



# YEAR 7 SUMMER PROJECTS

Select 3 subjects. Complete at least one of the tasks set for each of your chosen subjects.



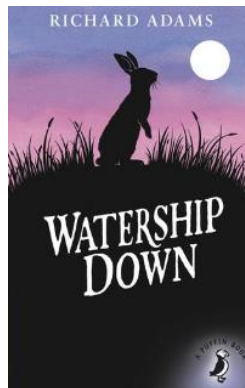
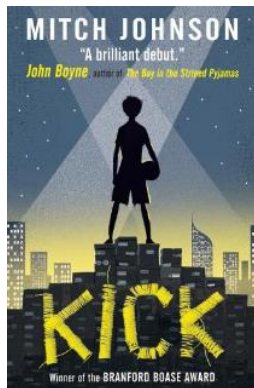
## ENGLISH SUMMER PROJECT

### GET YOUR READING ON!

As you traverse through the sunny times of your summer holidays, try to get a photo of you reading in each of the following places:

- |  |  |
|--|--|
| <input type="checkbox"/> In nature                                       | <input type="checkbox"/> Whilst you have a snack |
| <input type="checkbox"/> Somewhere sandy                                 | <input type="checkbox"/> Somewhere wet           |
| <input type="checkbox"/> Somewhere surrounded by books                   | <input type="checkbox"/> On holiday              |
| <input type="checkbox"/> In a mode of transport (car, train, bus, plane) | <input type="checkbox"/> With someone            |
| <input type="checkbox"/> On a sunny day                                  | <input type="checkbox"/> In your room            |

### Struggling to pick a book? Here's some inspiration...



What's your favourite genre of book? Pick a genre and create a protagonist to fit in that type of story.



For example, if I was going to write about a character in a comedy story, I might draw and write something like this:

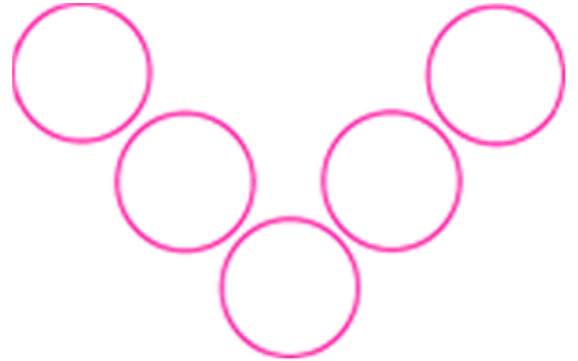
Meet *Emily Harper*, the lovable star of this comedy novel, who navigates life's silliness with optimism and clumsiness. With her wild red hair and bright green eyes, Emily's small-town life is full of hilarious misadventures—like mistaking a town meeting for a comedy show or getting involved in a mystery about missing fancy cheese. Writing for her blog, "*Harper's Bizarre*," Emily's knack for wacky situations brings endless laughs. Her big heart, her witty best friend Megan, and her crush on shy bookstore owner Sam add to the fun. Perfect for young readers, Emily's story celebrates life's imperfections with non-stop humor.



## MATHS SUMMER PROJECT

### MAGIC Vs

- Place each of the numbers 1 to 5 in the V shape below so that the two arms of the V have the same total.
- How many different possibilities are there?
- What do you notice about all the solutions you find?
- Can you explain what you see?
- Can you convince someone that you have all the solutions?
- What happens if we use the numbers from 2 to 6? From 12 to 16? From 37 to 41? From 103 to 107? Try it.
- What can you discover about a V that has arms of length 4 using the numbers 1–7? Try it.



### REACH 100

Here is a grid of four "boxes":


You must choose four different digits from 1–9 and put one in each box.

For example: This gives four two-digit numbers:

5	2
1	9

- 52 (reading along the 1st row)
- 19 (reading along the 2nd row)
- 51 (reading down the left hand column)
- 29 (reading down the right hand column)
- In this case their sum (total when added together) is 151.

Try a few examples of your own.

Is there a quick way to tell if the total is going to be even or odd?

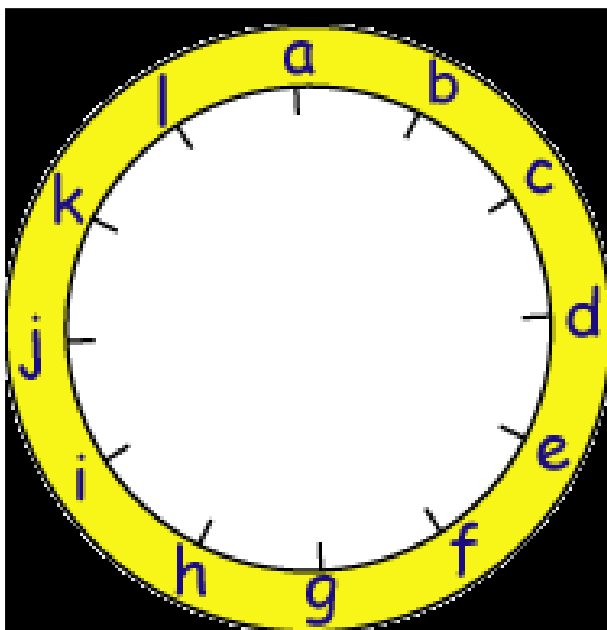
Your challenge is to find four different digits that give four two-digit numbers which add to a total of 100.

How many ways can you find of doing it?

### A MIXED UP CLOCK FACE

There is a clock-face where the numbers have become all mixed up. Can you find out where all the numbers have got to from the ten statements below?

Here is a clock-face with letters to mark the position of the numbers so that the statements are easier to read and to follow.



1. No even number is between two odd numbers.
2. No consecutive numbers are next to each other.
3. The numbers on the vertical axis (a) and (g) add to 13.
4. The numbers on the horizontal axis (d) and (j) also add to 13.
5. The first set of 6 numbers [(a) - (f)] add to the same total as the second set of 6 numbers [(g) - (l)] .
6. The number at position (f) is in the correct position on the clock-face.
7. The number at position (d) is double the number at position (h).
8. There is a difference of 6 between the number at position (g) and the number preceding it (f).
9. The number at position (l) is twice the top number (a), one third of the number at position (d) and half of the number at position (e).
10. The number at position (d) is 4 times one of the numbers adjacent (next) to it.



## SCIENCE SUMMER PROJECT

Science is the study of the world around us. Scientists learn about their subject by observing, describing, and experimenting. At Birchwood High School you will study the science topics of Biology, Chemistry and Physics.

We have put some tasks together that will give you a sample of different aspects of the biology, chemistry and physics curriculum at KS3.

### BIOLOGY

#### 1. LOCAL WILDLIFE

Think about the living things you might find in your garden, or in a local park. List as many organisms from your area as you can. Divide the list into producers, herbivores and carnivores.

PRODUCERS	HERBIVORES	CARNIVORES

#### 2. THE HUMAN HEART

Answer these questions using what you already know about the human heart.

Where is the heart found in the body?

.....

What does the heart do?

.....

Your pulse measures how many times your heart beats in one minute.

- Record your pulse when you are resting and fill in the table.
- Now jog on the spot or do star jumps for two minutes.
- Measure your pulse again and fill in the table.

Resting Pulse (beats per minute)	Pulse after exercise (beats per minute)

What happens to your pulse when you exercise and why?

.....

.....

.....

## CHEMISTRY:

**Chemistry** is the science that studies the properties of matter (**Matter** is everything around you) and how matter interacts with energy.

### 1. MATERIALS AND MATTER

Chemists make materials that are suitable for their purpose. In this activity, you will work out why objects are made from certain materials.

What to do:

- Find five objects at home that are made from different materials.
- Fill in the table to show why the objects are made from certain materials. The first line is already filled in.

OBJECT	MATERIAL THE OBJECT IS MADE FROM	PROPERTIES OF THE MATERIALS THAT MATERIAL THAT MAKE IT SUITABLE FOR THE OBJECT
Frying pan	Metal	<ul style="list-style-type: none"><li>• Good conductor of heat</li><li>• Rigid</li></ul>

### 2. SUGAR OR SALT

In this activity you will plan and do an investigation to answer this question: Can you dissolve more sugar or more salt into a glass of water?

