

Carrington School Student Challenge Booklet



Welcome to your first set of Student Challenges

Dear Future Year 7s,

We are so pleased to hear that you will be joining us in September.

As I'm sure you're already aware, our school values are very important to us and we will encourage you over the next 5 years to **Aspire** to aim high, to be **Innovative** as you continue to build on your love of learning and to challenge ourselves to be **Respectful** and conscientious citizens. We wanted to give you the opportunity to start to work towards these values and have put together this booklet for you to work through over the coming weeks.

On the next few pages, you will find a selection of Student Challenges. Each of our departments have set you tasks to complete, to help you familiarise yourself with each of our subjects.

Your first challenge has been set by Miss Oakley, our Headteacher. As you may know, last September, we changed our school name and have since been known as **Carrington School**. Miss Oakley has asked that you research our new name, so that you can feel part of this important step in this journey for our school.

Your second challenge is to write a letter to me, your Head of Year. As you will see from our school website and social media, great relationships are very important to us. I would love for you to tell us more about yourself by writing to me, so that I can start to get to know you better. You can post your letter to the school address, or email me a picture of your letter. My email address is: cwilliams@carringtonschool.org.

Apart from this letter, we ask that you keep any other completed tasks with you for the time being and bring these with you on your Induction Day on Tuesday 28 June 2022. You will be meeting your Tutors on this day and they will collect any completed challenges from you then. This will be our first face-to-face Induction Day in three years so we are very excited about it! Enjoy and good luck!

Kind regards,
Mrs Williams

Ad Astra – To The Stars

Headteacher Challenge

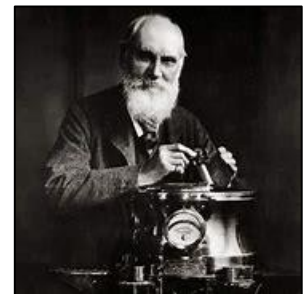


Welcome to your secondary school.

You are joining us at a very exciting time, as you are joining us for the second academic year of us being known as **Carrington School**.

This choice of name was decided upon after lots of research about our local area and community.

Richard Carrington moved to Redhill in 1852 and was an astronomer, conducting a lot of his research from his observatory and home in Redhill.



Your Challenge:

- Research Richard Carrington, his work and how he has influenced our local area.
- Put together a fact sheet about Richard Carrington, using the information you have found.
- Be creative! How will you make your fact sheet stand out?

Your fact sheets will be judged by me and the winner will receive a reward for their creativity and knowledge.

Good luck!

Miss Oakley



Head of Year Challenge

Dear _____

I am looking forward to secondary school because...

I am nervous about starting secondary school because...

My favourite thing about primary school is...

My least favourite thing about primary school is...

My friends would describe me as...

I would really like you to know that...

I look forward to seeing you in September.

Kind regards,

English

Hello New Year 7s,

The English department look forward to meeting you in September.

For your first transition challenge, we would like you to write to your future self in 2040 when you will be 30.



Your letter might include the some of the following topics:

- A reminder of what life was like in 2022.
- How you felt about leaving Primary School and starting Secondary School.
- What you hope for the future: what do you think you will be doing and what your life will be like?
- How you imagine the world in 2040.

Don't forget to lay your letter out correctly and to proofread your work for any technical errors.

Maths

Mathematics Quiz

Use google - you might need it, or maybe not...

1. Where was Pythagoras born? _____
2. Who invented the equals sign? _____
3. What is a tetragon more commonly known as? _____
4. How many sides does a tetracontakaidigon have? _____
5. What number is this  ? _____
6. What is TRISKAIDEKAPHOBIA? _____
7. If I start with 1p and double it every day, how many days will it take me to get £1 million? _____
8. Who was the only U.S president to prove Pythagoras' theorem? _____
9. What is the first number alphabetically? _____
10. What is the one millionth digit of pi? _____
11. What is the smallest perfect number? _____
12. What is the only number where the number of letters is equal to its value? ____
13. How many letters are there in the Cyrillic (Russian) alphabet? _____
14. Which number is the only cube one less than a square? _____
15. What number multiplied by itself gives the answer 12 345 678 987 654 321? _
16. What is the infinite sign called? _____
17. How many different 9x9 sudoku grids are there? _____
18. Which year was Fibonacci born? _____
19. What is a jiffy? _____
20. How many children did Euler and his wife have? _____

Ad Astra Challenge

<https://www.topmarks.co.uk/maths-games/hit-the-button>



Science

Welcome to Carrington School's Science department!


