos and upload them onto Show My Homework.....Enjoy the challenge!

## The brief

Design and build a helicopter using only paper and paperclips.

## The method

1. Take a piece of paper and make three cuts as shown in the illustration. Then fold the paper in on itself at the bottom half – use a paper clip to keep the sides together.
2. Fold the two halves of the remaining paper away from each other, to form the helicopter blades.
3. Stand carefully on a chair and drop your helicopter, making sure it stays upright as you let go!



## Materials

A4 sheet of paper  
Paper clips  
Scissors  
(with adult supervision)



## Design icons



Juan de la Cierva's Cierva C.8.



Leonardo da Vinci's Aerial Screw.

**WATCH THEM  
SPIN &  
FLY**





# Challenge 16: Design a product that can help people open the door without touching the door handle...

This could be a design drawing or a model/prototype that you could actually try on a door to find out if it works! Remember to take a photo and upload it onto Show My Homework.....Enjoy the challenge!



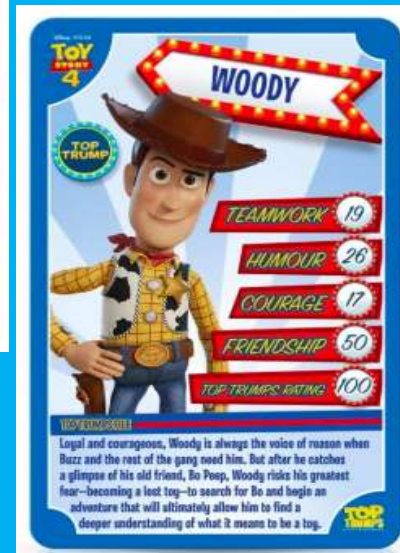
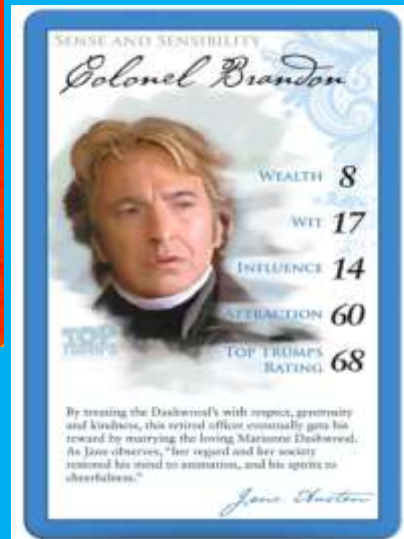


# Challenge 17: Create a visual card game... something similar to 'Top Trumps'.

Find inspiration from something you are interested in / you know about. Think of how the game will be played and what the playing cards would look like. What would the categories be? What are the rules?

As a slight alternative to this you could design or even make your own board game (this may well include some cards as well as additional objects).

Remember to take a photos and upload them onto Show My Homework ....Enjoy the challenge!





# CARDBOARD CHAIR

## Challenge 18: Construct a chair that either you can sit on or a small prototype that a toy can sit on...

Experiment with different card you can find around the house. Think about how you can cut and fold the card to make it stronger. Remember to take a photos and upload them onto Show My Homework. Enjoy the challenge!

### The brief

Construct a chair that you can sit on using only cardboard. No glue, tape or other fixing materials allowed.

### The method

1. Write down or sketch some ideas as to how you will construct the chair.
2. When you are planning, think about using cones, interlocking sheets, spirals, tubes – or even using strips of card like sewing thread.
3. Use the materials to create a chair made from cardboard.
4. If your first design doesn't work, evaluate what went wrong and try again.