Complete the table

VARIABLE	Will I change it, keep it the same or measure it?
Substance (salt or sugar)	
Amount that dissolves in water	

Volume of water	
Temperature of water	

My Results:

SUBSTANCE	AMOUNT THAT DISSOLVES
Sugar	
Salt	

Write down what you will do (your method)

.....

.....

.....

.....

What did you find out?

.....

.....

.....

.....

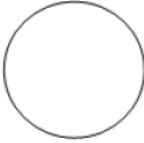
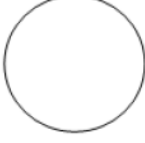
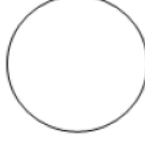
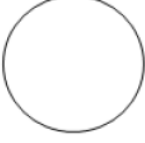
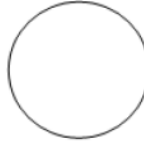
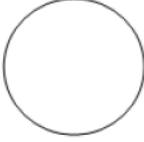
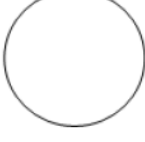
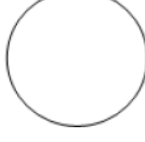
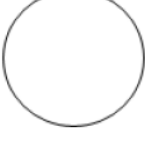
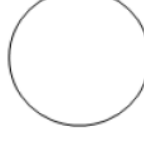
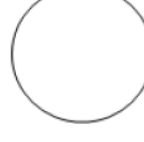
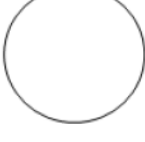
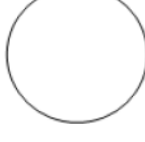
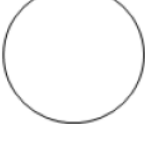
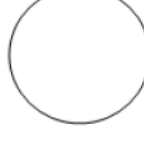
## PHYSICS:

Physics is a branch of science that studies matter and its motion as well as how it interacts with energy and forces. Physics studies small particles and atoms as well as the largest stars and the universe.

### 1. PHASES OF THE MOON

Have you ever looked up at the sky and noticed how the Moon appears to change shape each night? Ever wondered why... And how?

Over the next 30 days, draw the shape of the moon. If you cannot see it one evening, make sure you look again the following evening and draw the new shape.

Date: 	Date: 	Date: 	Date: 	Date: 
Date: 	Date: 	Date: 	Date: 	Date: 
Date: 	Date: 	Date: 	Date: 	Date: 

## 2. DENSITY RAINBOW

Density is a measure of how tightly packed molecules are in a substance. Density differences cause objects to float or sink.

If you have 5 different solutions that are all different densities, they will layer on top of each other — the denser solutions will sit on the bottom and the lightest will sit on the top.

You will need:

- A glass
- Honey
- Milk
- Water
- Vegetable oil
- Washing up liquid
- A pipette or syringe

Carefully layer a small volume of honey into the glass (careful not to touch the sides). Use a syringe or pipette if you have one to slowly and carefully add a layer of milk, washing up liquid, water and lastly vegetable oil. What do you observe and why?

.....

.....

.....

.....



## ART SUMMER PROJECT

Welcome to Birchwood! We are looking forward to meeting you in September. In Art, we will have lots of exciting classes to develop your skills. Plus, plenty of other opportunities for you to get involved - including clubs, competitions and trips.

To get you started on your secondary school journey we would love you to get involved in some, or all, of the following activities...

### CREATE YOUR NAME

Look carefully around your house, garden and local area for shapes that can be used to create the letters of your name. You may have to look carefully at details to find the shapes you need. The challenge is to try not to use letters that already exist but to use shapes to create your letters.

You can do your first name, surname, or both!



Here's an example from last year – Will



Miss Morrison's example

### CREATE A POSTCARD

You may or may not be going on holiday this summer... either way, we'd like you to create a postcard for your favourite destination, it can be postcard sized or bigger.

It can be a place that you visited this summer, or that you've been to previously. It may help if you have a photo of the place that you want to draw or paint.

Or choose somewhere that you would love to go and look up photographs on the internet. If you're feeling really creative you can even draw somewhere completely from your imagination!

