

Investigating the Optimal Growing conditions for food to grow in our school.

School/college name Aston Fields Middle School

STEM partner organisation name DMU; Brunel; Garden Organic



Overview and aims

To investigate the optimal conditions required for organic fruit and vegetables to grow in the school environment. Pupils will gain a better understanding of what is possible and how we can help to reduce carbon emissions. We hope to achieve this by growing food that we can use in our school, by the kitchen and by pupils during cooking lessons. Overall, it will place pupils in the centre of the learning which would promote pupils voice and agency.

Background information

Seed germination and the conditions required for the seedlings to grow such as water, temperature, soil depth and oxygen.

Once seedlings are big enough, we will learn how to plant them out, support their growth and monitor how much we water them. We will measure light intensity and soil moisture and acidity.

Research and investigations undertaken

We will be focusing on the process as well as the outcome. Helping pupils to see that by carrying out practical activities they can immerse themselves in the learning of new skills without implicitly being told that they are using them. Skills learnt will include, plant identification, understanding growing conditions, improved scientific enquiry such as precision, data collection, following scientific methods. They will also have improved employability skills; teamwork, problem solving, listening, and speaking, aiming high and leadership skills will all be deployed by pupils.

Results and conclusion

We are only just getting our plants to grow in different conditions. We hope to continue to record how much water we give the plants and if we put any compost onto the plant ready to be given to Ximena so help us calculate the carbon footprint of our organic food.

Once our peas plants have gone to seed, we will see which plants have given us the best yields.

Next steps

Visit Garden Organic to learn more about the seed library and how to collect seeds for use next year/ return to the seed library.

Ximena will visit Aston Fields Middle School to have a look at our project so far, she will also discuss carbon footprint.

Gather information for Ximena to determine the carbon footprint of the food that we have grown.

Once peas have finished flowering, we collect some of the peas (seeds) ready to return to Garden Organic seed library.

We will meet with Rokhshid to discuss our plans to grow plants in vertical beds. We will plan the investigation to discuss what is possible in these beds and record findings.

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Guidance, checklist and permissions

Permissions and checklist

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- You have sought all necessary permissions for identifiable individuals in photos (please fill out the photo consent below in this case).
- You have checked the copyright for any images used that are from external sources, such as the internet or photo libraries, and have credited any individuals as needed.
- You have ensured no personal information has been shared (i.e. students names etc.).
- You have checked for scientific accuracy (i.e. no unfounded claims or theories have been presented).
- You have proofed the poster thoroughly.

Poster guidance:

Your poster must be submitted as a PowerPoint file no larger than 5MB. No other file format will be accepted.

Contact education@royalsociety.org with any questions

Format:

1. Please ensure your poster is kept in landscape layout.
2. Please do **not** change the format, positioning or size of the header (where the project title, names, school logo and STEM partner logo are) and the footer (scheme logo).
3. How you arrange the body of the poster is up to you but please align topics vertically or horizontally; diagonal movement can look messy. The information within the poster needs to fit between the header and the bottom of the page.
4. The font and type size in this poster should be kept consistent throughout. The text is Arial and size 18pt (black) for the body section should be used. Smaller text can be used for annotating pictures and diagrams as appropriate but should still be legible (size 14pt is a minimum).
5. Please be mindful of how small your images and text may appear on a standard screen and ensure you leave some blank space (gaps) between sections to make your poster easier to read.

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Date: 18/06/22

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Description of photography provided (brief description of picture – what is depicted and who is included)

Picture 1 and 3, the runner beans that are growing in a raised bed and some that are growing in pots. They are in different locations in the school. Picture 3 also shows some of our Strawberry plants. The pea plants currently growing In picture 1, there are different varieties growing.

Teacher / school representative's details:

Name: Ravina Winch

Position in school: Teacher of Science

Signature: R Winch

Date: 18/06/22