

# LASER KEYRING



Students are introduced to Engineering through this Computer Aided Design and Manufacture activity. First students look at all the Subject specific words that we use during this Activity then we Sketch out a few Ideas on paper before being introduced to a 2D design CAD package. There is a strong Numeracy focus during this activity.

Students will all end up with a CAD drawing of their Final design and their very own laser cut Keyring to take home.

This Activity is rounded up with a Vote pad Quiz

Location: STAR room/CAD room

Group size: 4-16 students.

Recommended Level: KS2 or KS3

Cost: £2 per pupil (min charge 10 Students)

Consumables: Key Rings, 3mm Acrylic, Design Ideas worksheet, Keying Designs Sheet

Tools and Equipment: Laser Cutter, Computer, Pencil, Ruler, Eraser, Worksheets (2), Vote Pad, Keyword Sheets (2).

Staffing: Mr. Emanuel & Mr. Woodward.

Time needed: 2 hours minimum

Extension Tasks: Write your own questions to add to the Vote pad Quiz. Produce 3D model and Photo realistic rendering of finished Key-ring using Pro Desktop8



**Curriculum Areas:** Engineering  
Resistant Materials  
Art  
Design  
Literacy  
Maths  
ICT

**Software used:** 2D Design  
Pro Desktop 8 (Extension task)

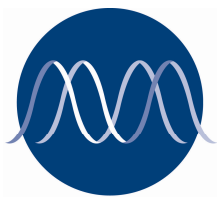
**Subject Specific words**

<b>Tools and Equipment:</b>	Ruler Pencil Eraser Paper Stationary Computer Printer Laser Cutter Plastic (Acrylic) Vote Pad	<b>Other:</b> Engineering Shape Scale Units Dimensions CAD CAM Diameter Radius Circumference
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**Health and Safety:** Sharp objects  
Laser Extraction

**Functional Skills:** Hand Eye Co-ordination  
Using appropriate tools and equipment  
Sketching  
Art and Design Skills  
Shape and size  
Mathematical and Spatial  
Safe use of tools and equipment  
Working on a Focused Practical task  
Working to a deadline and completed product  
Health and Safety

**Every Child Matters:** Enjoy and Achieve



**Engineering**



**Specialist Schools Trust**  
EXCELLENCE AND DIVERSITY