## CREATE A LANDSCAPE

Look out at the view from your window and draw what you see. You can draw the window or just the view. You can look out to the distance or look down from a high window to draw a bird's eye view.

Use any materials you like to add colour or leave it in pencil.



## CREATE A MASTERPIECE

The Getty Museum have set a challenge to recreate a masterpiece of artwork with people and everyday things that you have at home and photograph it.

You have probably seen this on social media but if not take a look at the examples on this link:

<http://blogs.getty.edu/iris/getty-artworks-recreated-with-household-items-by-creative-geniuses-the-world-over/>

You can choose any artwork from any gallery, so do some online research and find something exciting to recreate.

See if you can involve your family and be creative in the clothing and props you use to create it.

Look at the example below:





## DANCE SUMMER PROJECT

The Dance department are very excited to welcome you to Birchwood. We have lots of exciting and fun Dance clubs, trips, competitions, festivals and musicals waiting for you to be involved in.

To get you started why not try some of the activities from our Dance Challenge Board. You may also like to try out our Young Choreographer Competition this year.

### DANCE CHALLENGE BOARD:

See how many of our dance challenges you can complete. Please remember to be careful and not hurt yourself! Ask for adult supervision for some of the more challenging moves.

<b>Challenge 1</b> Next time you go for a walk find a sunny place and take a photo doing your best Yoga pose.	<b>Challenge 2</b> Video call a friend and perform the floss together	<b>Challenge 3</b> Summer Splits! Take a photo of you doing the splits in a place that represents summer.
<b>Challenge 4</b> Get your whole family involved and create the biggest human pyramid that you can.	<b>Challenge 5</b> Write each letter of your name with a different body part. Put this together in a sequence.	<b>Challenge 6</b> Create a Dance video that represents how you felt on your first day at Birchwood.
<b>Challenge 7</b> Google headstands for charity and try out one of the very challenging positions!	<b>Challenge 8</b> Find an interesting place in your house and get into the most flexible pose you can think of.	<b>Challenge 9</b> Take a photo of you in a creative balance whilst balancing a strange object on yourself.
<b>Challenge 10</b> Perform your most creative jump whilst holding a sign that says I LOVE DANCE.	<b>Challenge 11</b> Google 'Dance Lifts' and see if you can recreate one with people in your household.	<b>Challenge 12</b> Perform your best set of Jazz hands wearing sunglasses.

### CHOREOGRAPHY COMPETITION

The theme this year for our choreography competition is the title

*'Once Upon A Time...'*

You need to create a solo or group dance with members of your household based on the title 'Once upon a time'. For example, this might be a fairy-tale with a plot twist, a story about something that

has happened in our world sometime in the past, a famous quote/picture/poem that starts with the title.

It can be anything you want it to be as long as it has some relevance to the title. The more creative the better!

- All performances should be between 2-3 minutes long.
- All performances must be filmed with suitable music.
- All performances must be filmed with a suitable costume.



## DRAMA SUMMER PROJECT

The Drama department are very excited to welcome you to Birchwood. To get you started why not try some of the activities below at home...

### WRITE A MONOLOGUE

#### BIG MOMENT ENERGY

Write a monologue from a character who's about to experience something HUGE.

- It could be their first time performing in the school talent show...
- The night before they go on a rollercoaster for the first time...
- The moment before they meet a long-lost pet...
- Or even their very first day at wizard school!

What's going through their mind?

- Are they nervous, excited, totally freaking out... or pretending to be cool?
- Tell their story in their voice. Be funny, dramatic, honest – or all three!

Helpful Hint: A monologue is a script written and delivered by one person – it shows the inner thoughts and feelings of that character.

### ACCENT TONGUE TWISTERS








Practise the following tongue twisters in as many accents that you can think of.

1. *I saw Susie in a shoe shine shop*
2. *You know New York, you need New York, you know you need unique New York*
3. *I saw kittens eating chicken in the kitchen*

Helpful hint: have you thought of these accents? American, Irish, Scottish, Welsh, Australian.

### EMOJITASTICS

Facial expressions are important in acting. The audience read facial expressions to understand how you are feeling. A bit like when we use emojis. See if you can complete the table below.

EMOTION	EMOJI	PHOTO OF YOU	CHARACTERISTICS
Tired			Heavy eyes, sunken face, no energy, yawning
			
			
			
			
			



# GEOGRAPHY SUMMER PROJECT

## DESIGN YOUR OWN COUNTRY

You have been given the opportunity to create your own country. You have the ability to be as creative as you like! You will need to design the shape of your country, decide whether you are creating an island or a border country, choose a name and create a flag.

Once you have these basic elements, you can develop your country.

### Presenting your project

You can choose to do this in any way you like (eg. Powerpoint, annotated map, word doc). However, you should include the following:

- A map, including key features e.g. mountains, lakes, rivers
- A flag (you could look up flags of existing countries to help you)
- A name for your country
- What surrounds your country (e.g. other countries, an ocean...)
- The information from the task 2 (below)

Choose **one** of the tasks below to complete (good geographer OR very good geographer OR expert geographer)

	Good geographer	Very good geographer	Expert geographer
<b>Climate</b>	What is your weather and climate like?	What is the temperature and how much rain do you get?	Do you have seasons? How do these affect the temperature and rainfall?
<b>Terrain</b>	Is the landscape flat or hilly?	Is the landscape mostly flat or hilly? Do you have any mountains or mountain ranges?	How does the terrain vary in your country? Is it mostly flat or hilly, and do you have any mountain ranges?
<b>Population</b>	How big is your population? (How many people live there?)	How many people are there and what are they like? E.g. what jobs do they do?	How many people are there and what are they like? E.g. what jobs do they do?

<b>Food</b>	What food do you eat?	What food do you eat? Do you grow your own food?	Where does your food come from? Do you have any national specialities?
<b>Natural hazards</b>	Do you get any volcanoes or earthquakes?	Are you affected by any natural hazards? (e.g. earthquakes, volcanoes, hurricanes...)	How does the location of your country affect the natural hazards you experience?
<b>Ecosystem</b>	What plants and animals live in your country?	What plants and animals live in your country? How is this related to the climate?	Design a plant or animal which is specifically adapted to living in your country.



## HISTORY SUMMER PROJECT

### ACTIVATE:

Find and visit a local historical site, for example Waytemore Castle or an old building like Coopers of Stortford in Bishop's Stortford. Have a good look at the remains. Compare the building material used to those used for modern buildings. Make notes and take photographs to look back on.

### CREATE:

Draw a sketch of what you saw whilst you were at your historical site. Include labels (annotations) showing key details of what the site is like now. You could also draw a map of how the building or site fits in with other buildings of a similar age in the local area.

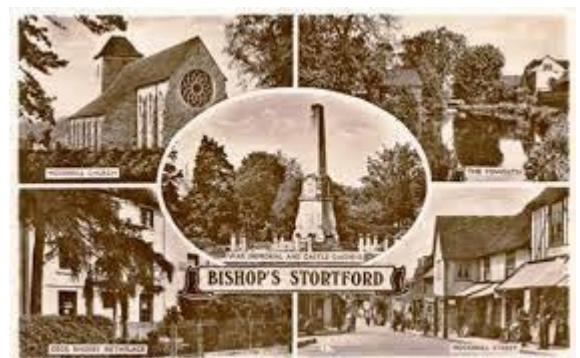


### EXTEND:

Research the history of your site, by looking on websites such as <https://www.stortfordhistory.co.uk/> or books specifically about the site you have visited about, or information in museums such as the Bishop's Stortford Museum in the South Mill Arts centre. Try to imagine what your site might have been like when it was first built. Try to explain the changes made by making a "Time Traveller's Guide" about your site and how, and why, it has changed during different periods.

You could consider:

- Was it a significant (important) building in the local area?
- Who would have used the site when it was new?
- What would it have been used for?
- How has the building changed over time?
- When and why might these changes have taken place?





# MFL (MODERN FOREIGN LANGUAGES) SUMMER PROJECT

## ACTIVATE:

Research an aspect of France or a French speaking country. For example, you could research:

- The geography of France, a town, city or region.
- Sporting activities in France/ food in France/ drink (wine history /regions).
- Holiday destinations (why / where / what is there to do?)
- French fashion (history / famous haute couture houses / modern fashion)
- French musicians / composers: (modern /jazz /classical).
- French fairy tales (e.g Cinderella) & history of the fairy tale.

## CREATE:

Create an A4 or A3 poster or a leaflet which describes and explains some of the facts that you have discovered in a visually pleasing way of your choice (e.g collage / pictures with captions / longer pieces of writing in English, with photos or pictures.

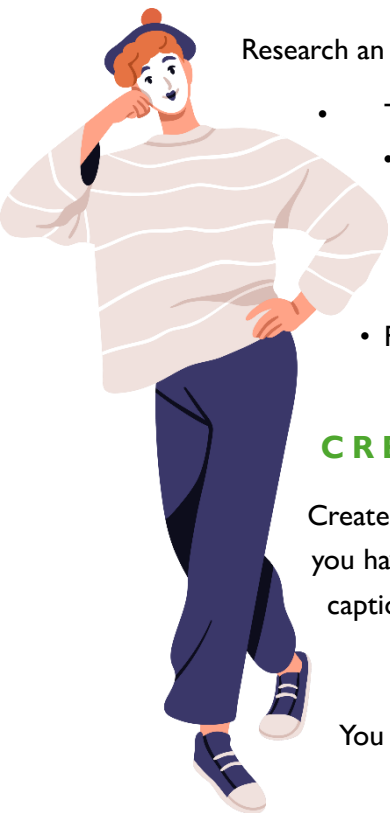
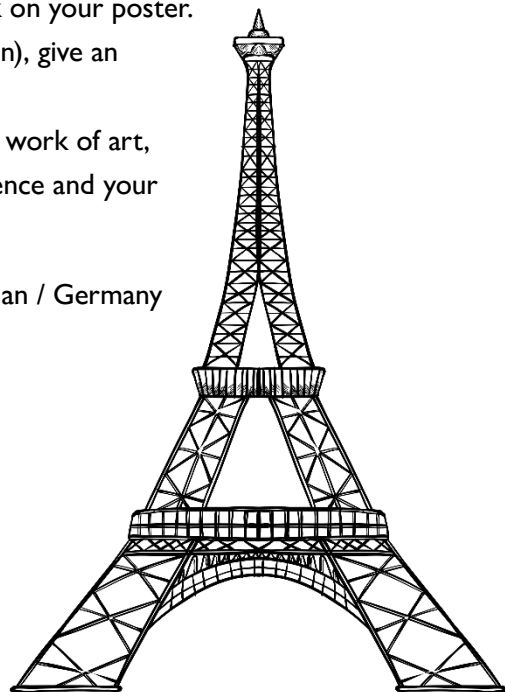
You can add captions in French if you can access these without causing you difficulties.

## ENGAGE:

To action at least one thing that you have discovered whilst doing your research or creating your poster etc.

- You could decide to follow and cook a French recipe; (take a photo and write a review).
- Listen to a French song and write a review, note the YouTube link on your poster.
- Read a French fairy tale or poem (even if it's the English translation), give an opinion.
- Go on an Art Gallery tour and create your own take on a French work of art, sketch it or take a screenshot of a photo and review your experience and your opinion.

You can, of course, do all of these activities for Spanish / Spain and German / Germany too!





## MUSIC SUMMER PROJECT

During Music lessons you will explore the key skills of listening, composing and performing. Try these 3 tasks to get you started.

### LISTENING

Listen to the theme to the film Superman.

We use musical element words to describe music, research what these words mean answer these questions:

1. Can you describe the **dynamics** in the first 1min of music?
2. What is the **tempo** at the start? How does it change?
3. What is the main **interval** used in the melody?
4. Is **meter** of the music 4 or 3?
5. Can you hear an **ostinato rhythm** in the music?
6. What instrument has the melody at the very start?
7. Can you name 5 instruments that you hear?

### COMPOSING

Go to <https://musiclab.chromeexperiments.com/>

Creating music is part of what you will learn to do at Birchwood. Can you experiment with the 'song maker' and create a song that uses a drum beat and a melody?

