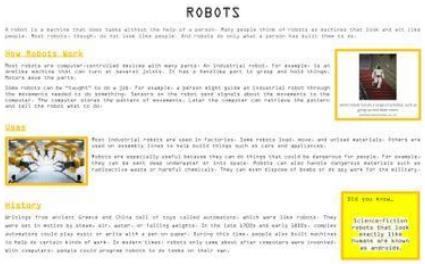
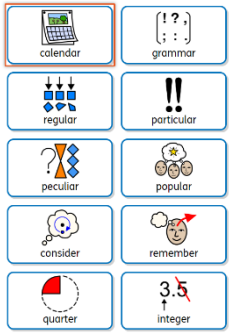
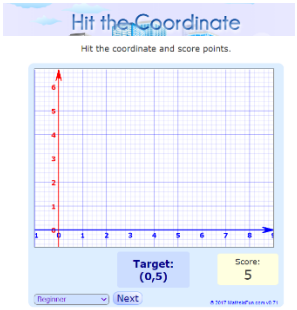
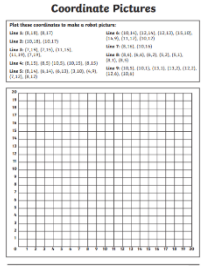
Year 4

Week 3: Robots

You do not need to print off any of the challenges. You can complete them on a piece of paper and take a picture of your work to upload it to Twitter or Facebook. These activities are also available on SeeSaw, where teachers will talk about the learning with the children.

| English | Spelling | Maths | Wider Curriculum | Wellbeing |
|---|---|---|---|---|
| **English Activity 1:**<br><br>Read the Shark Fact File non-chronological report. (Copy attached)<br><br>• Watch the video and find the features.<br>Video link<br>Or<br>• Use the checklist to find the features<br><br>**English Activity 2:**<br><br>Write a non-chronological report on the robot that you designed in the D.T Activities.<br><br>Use the Robots example to help you write it. (Copy attached)<br><br>  <br> | **Words ending in -er and -ar**<br><br>You have a challenge using this week's words on Spelling Shed. If you don't have access to Spelling Shed, here is a list of words ending in -er and-ar for you to practise with an activity.<br><br>  <br> | **Coordinates**<br><br>**Maths Activity 1:**<br><br>Watch the teaching video and information on BBC Bitesize which will help you to describe and plot coordinates on the first quadrant.<br><br>Play the online Hit the Coordinate game.<br><br>  <br><br><br>**Maths Activity 2:**<br><br>Plot the coordinates to discover the robot.<br><br>  <br> | **DT Activity 1**<br><br>First, Complete the robot engineering programme.<br><br>Next, watch a video that introduces a problem and shows how to design and build a robot to solve the problem.<br><br>Then, children will design or build their own robot for their own problem.<br><br>**DT Activity 2:**<br><br>Finally, children will complete an evaluation of their design or build.<br><br>**Music**<br><br>Create your own Robot Rap, just like Cartoon Network have done<br><br>Cartoon Network Robot Rap<br><br>  <br> | **E-safety**<br><br>  <br><br><br>Are you SMART online?<br><br>Take the quiz to find out<br><br>Quiz |

**English Activity 1: Finding the Features of a Non-Chronological Report**

# Shark Fact File

Sharks are a type of fish but instead of having bones, their skeleton is made of cartilage. This is what your ears and the tip of your nose are made from. There are more than 500 different species of shark, including the great white shark, grey reef shark, hammerhead shark and tiger shark. Scientists believe that sharks have been in our oceans for around 455 million years. Some species of sharks prefer to live alone while others live in groups called a school or shoal.

### Where do they live?

Sharks can be found in all of the Earth's five oceans: the Atlantic, Pacific, Indian, Arctic and Southern. Some sharks can even be found in freshwater lakes and rivers. Different species of shark live in different oceans depending on the temperature of the water. Most prefer warmer temperatures though polar sharks prefer colder water.

### What do they eat?

What a shark eats depends on its species and where it lives. Most sharks are carnivores because they like to eat fish and other sharks. Some larger sharks eat dolphins, sea lions and small whales. Smaller sharks eat smaller prey such as clams, crabs and squid.

Some types of shark can be deadly, but only about 12 species have ever attacked humans. In fact, shark attacks are not very common. More people die from bee stings and natural disasters such as earthquakes and volcanoes each year than from shark attacks.