We would like you to try any one of these activities - record your observations and experiences. These could be in the form of pictures, short video, poster, email or PowerPoint slides.

1. As part of the **British Science Week, Farmvention** (when farming meets invention) is running a challenge about the problems that climate change creates for British farmers. Choose any one of the four themes and carry out an investigation at home. Your submissions can be a video, picture, advertisement, PowerPoint, photographs of models etc. You can find more information here: www.farmvention.com
2. **Wild Challenge activity from RSPB:** Sign up for and complete a wild challenge activity. You can help wildlife, explore nature and enjoy lots of wild, fun family activities: www.rspb.org.uk/fun-and-learning/for-families/family-wild-challenge/
3. Or why don't you try some experiments at home (please ask parents/carers before trying any experiments!)


How to Grow a Rainbow

You will need:

- Kitchen roll/paper towel
- Felt tip pens
- Two small bowls of water
- Paper clip
- Thread



1. Cut your kitchen roll into the shape of a rainbow.
2. Colour a rainbow with felt tips about 2 cm up on both sides.
3. Attach your paper clip to the top and tie a piece of thread to it. This will give you something to hold your rainbow with.
4. Fill each small container with water.
5. Hold your rainbow with the ends slightly submerged in the water then watch your rainbow grow!



THE SCIENCE

A brief introduction to 'capillary action'! Water molecules like to stick to things - including themselves. Sticking to things is called *adhesion* and sticking to itself is called *cohesion*. The fibres in kitchen roll make lots of little holes. Water is 'sucked' through the holes because of adhesion (liking to stick to other things) and cohesion (liking to stick to itself) means the rest of the water follows. The water pressure will eventually slow down and the pressure of gravity will mean it stops moving.

@MrsBpriSTEM

Geography

Geography is the study of different places around the world and the relationship between people and their environments.

This is something you may not have studied as a separate subject before but throughout primary school you will have looked at lots of different places around the world.

For your transition challenge we would like you to create a poster telling me the place you would most like to visit in the world.

- Where do you want to go – can you provide and information about the place (describe the location)
- Why would you like to go there?
- What would you do when you were there?
- What would the climate be like? (Would it be warm or cold/wet or dry?)
- Would you see any interesting flora or fauna (plants or animals)
- Include lots of pictures to help show how amazing this place is!



You can choose anywhere in the world! The hardest thing might be picking just one place!

History

In history, we have the amazing ability to go back in time and explore people's lives. We can go back as far as we have historical records, which is a very long time! At Carrington School we go on a journey through time, from Year 7 starting looking at Medieval era to Year 9 where we look at the World Wars and modern history.

Your challenge is to tell us what time period you would travel back in time to and why! Even better – is there a specific person you would like to meet?

You have some options for how you could complete this challenge:

1. Create a poster about the time period, including key facts and some pictures
2. Create a short 60-second video talking about the time period, explaining why you would like to travel there. (Perhaps you already have a costume from that time period!)

Success Criteria:

- ✓ Pick a time period that you are interested in
- ✓ Provide a picture of that time period (people, houses etc)
- ✓ Explain why you like that time period and why you are interested in it. *"I'm interested in this because...."*



Religious Education, Philosophy & Ethics at KS4

We would love to find out more about you and this challenge below will give us a taste of the things and people you like!

We hope you enjoy the challenge, have fun!

1) Make a list of your favourite five celebrities. These could be people from music, sport, news, film etc. They don't have to be religious. If you have less than five favourite celebrities, maybe instead think about some other celebrities that you would like to choose to find out more about.

2) Now research them on the internet and find out about what they believe in. Are they religious or atheist (don't believe in God)? Which religion do they follow? Have they ever changed religion? What else can you find?

3) Create either a video or poster or PowerPoint presenting your findings- you can use whatever props and resources you like.

4) Have fun!

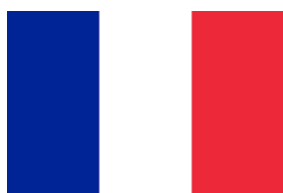


Modern Foreign Languages

“Bonjour” and “Hola” New Year 7s,

The MFL department look forward to meeting you in September.

For your first transition challenge, we would like you to research online and produce either a PowerPoint or A4 poster on any French or Spanish speaking country.