### PERFORMING

Singing is an important part of what we do at Birchwood. We sing in class, school choirs, shows and concerts. The great thing is that everyone can have a go, you don't need an instrument. Your challenge is to rehearse the song 'A Million Dreams' using this karaoke track:

[https://www.youtube.com/watch?v=3f2X\\_gI\\_u4](https://www.youtube.com/watch?v=3f2X_gI_u4)

If you are feeling confident, record the audio of yourself singing along to the backing track and send to [mgrogan@birchwoodhigh.org.uk](mailto:mgrogan@birchwoodhigh.org.uk) and will try to combine all the performances into a virtual choir!

For an extra challenge record the harmony part as well and send to us:

<https://www.youtube.com/watch?v=mwUCoiurufY>



## PE SUMMER PROJECT

### ACTIVATE:

To participate in physical activity on three different occasions during the holiday period.

Make a chart and record the activity you were doing and your heart rate (beats per minute):

- Before the exercise starts
- Immediately after exercising
- Two minutes after exercising
- Five minutes after the exercise has finished.

Activity	Heart Rate Before Exercise (bpm)	Heart Rate Immediately After Exercise (bpm)	Heart Rate Two Minutes After Exercising (bpm)	Heart Rate Five Minutes After Exercising (bpm)

Plot the results of the heart rates from your exercise sessions and put on a graph e.g. a bar or line chart. Write a couple of sentences to explain what you have found out.

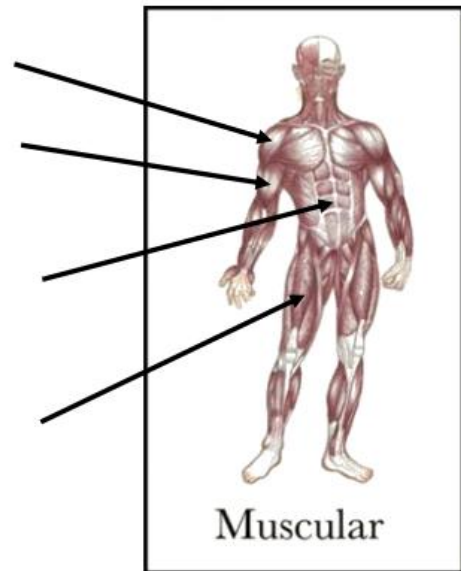
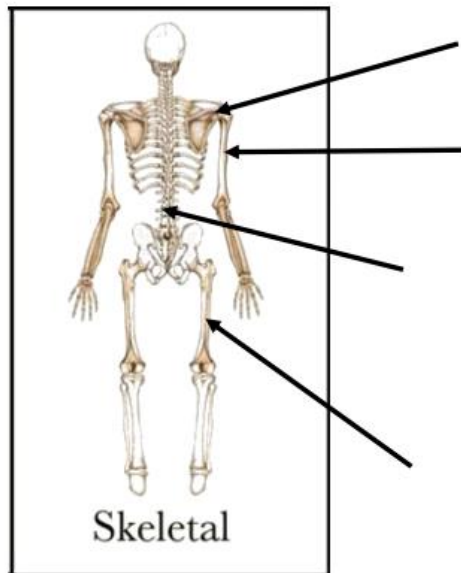
### CREATE

Design a sports item for example: a trainer / football boot / sports clothing item and create your own team/club name. Here are some blank examples for you to start with:



## ENGAGE:

Label as many of the bones and muscles of the body as you can.





# RELIGIOUS STUDIES SUMMER PROJECT

## ACTIVATE

Sit somewhere quiet and think about your own religious beliefs. Try to answer some of the following questions:

- Do you believe in a god or multiple gods? If so what is that god like?
- Why do you believe or not?
- Do you believe in an afterlife? If so what form does it take?
- Do you believe in angels or other supernatural beings? What convinces you?
- Would there be any evidence that could change your beliefs on any of these issues?



## CREATE:

Create a table which shows reasons why some people accept religious beliefs and why others reject them. Try to label the ideas you most agree with and those you least agree with.

## ENGAGE:

Research and create a family tree showing the religions or non-religion of each of your family members. You could ask your parents or carers, talk to grandparents and other relatives and gather as much information as possible.

Make sure to add yourself too.

You could even add whether people in the family have taken part in any religious ceremonies e.g. baptisms, bah mitzvahs, religious weddings etc.



What religions have you studied already?

1.....

2.....

3.....

4.....





# TECHNOLOGY SUMMER PROJECT

## FIND THE FOOD GROUPS:

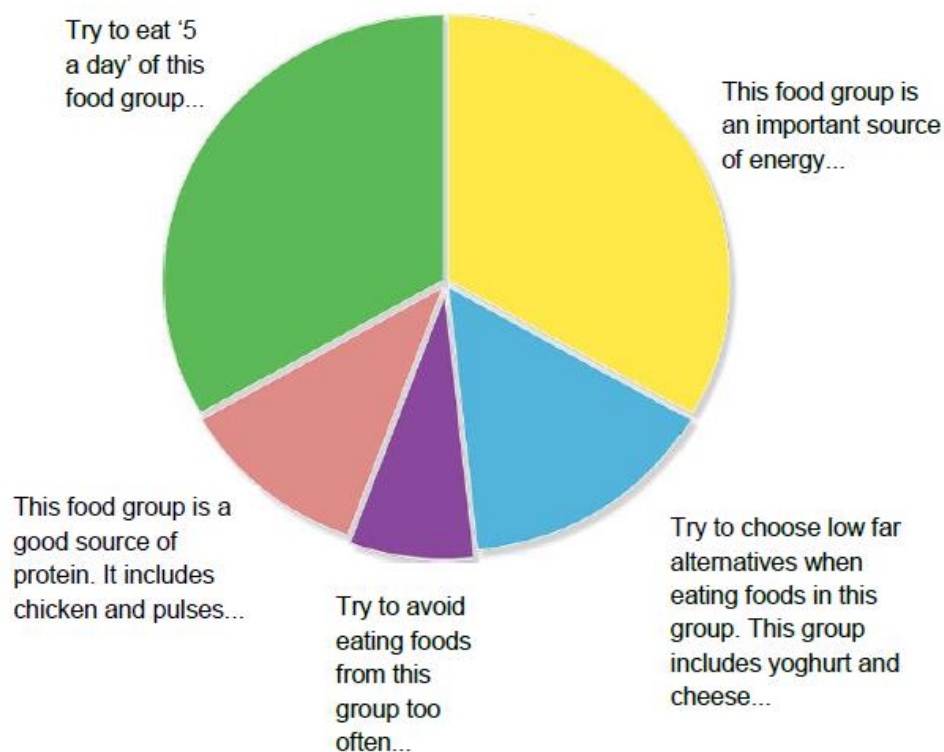
The food we eat can be divided into five food groups.

To keep healthy, we should follow a balanced diet, this means eating a variety of different types of food in the right proportions.

The Eatwell Plate is divided into five food groups. We should eat more of the largest groups and less of the smaller ones.

Label each section of the **Eatwell Plate (pie chart below)** with one of these labels:

- Bread, Rice, Potatoes, Pasta and other starchy foods
- Fruit and Vegetables
- Meat, Fish, Eggs, Beans and other non-dairy sources of protein
- Milks and dairy foods
- Foods and drinks high in fat and/or sugar



Think what you have had to eat in the last 3 days. Separate the different food you have had into the 5 categories. Have you had a balanced diet? Why/Why not?

Design a meal plan for Breakfast, Lunch and Dinner, ensuring you have a balanced diet.

## STRUCTURES

Most tall buildings such as skyscrapers and structures that need to support weight all follow a similar set of rules, so they do not collapse. Below are some examples:



Carry out some research into what makes a structure strong.

Think about:

- Size
- Shapes
- Materials

Try and find some more examples and label what parts of the structure makes it strong.

Using 10 sheets of paper and a maximum of 60cm of sticky tape, make the tallest tower you can.

Take a photo of it and label with how tall it was.

Again, using the same amount of material as above, use what you found out in your research to make a bridge. The bridge should span a gap of 20cm.

See how much weight your bridge can support. You can use anything such as toy cars, chocolate bars etc. to put as much weight on as you can.

Take a photo and say how much weight it supported before collapsing.