### Shark Senses

Sharks have all the senses that humans have; smell, sight, touch, taste and hearing. The strongest is their sense of smell. Sharks can smell a single drop of blood in the water from 400 metres away. They can also hear fish moving from around 500 metres away. Sharks have very good eyesight and they can see in low levels of light.

**Amazing Fact!**
Most shark species would die if they stopped moving. As long as they keep swimming, water keeps moving over their gills, which keeps them alive.

**Did You Know...?**
A baby shark is called a pup.

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| **Topic title** covers the whole subject. |
| Brief **introduction paragraph** gives who/what/where overview. |
| The information is organised into **paragraphs**. |
| Each category has a **sub-heading**. |
| Some information may be in **fact boxes or bullet-point** lists. |
| **Extra details** support the main points. |

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| Non-chronological reports use **factual language.** |
| **Present tense** verbs (unless it is a historical report, then it would be past tense). |
| **Technical language** may be explained in a glossary. |
| **Third person** makes it impersonal. |
| Non-chronological reports have a **formal tone.** |
| **General language,** not particular examples. |

**English Activity 2: Write your own non-chronological report**

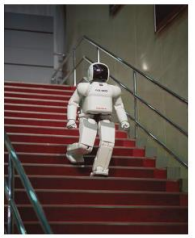
# ROBOTS

A robot is a machine that does tasks without the help of a person. Many people think of robots as machines that look and act like people. Most robots, though, do not look like people. And robots do only what a person has built them to do.

## How Robots Work

Most robots are computer-controlled devices with many parts. An industrial robot, for example, is an armlike machine that can turn at several joints. It has a handlike part to grasp and hold things. Motors move the parts.

Some robots can be "taught" to do a job. For example, a person might guide an industrial robot through the movements needed to do something. Sensors on the robot send signals about the movements to the computer. The computer stores the pattern of movements. Later the computer can retrieve the pattern and tell the robot what to do.



*Some robots can do a range of activities, such as going up and down stairs.*

American Honda Motor Co., Inc.

## Uses

Most industrial robots are used in factories. Some robots load, move, and unload materials. Others are used on assembly lines to help build things such as cars and appliances.

Robots are especially useful because they can do things that could be dangerous for people. For example, they can be sent deep underwater or into space. Robots can also handle dangerous materials such as radioactive waste or harmful chemicals. They can even dispose of bombs or do spy work for the military.

