

Meaningful Learning Experiences

Strategic Commitment	✓	Part of a careers initiative across Greater Manchester
Curriculum Provision	✓	Addressing 'refraction of waves' in the Science curriculum
Employer Partnerships	✓	Involving a local branch of a national firm of opticians
Reflective Young People		
Informed Career Choices	✓	Providing insights to the role of an optician

Scrivens Opticians helps year 9 students understanding about refraction of waves

The scheme of work for year 9 students at Essa Academy in Bolton includes learning about refraction of waves, describing the learning outcome as, *'Identify what refraction is. Describe how refraction occurs. Explain why plane waves change direction when crossing a boundary. Apply your knowledge of refraction to draw ray diagrams.'*

Scrivens is a national chain of opticians, with one of their flagship branches in the centre of Bolton. Students were told that: *'Scrivens aim to give customers the best possible advice and guidance about suitable treatments and services. Your challenge is to apply what you have learned in the classroom and what you have discovered about Scrivens to explain: How refraction can correct different eye problems; How different materials can result in thinner lenses and Why it is important to seek the advice of a professional.'*

The challenge concluded with a promise that: *'The work that most effectively and accurately communicates this information will be included in a patient information folder placed in the waiting areas at Scrivens' Bolton branch.'*

A highly experienced optometrist working at the branch recorded information about her role and career before explaining the effect that different lens materials and coatings have on refraction and so on the thickness and quality of clients' spectacles. Students worked in groups on the challenge and the optometrist provided feedback about their work, confirming that could visit the branch to see their work displayed in the waiting area.

Benefits for the Students

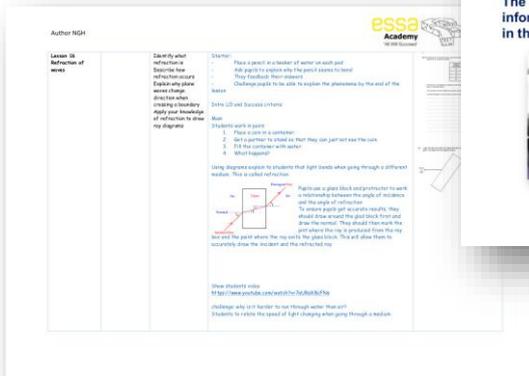
- *'I've always wanted to go into Science. But it made me think about different careers in Science and the different options.'*
- Other encounters with employers will encourage me to *'... look into it if I'm interested.'*
- We should learn about career options *'... as early as possible because then you'll know what you're heading to and what your ambitions are and what you're going to do.'*

Benefits for the School

The school's Careers Leader is part of extended leadership team, with responsibility for enrichment activities and managing the 'Essa Experience'. This gives each child four experiences per year and these take the form of drop-down days and activities in form time. A survey of faculty heads had started the process of embedding careers within the curriculum, so this project – and others – would provide the school with exemplars on which they could build their own practice.

Benefits for the Employer

- Established in 1938, Scrivens Opticians & Hearing Care is a family-owned and family-run business, with a head office in Birmingham (where the business started) and over 180 'optical and hearing care' branches.
- As the company grows, it is committed to, "Providing our customers with excellent service and clinical excellence." The project helped a large branch to communicate this message to local young people and provide a model that could be replicated by other branches.



Year 9 students learning about refraction were challenged to create a teenage-friendly information sheet for the waiting area in Scrivens Opticians in the town centre, from the where the optician had provided an informal briefing about the effect of different lens materials and coatings.

Scrivens Opticians

This block contains several educational materials:

- Nearsightedness:** A diagram showing light rays focusing in front of the retina.
- Farsightedness:** A diagram showing light rays focusing behind the retina.
- Eyesight:** A section titled 'What is special about my eyesight?' explaining factors like eye structure, pupil, and optic nerve.
- Contact Lenses:** A section titled 'What are lenses?' explaining how they work by refracting light.
- Our Services:** A section listing services like '50% of glasses', '£10 eye test', and 'Free contact lens trial'.