French speaking countries:

- Belgium
- Cameroon
- Canada
- France
- Gabon
- Monaco
- Niger
- Rwanda
- Togo



Spanish speaking countries:

- Mexico
- Columbia
- Chile
- Bolivia
- El Salvador
- Panama
- Uruguay
- Spain
- Cuba

You might include the following topics:

- Map, with location in the world
- Population
- Languages spoken
- Religions
- Type of government
- Main geographical features (e.g. size, mountains, rivers)
- Main industries
- Main agricultural produce
- Any famous contemporary or historical figures / facts
- Any culinary specialities
- Daily routine / food and drink / clothing / Tourism
- High profile personalities (footballers/ musicians/ politicians...etc)

Art & Design

pHotOMonTage



Photomontage is a COLLAGE techniques that involves gathering found images, colours and textures and cutting them into new shapes. HANNAH HOCH was an artist working at the beginning of the 20th century, who is considered a pioneer of photomontage. She was a member of an art movement called DADA.

DADAISTS used scissors and glue rather than paintbrushes and paints to express their views of modern life through images presented by the media.

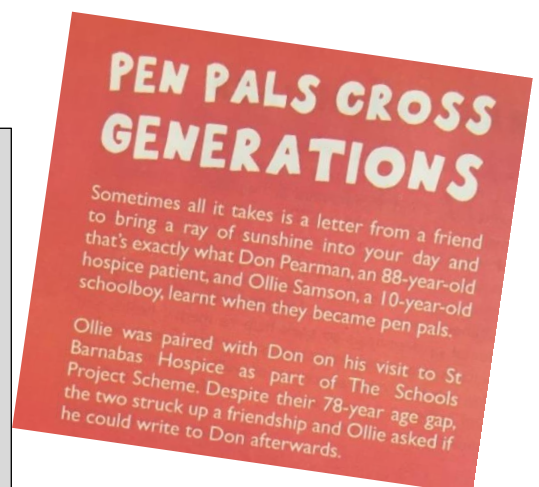
You will need:

An old magazine, catalogue or newspaper, Scissors, Glue or tape, a clear surface on which to assemble then stick your images (such as a sheet of paper or cardboard box).

Your task is to create a photomontage using one of the following Headlines and start of the story.

You may find it helpful to make a note of some of the key words and images in the story, in order to give you a focus when getting started, or you might choose to focus only on the headline.

Experiment with different layouts before sticking your images down. Look at the pen pal example.



Dance



Dance Detectives Department
4 Motifs Street
Relationship Corner
Action
AS14 DR9

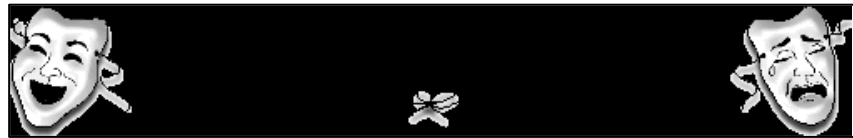
Dear Dance Detectives,

The time has come for our first mission. There are 4 mission objectives that must be met. Go forward and action each objective, stay safe detective!

Objective Number	Task	Success Criteria
1	Create 5 spy poses that you can hold for at least 3 seconds– what typical poses would you expect James Bond to do? Label them 1, 2, 3, 4, and 5.	5 Clear poses
2	Think about what actions (transitions) you can put between each of the actions to move from pose 1 to 2, then 2 to 3 - (jump, turn, balance etc) You should now have a short sequence. Practice this so that it flows from one to the next with no breaks and pauses.	Short sequence
3	Add a starting and ending position to your sequence so that you up with a completed Phrase (this is called a Motif) SP – Starting position T – Transition PN – Pose Number EP – Ending position	Finished sequence
4	Show you dance to an audience – This could be your family live or via Zoom, facetime etc.	Identify Spy theme

Drama

Hello New Year
7s!



Welcome to your Drama Department challenge!

We would like you to have a go at the following task, which you will hopefully have lots of fun getting involved and we look forward to seeing your final performances.

Your Challenge: Choose your favourite character from TV, film, theatre OR a person from history.

We would like you to perform a monologue (speech) as your character and film it! This can be a famous speech that you know well OR you can make up your own speech (performing as the character). If you don't want to record the speech, you can just write it if you like!