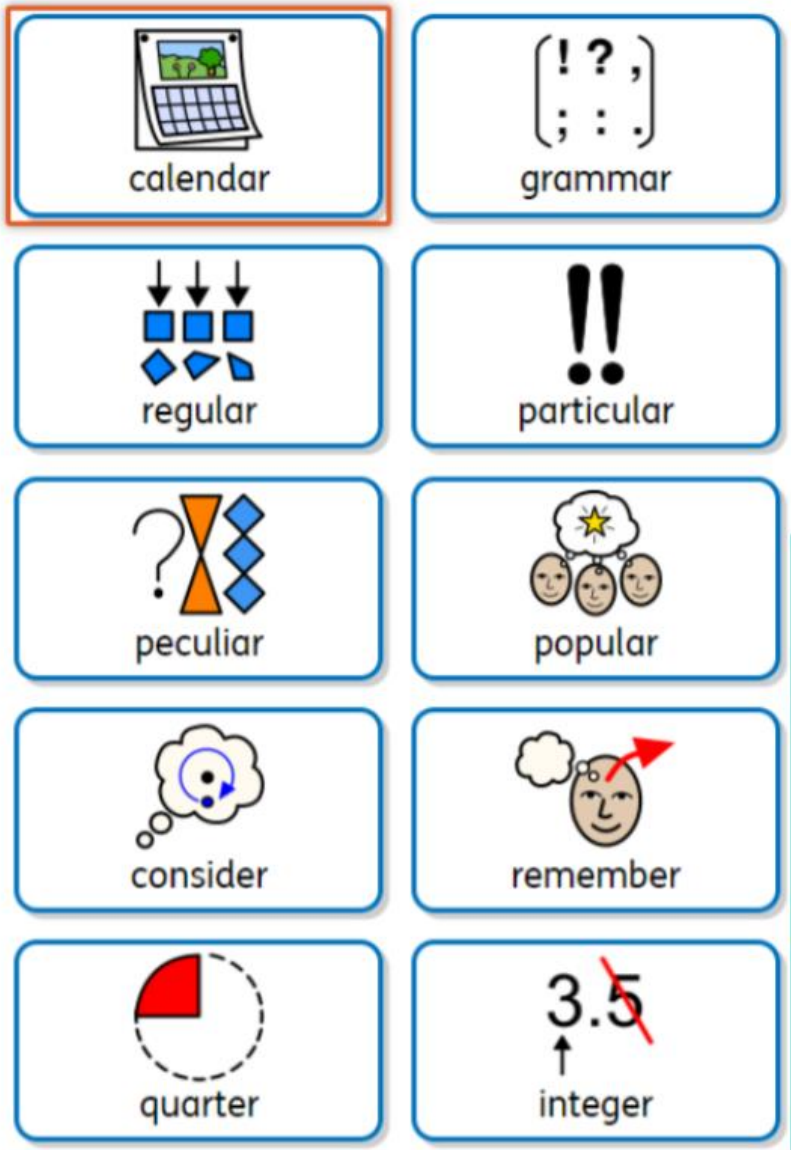
## History

Writings from ancient Greece and China tell of toys called automatons, which were like robots. They were set in motion by steam, air, water, or falling weights. In the late 1700s and early 1800s, complex automatons could play music or write with a pen on paper. During this time, people also built machines to help do certain kinds of work. In modern times, robots only came about after computers were invented. With computers, people could program robots to do tasks on their own.

Did you know…

Science-fiction robots that look exactly like humans are known as androids.

**Spellings**




Words with the suffix -ar and -er

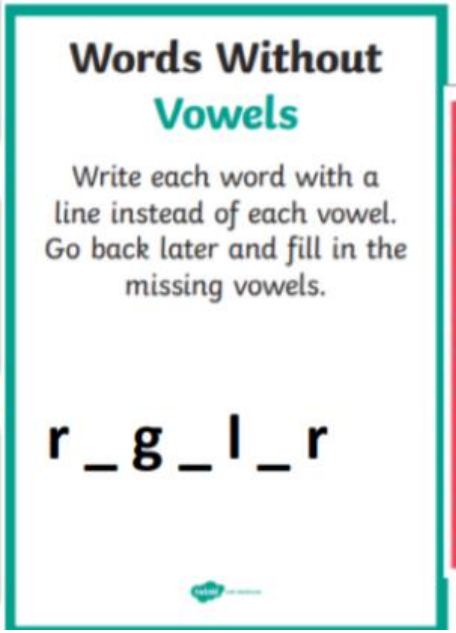
Read the words

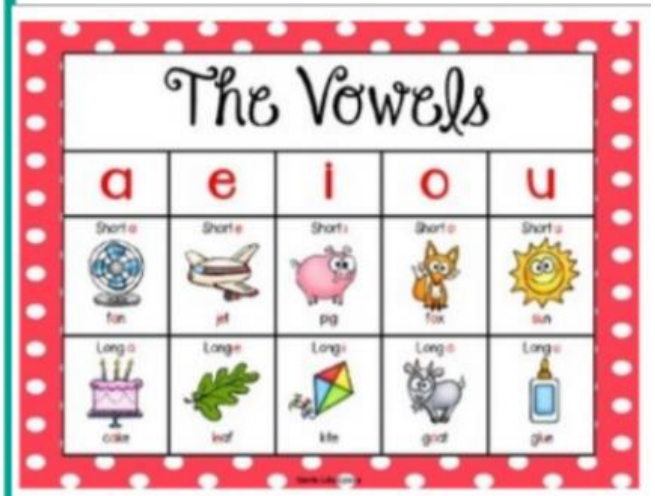
Make sure you know the meaning of the words. Look them up in Collins Cobuild (a good online dictionary) and put them into a sentence

Sort the words into ones that end in ar and ones that end in er.

Is there a pattern or rule or do you just have to remember it?

Look below for a good spelling strategy you can use to remember whether the word ends in –ar or –er