### Top tip

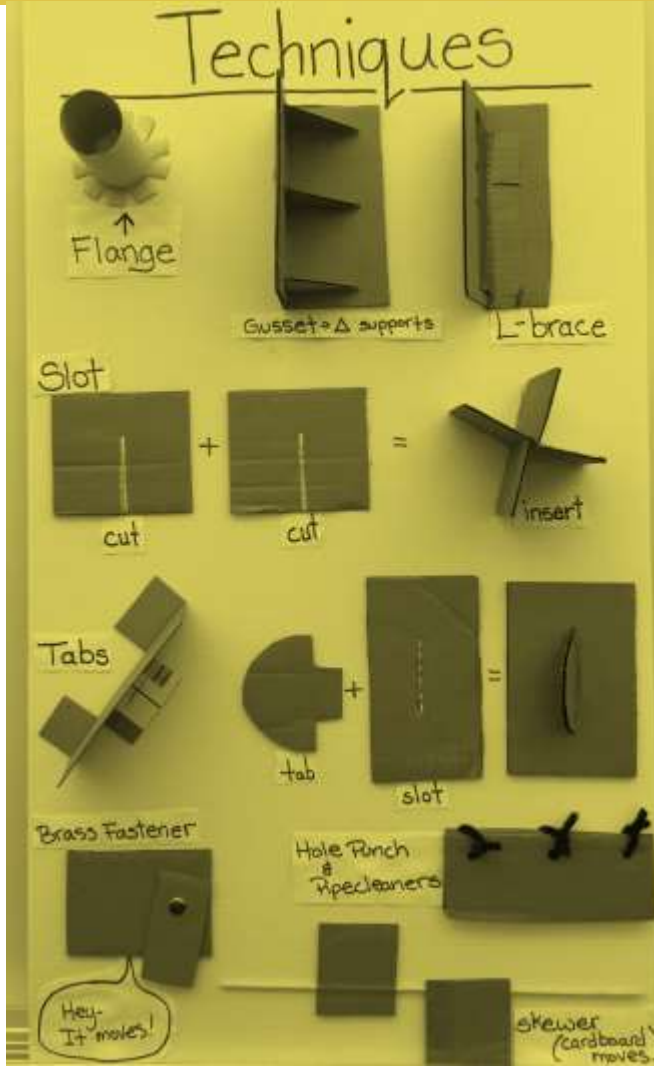
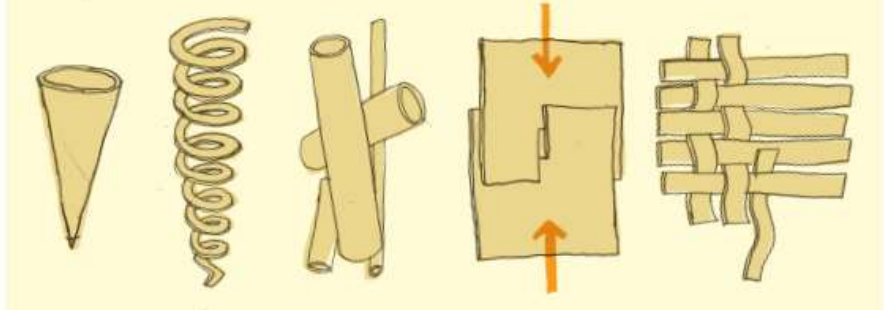
Think about structure.

### Materials

- Cardboard
- Cutting equipment (with adult supervision)
- Rulers
- Pencils



Examples of different structures:

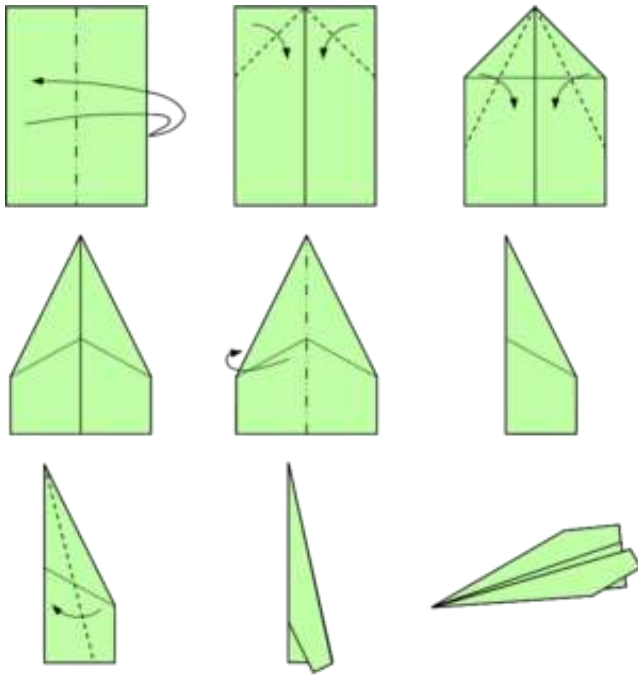




# Challenge 19: How long can you keep a paper plane in the air? You are being challenged to do two things....

1. To design and make a paper Aeroplane that will either stay in the air the longest or travel the furthest

## Aerodynamics Challenge



# Challenge 20: Drawing music...

Drawing to music is all about a process: listening, responding, revising, editing, revising and interacting. It relaxes, exhilarates, provokes thought and invites you to just respond to what you hear. You will benefit by not worrying what the outcome should look like. You can't make a mistake!

To help try to create a piece of work that will fit into a circle, rectangle, or square. The frame, which may evolve and generally does, gives you boundaries. The boundaries are not restraints, but rather reference points to help you make decisions... Remember to take a photo and upload them onto Show My Homework. Enjoy the challenge!

