

**Raedwald Trust STEAM Curriculum Policy**

**STEAM** is an innovative programme that derives its programme of study from the National Curriculum at Key Stage 3 and Key Stage 4. It is not a National Curriculum subject but instead draws together specific aspects of key subject areas to complement programme delivery within the classroom. Projects incorporate carefully chosen objectives from the national curriculum allowing pupils to explore science, art and design, engineering and maths in creative and practical ways. The programme is delivered through projects that complement the work within identified subject areas. The purpose of doing STEAM is to develop creativity, collaboration and improve self-confidence through a series of practical explorations which develop the student's problem-solving abilities, practical skills and wellbeing whilst using opportunities to explore the wider world and provide cultural experiences. Progression is linked with curriculum objectives within identified subject areas which allows pupils to further demonstrate application of skills outside of the classroom. The order of project delivery is further decided by individual cohort attending the course and the desired outcomes of site leaders. In Alternative Provision, this ensures that pupils are given the opportunity to demonstrate retention of learning in new and creative ways. For many pupils, classroom-based work may not give the same opportunity for pupils to demonstrate the full extent of their creative reasoning ability.

The fundamental areas in our STEAM curriculum are:

- Science
- Technology (delivered through Art and Design Technology)
- Engineering
- Mathematics

Objectives have been incorporated into the projects to ensure coverage of Key Stage 3 and 4 material as appropriate. Teacher judgement is used to decide whether earlier objectives at Key Stage 2 or 3 need to be re-visited before extending into KS4 knowledge. This information is subsequently fed back to classroom based subjects accordingly supporting curriculum leads to update formative assessments and fully understand progression and/or learning needs of pupils involved in STEAM projects. Who is STEAM offered to? How is it decided? Who decides/puts pupils forward?

**Content and sequencing**

The fundamental areas in our STEAM curriculum are:

|                 |           |               |                  |                  |                                   |
|-----------------|-----------|---------------|------------------|------------------|-----------------------------------|
| Creativity      | Fun       | Functionality | Site Visits      | Cross Curricular | Life Changing Experiences         |
| Problem Solving | Happiness | Ergonomics    | Outdoor Learning | Team Teaching    | Careers Links & Gatsby Benchmarks |



|               |                  |              |                     |                               |                     |
|---------------|------------------|--------------|---------------------|-------------------------------|---------------------|
| Design        | Fulfilment       | Measurements | Contact with Nature | Teachers in a different light | Lifelong learning   |
| Collaboration | Practical Skills | Costings     | Cultural Capital    | Real World Experiences        | Awe, Wonder and Joy |

The teaching and curriculum projects will/are adapted for use in each particular setting and age group with regard to the needs of the cohort being taught. E.g. at Parkside **sound** projects can be difficult for certain students and so are adapted to reflect this.

We write custom plans for each centre. An example might be:

|        | Autumn                                                                | Spring                                                        | Summer                                           |
|--------|-----------------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------|
| Year 1 | Intro to STEAM<br>Spagetti Marshmallow Towers<br>Build Amplifier Kits | Science Museum Visit<br>Matchstick Rockets<br>Silicon Molding | Vist to Under the Pier<br>show - Southwold Pier. |
| Year 2 | Windproof Microphone building<br>and use.<br>LED Xmas trees           | Naturewatch camera<br>Hacking musical<br>instruments          | Build Hydrophones and<br>go crabbing.            |

### Assessment and outcomes

Assessments will be made through ongoing teacher assessment during delivery. Progress against curriculum objectives in the subject areas covered within a specified project will be communicated to the subject lead for the pupil. In this way, STEAM will further support and complement existing curriculum delivery, serving to consolidate and/or teach curriculum objectives through a new and innovative way. This ongoing assessment will be used to adapt the project and the process to reflect the cohort and their abilities and needs.

The intended outcomes from these projects are often physical objects. For example, wind proof microphones that the students may keep. The process of students experience of this curriculum are aimed at delivering Creativity, Problem Solving, Design and Collaboration in a fun and fulfilling way (see table above). For many pupils in our care, opportunities to apply classroom knowledge in a real-life or practical scenario helps to engage and consolidate learning.

### STEAM and the wider curriculum

Fun, invention and skills are imbued in the curriculum. Working together and collaborating develops moral and social skills. Opportunities, such as visits to exhibitions and cultural centres, expand pupil's world view and provide cultural experiences.

Opportunities to read technical literature, learn new words and experience the world at large broadens students use of reading and language. Even interpreting resistor codes and reading circuit diagrams involves learning to decode written forms.

Exposing the students to creativity and exploration, visiting outside sites and exhibitions and seeing teachers in new lights, as well as meeting professionals from outside the trust all contribute to student life beyond their school life.