

# **ALL ABOARD PROGRAM**

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## **GAME CHANGER**

### **LEVEL**

The Early Years, Level A-D (towards foundation),  
Foundation – Level 2

### **ACTIVITY DESCRIPTION**

Students learn about “Game Changing” inventions in technology that have changed daily lives. Students identify a number of important inventions and design their own invention. They consider what new inventions have replaced, the benefits of new inventions and which inventions have been the greatest game changers so far.

### **THEME**

- Design and Technology
- Inventions
- Changes to daily lives

### **MATERIALS REQUIRED**

- “Game Changer” worksheet
- “My Invention” worksheet
- Pencils

### **INSTRUCTIONS**

Lead a whole class discussion using a “Question Stem” to gather ideas about Inventions. As students respond to questions use a whiteboard/interactive whiteboard to display their responses. Build the “Question Stem” and invite students to write up their ideas as the lesson progresses.

#### **WHO**

Who are new inventions created for?

Who has created a new invention?

#### **WHAT**

What is an invention?

What inventions do you have in your home?

What invention makes family life much easier?

What new inventions do you think we will have in 50 years’ time?

#### **WHEN**

When do you use a new invention?

#### **WHY**

Why are inventions important?

#### **HOW**

How have new inventions changed our lives?

Distribute “Game Changer” worksheet to each student. Discuss each of the inventions that have shaped our daily lives. Ask students to complete the “Game Changer” worksheet as an individual task.

Distribute the “My Invention” worksheet, either working in pairs or individuals to complete.

Encourage students to think of amazing new inventions that no-one has discovered before. Allow enough time for students to design, reflect and make changes as they progress.

Encourage students to share their new inventions with the whole class.

## ✓ **SUGGESTIONS FOR ASSESSMENT**

Assess completed “Game Changer” and “My inventions” worksheets. Ability to share and discuss, thoughts and ideas with others and contribute to whole group discussion.

## 🔍 **BACKGROUND INFORMATION**

### **WASHING MACHINES**

In ancient times people cleaned their clothes by pounding them with rocks or washing them in creeks and rivers. The early washing machine was the scrub board, where clothes would be rubbed against the board to remove dirt. The drum washing machine was invented in the 1850’s but was still hand powered. It was not until the year 1908 that the first electric powered machine was invented, and companies started to manufacture the machines. Many households did not purchase their first washing machine until after WW2 in the 1950’s.

### **TRAIN**

The first full-scale working railway steam locomotive was built in the United Kingdom in 1804 by Richard Trevithick, a British engineer born in Cornwall. On 21 February 1804, the world’s first steam-powered railway journey took place when the locomotive hauled a train along the tramway of the Penrydaren ironworks, in South Wales.

### **PEOPLE ON THE MOON**

Apollo 11 blasted off, July 16th, 1969. Neil Armstrong, Edwin Aldrin and Michael Collins were the astronauts on the Apollo 11. Four days later on July 20th, Armstrong and Aldrin landed on the moon. They walked around for 3 hours, collecting bits of moon rock and dirt and taking pictures. All three astronauts landed safely back on earth on July 24th, 1969.

### **CHAIR**

Chairs existed since the Early Dynastic Period of Egypt (c. 3100 BC). They were covered with cloth or leather, were made of carved wood, and were much lower than today’s chairs – chair seats were

sometimes only 10 inches (25 cm) high. In ancient Egypt the higher ranked an individual was, the taller and more sumptuous was the chair he sat on, and the greater the honor.

### **CLOCK**

The clock is one of the oldest human inventions. The first mechanical clocks were invented in Europe at around the start of the 14th century and became the standard timekeeping device until the pendulum clock was invented in 1656.

### **AEROPLANE**

The Wright brothers invented and flew the first airplane in 1903, recognized as “the first sustained and controlled heavier-than-air powered flight”.

### **WHEELBARROW**

The wheelbarrow was invented in China in the first century by a man in the Chinese army named Chuko Liang. The wheelbarrow was invented to make chores easier to do. The wheelbarrow can be powered by humans or animals. Thanks to the wheelbarrow, a single soldier could carry enough food to feed four other soldiers for an entire month.

### **CAMERA**

French inventor Joseph Nicéphore Niépce is widely accepted as the creator of photography as we now know it. Using a homemade camera, he produced the first partially successful photograph in 1816 on paper coated with silver chloride. Though this photograph no longer exists, letters from Niépce to his sister give evidence of a successful photograph.

### **COMPUTER**

The first computer resembling today’s modern machines was the Analytical Engine, a device conceived and designed by British mathematician Charles Babbage between 1833 and 1871. The first computer named ENIAC was invented by J. Presper Eckert and John Mauchly at the University of Pennsylvania and began construction in 1943 and was not completed until 1946. It occupied about 1,800 square feet and used about 18,000 vacuum tubes, weighing almost 50 tons.

## **CURRICULUM LINKS**










### **CRITICAL AND CREATIVE THINKING**

Identify, describe and use different kinds of question stems to gather information and ideas (VCCCTQ001)

### **DESIGN AND TECHNOLOGY**

Visualise, generate, and communicate design ideas through describing, drawing and modelling (VCDSCD019)

**THESE INVENTIONS IN TECHNOLOGY HAVE SHAPED OUR DAILY LIVES**

<p><b>WASHING MACHINE</b></p> 	<p><b>TRAIN</b></p> 	<p><b>PEOPLE ON THE MOON</b></p> 
<p><b>CHAIR</b></p> 	<p><b>CLOCK</b></p> 	<p><b>AEROPLANE</b></p> 
<p><b>WHEELBARROW</b></p> 	<p><b>CAMERA</b></p> 	<p><b>COMPUTER</b></p> 

Choose one of the inventions:

What do you think the invention replaced?

Which invention do you believe is the greatest game changer and why?

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Name:

Date:

**DESIGN YOUR OWN INVENTION**

What did this invention replace?

Who would benefit from this invention?

How has this changed our daily lives?