# Coordinate Pictures

**Plot these coordinates to make a robot picture:**

**Line 1:** (8,18), (8,17)

**Line 2:** (10,18), (10,17)

**Line 3:** (7,19), (7,15), (11,15), (11,19), (7,19),

**Line 4:** (8,15), (8,5) (10,5), (10,15), (8,15)

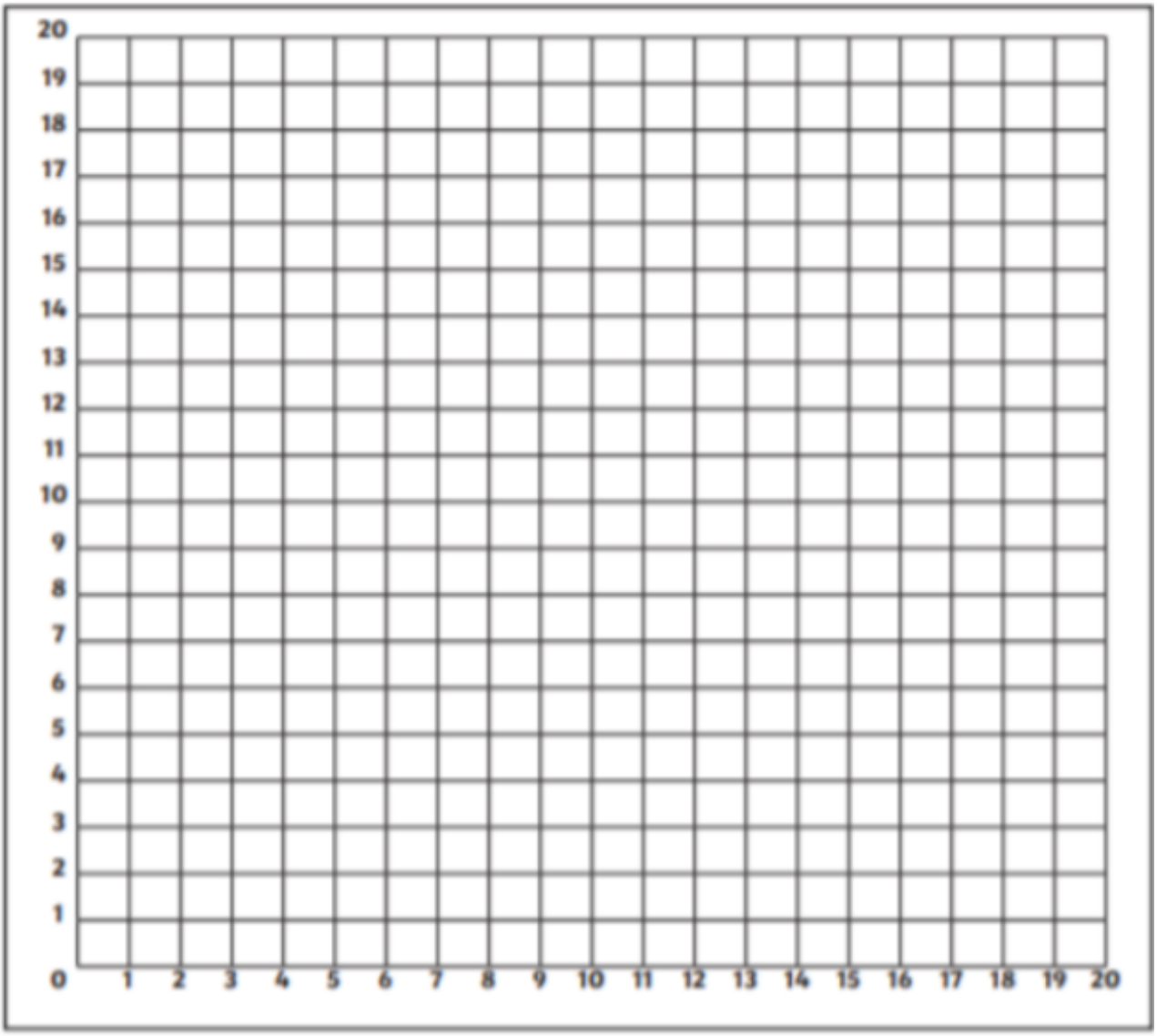
**Line 5:** (8,14), (6,14), (6,13), (3,10), (4,9), (7,12), (8,12)

**Line 6:** (10,14), (12,14), (12,13), (15,10), (14,9), (11,12), (10,12)

**Line 7:** (8,16), (10,16)

**Line 8:** (8,6), (6,6), (6,2), (5,2), (5,1), (8,1), (8,5)

**Line 9:** (10,5), (10,1), (13,1), (13,2), (12,2), (12,6), (10,6)



**DT Activity 1:**

My problem:

What kind of robot will solve that problem? How?

Ideas of what my robot should look like

Materials and equipment I can use to make my robot

**DT Activity 2:**

# My Evaluation

| | |
|---|---|
| What I am pleased with: | Did anything go wrong? |
| What I enjoyed doing: | How did I fix the problem? |
| What I found tricky: | What would I like to be different? |