You will need to think about the following:

- o How does your character speak?*
- o How does your character stand?*
- o What is the monologue about?*
- o What emotions are being communicated in the monologue? Is your character happy/sad/excited/ angry?*

If you would like to give your performance that WOW factor, please add one of the following elements!

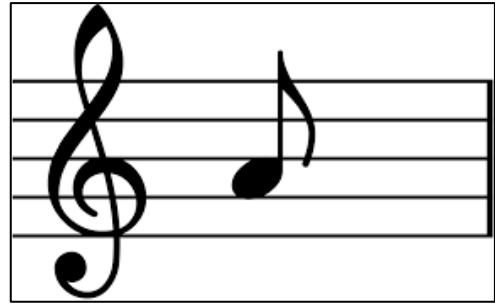
- o A costume for your character.*
- o A set for your performance (maybe you could go and perform outside?)*
- o Props for your character.*

We can't wait to see your performances!

Mrs Lockhart and Miss Adam

Music







Welcome to your Instrument Quiz!



1. Name the four families of instruments in an orchestra.
2. To which family does the snare drum belong?
3. To which family does the flute belong?
4. What is another name for the timpani?
5. What is the most numerous instruments in an orchestra?
6. Which instruments sit to the left of the conductor?
7. Name the largest stringed instrument.
8. Name two instruments played with a bow.
9. What does pizzicato mean?
10. Name two instruments that do not usually play with an orchestra.
11. To which family does the French horn belong?
12. Name the largest brass instrument.
13. Which stringed instrument plays the highest note.
14. Name a tuned percussion instrument (one that can play a tune).
15. What part of the violin holds up the strings?
16. Which family of instruments often play fanfares?

PE

Carrington School PE Workout Challenge

Warm up- raise your pulse rate and gentle stretching		Tick when completed <input type="checkbox"/>
STORK BALANCE	 How long can you hold this position for?	Score in seconds
STANDING JUMP	 Measure to your heels where you land. Have three attempts and write down your best.	Distance in centimetres
ONE MINUTE SIT UP	 How many can you complete in one minute?	Number of sit ups completed
WALL SIT	 How long can you hold this position for?	Time in seconds
PLANK	 How long can you hold this position for?	Time in seconds
STAR JUMPS	 How many can you complete in one minute?	Number of star jumps completed
Cooldown – lower your pulse rate and gentle stretching		Tick when completed <input type="checkbox"/>

Technology

Planter Project!



- Objective 1 - To develop communication of ideas and apply creative thinking techniques.
- Objective 2 - To learn and apply effective research techniques.

You will design a Planter to be made from products around the house that you can grow some plants in. You are just doing the designing, but will get a chance to make it later in the summer.

Task 1 – Designing your Planter

1. Make 3 drawings of your planter design on A4 Paper-use color if possible.
2. Around each drawing make notes on: how much you think the planter may cost to make, how it will work, what materials it could be made from, how it can be made and how easy it would be to make. You could use the words below to help describe your ideas and what they do.
3. Choose your best design and write on it why you like that one best.

Task 2 - Detective Task

Use your friendly detective helper “Google” to investigate the following:

1. What are the 6 Rs ?
2. What is upcycling and which of the 6Rs is it similar to ?

Record your evidence on a PowerPoint slide or in a word

Aesthetics Describe how the product looks; colour, texture, patterns, shape... include both positive and negative thoughts. Say how your opinion on the look of the product might affect your own design ideas.	Cost How much do you think the product would cost to make compared to the retail price? Explain whether you think it is good value for money. Do you think it is affordable?	Customer Describe the typical person who might be interested in buying this product. How does the product appeal to its target audience? Say what impact the product may have on the customer's life. Who do you want to aim your product at and why?
Environment What impact might this product have on the environment? Explain how the materials might be disposed of after the product is no longer required... would they degrade? How might this information make you consider your own choice of materials?	Function Describe the function of the product. What is it used for? Say how the product fulfils its purpose - does it do its job successfully? If not, how could it be modified to do so?	Size Measure the product! Describe the size of the product. Is it the right size for the customer? Say how the size of the product affects how it is used. What would happen if it was bigger or smaller? Does the size of the product determine where it will be stored?
Safety Look carefully at the product and say how the designer has considered safety implications. Consider sharp edges, small components and ergonomics. Explain what the designer might have done to make the product safer to use.	Materials Explain what materials the product is made from. Why do you think these materials have been chosen? Are they suitable? What other materials could have been used? Explain why/how they might have improved the product or made it worse.	