Meridian Innovators

DESIGN TODAY
SHAPE TOMORROW.

DESIGN TOOLKIT

Closing Date: Friday 3rd November

The winner will be announced in school at the end of the Autumn Term.

Introduction

What is the competition about?

Every day, the world is being impacted by technology. Meridian Innovators is a competition which aims to challenge and inspire you to design creative & innovative technology solutions to problems in the world today.

How long does the competition last?

The competition will run twice per year - once during the Autumn Term and once during the Spring Term.

Can I work in a team?

You can enter as an individual or in a group of up to three people. All the names of people in your group must be included in the Workbook.

How many entries can my group submit?

Each group or individual who participates can only enter one design.

Can my design be for anything?

Each term there will be a new design brief which will tell you the theme for the competition that term. Whatever you design must fit the brief.

When and how can I submit a design?

Only the WORKBOOK needs to be submitted. This can be done in two ways. It can be emailed to Mr Staplehurst and Miss Piper (Year 5 Class Teacher) through the school office - with the subject ‘Meridian Innovators’ or it can be printed out and put in Mr Staplehurst’s pigeonhole.

Autumn 2023-24 – Design Brief

HEALTH
TECHNOLOGY

Brief:

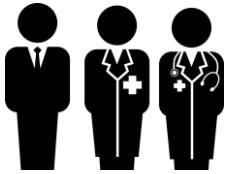
This term, we would like you to come up with an idea for a piece of healthcare technology. This should be a device which is designed to help diagnose, monitor or solve a health problem and improve a person's quality of life.

Your device could be designed for use:

In a Hospital

At Home

By a healthcare professional



By an individual

To help you get started and to hopefully inspire some of your ideas, the table below shows a range of examples of technology which are already being used in healthcare today. The table tells you where the device is used, who uses it and if it is for general use (to be used on more than one person) or individual use (to be used by only one person). Each column links to one of the design suggestions on the previous page.

Healthcare Technology Examples			
In a Hospital	At Home	By a healthcare professional	By an individual
X-ray machine **Who:** Healthcare professionals **Where:** In a hospital **Use:** General **Purpose:** To produce images of inside the body to help doctors understand what is wrong. For example, it can detect where bones have been broken. **How:** Sends x-rays (radiation) through the body. A detector on the other side of the body picks them up and creates an image.	Electronic stair lift **Who:** Individuals **Where:** At home **Use:** General **Purpose:** To help people get up and downstairs safely if they are not able to on their own. **How:** The chair is attached on a rail to the wall which is beside the stairs. When a person is sat in the chair, they can press a button and the chair will slowly move up the stairs. It runs on electricity.	Portable ultrasound machine **Who:** Healthcare professionals **Where:** In a hospital **Use:** General **Purpose:** To produce images of babies in the womb. **How:** Sends sound waves through the body. These reflect back off different parts of the body. The machine then picks these up to create an image.	Glucose Monitor **Who:** Individuals **Where:** At home **Use:** One individual **Purpose:** To help those with diabetes monitor their blood sugar levels. **How:** A sensor under the skin in the person's arm measures the glucose (sugar) in your body. It then sends a signal to a monitor which tells the person whether they need more insulin or not.

You will need to think about the following questions when coming up with your idea:

1. **Who would use it?**
   (A healthcare professional such as a doctor or nurse or an individual person?)

2. **Where would it be used?**
   (In a hospital? At home? Anywhere?)

3. **What is the purpose of the technology?**
   (Who will it help and how will it help them?)

4. **How does it work?**
   (How do you operate it and what does it do?)

Don’t forget to include as much detail as you can!

WORKBOOK

Names of group members (and class):

_____

_____

Name of your product:

_____

Where would it be used?

_____

Who would it be used by?

_____

_____

How does your device diagnose, monitor or solve a health problem and improve a person's quality of life?
(What is its purpose?)

_____

_____

_____

How does your product work?

_____

_____

_____

_____

_____

Suggested labels:

- Different parts of the product
- What each part is made from
- How the product works

Labelled drawing: