

SCOTLAND

SCOTTISH INVENTIONS



**... etwas über
Schottland.**

**... das simple past
anzuwenden.**

**... leichte, echte Texte zu
verstehen.**

**... Fragestellung zu
formulieren.**



**... die englische
Satzstellung richtig
anzuwenden.**

Hier lerne ich ...

Durchführung des Bausteins:

1. Ich erledige die Aufgaben in der vorgegebenen Reihenfolge.
2. Ich notiere die Aufgabe in mein Heft.
3. Ich schreibe die Lösungen der Aufgaben ordentlich und in der richtigen Reihenfolge darunter.
4. Wenn ich alle Aufgaben erledigt habe, übergebe ich sie meinem/r Lehrer/in.
5. Ziel ist, dass ich so viel wie möglich alleine erledige.
6. Sollte ich Aufgabenstellungen nicht verstehen, hier ein paar Vokabelhilfen.

English	German
to draw	etw. zeichnen
to compare	etw. vergleichen
to note sth. down	etw. notieren
to mark sth.	etw. markieren
to copy	etw. abschreiben
to fill in sth.	etw. einfüllen/ergänzen
to sort sth.	etw. sortieren
an argument	ein Argument/ein Grund
to choose sth.	etw. auswählen
to look up	suchen

Du kannst dir jederzeit ein Wörterbuch zur Hilfe nehmen.

Task 1: What did the Scottish invent?

- a) Read the article and mark 10 words that you don't understand, are new for you and/or find interesting.

Scottish inventions

Despite its small size and low population Scotland has produced some important inventors over the centuries. In the 18th and 19th century many technological, medical and mechanical discoveries were made there, including the invention of logarithm tables (by John Napier in 1594), the preservation of marmalade (by Janet Keiller in 1797) and the discovery of continuous electric light (by James Bowman Lindsay in 1834) as well as the development of the thermos flask (by James Dewar in 1892), the pneumatic tyre (by John Dunlop in 1888) and the refrigerator (by James Harrison in 1856).

Apart from these there are some other really outstanding inventions that caused a breakthrough: in 1782 James Watt invented the rotative steam engine. It was the refinement of the existing steam engine that resulted in the Industrial Revolution.

In 1839, Kirkpatrick Macmillan developed the first pedal-powered bicycle. It was based on the foot-powered "velocipede" and allowed people to cover longer distances in a shorter time. In the following years, Macmillan's great invention was copied and manufactured in large numbers, because he hadn't applied for a patent.

The Scottish physicist James C. Maxwell developed colour photography in 1861. The subject shown in his first three-colour photograph was his tartan ribbon. Alexander Graham Bell, a man from Edinburgh, invented the telephone in 1876. It was a scientific breakthrough for communication all around the world. Penicillin is a discovery that has changed the face of medicine. In 1928 Alexander Fleming's first idea was to treat diseases. But, in 1940, Penicillin helped to save the lives of thousands of wounded soldiers. In 1926 John Logie Baird invented a black and white TV. It couldn't produce sound and pictures at the same time but nevertheless it was a great invention.









b) Look up the words you marked in the text in a dictionary. Make a grid and write down the translation to the words and on which page you found them in the dictionary. If you look up a verb, write down the infinitive form (*Grundform/Infinitiv*).

Example:

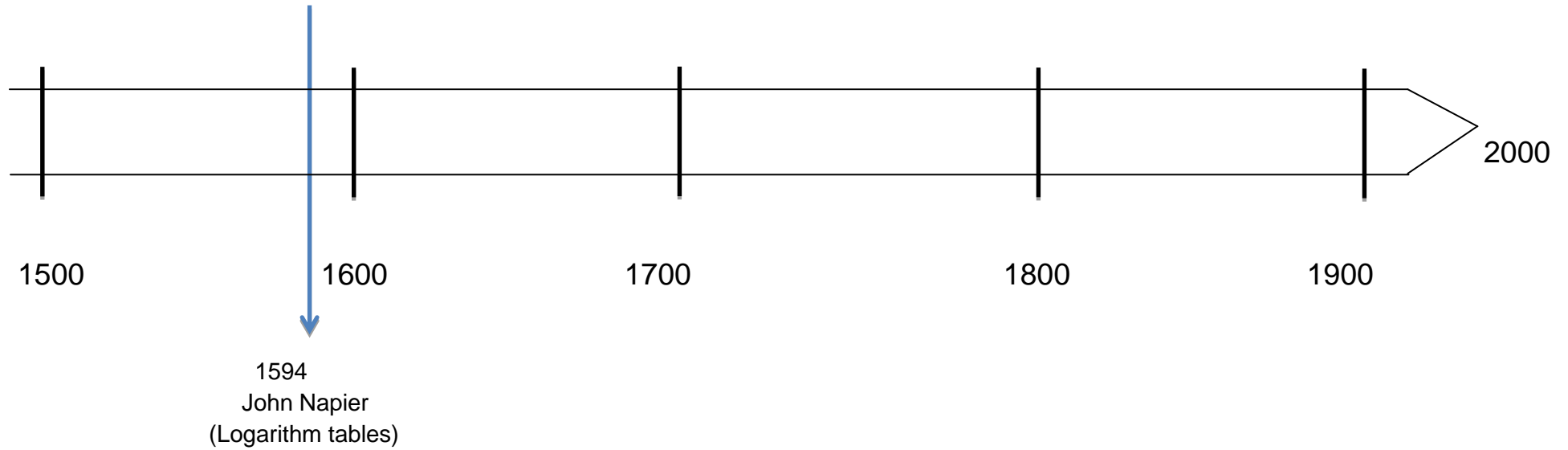
English	Infinitive	German	Page in the dictionary
inventor	-----	Erfinder	145
invention	-----	Erfindung	85
caused	to cause	etw. verursachen	97

c) Look at the pictures below and find in the text who invented them:

/	ERFINDUNG	ERFINDER
1		<p>→ John Logie Baird</p>

2		→
3		→
4		→
5		→
6		→

d) **Draw** a time line into your folder and fill in the dates and events.



e) **Which invention** is the most important for you? Why? Write at least three sentences.

Task 2: What did the inventors do?

- a) Copy the grid into your folder and fill in the *simple past* and the *past participle* of the verbs. Compare your solutions with the answer key 1.

	simple past	past participle
(to) produce	<i>produced</i>	have/has <i>produced</i>
(to) cause		have/has
(to) invent		have/has
(to) manufacture		have/has
(to) allow		have/has
(to) develop		have/has
(to) change		have/has
(to) make		have/has
(to) be		have/has
(to) give		have/has

Task 3: Are these the right inventions? Test your knowledge!

a) Look at the grids below and **write down** (the) sentences into your folder what the inventors **did** and **didn't do**.

Example: “*John Napier didn't write a timetable. He wrote the logarithm tables.* “

John Napier	write	a timetable.
		the logarithm tables.
Janet Keiller	preserve	marmalade.
		juice.
James Bowman Lindsay	produce	continuous electric light.
		candle light.
James Dewar	develop	a glass bottle.
		a thermos flask.
John Dunlop	discover	the pneumatic tyres.
		wooden wheel.
James Harrison	invent	a refridgerator.
		a heater.
James Watt	build	a motor engine.
		a steam engine.
Kirkpatrick Macmillan	construct	a motorbike.
		a pedal powered bicycle.

James C. Maxwell	take	the first colour photograph.
		a black and white photograph.
Alexander GrahamBell	communicate	by telephone.
		via the Internet.
Alexander Fleming	discover	a cough mixture.
		penicillin.
John Logie Baird	invent	television.
		radio.
Scientists at Roslin Institute	clone	a goat.
		the sheep Dolly.

Task 4: Talking about an inventor

The invention of the telephone

Although the telephone was supposedly invented in the USA, it was actually invented by a Scotsman: **Alexander Graham Bell**.

- a) Read the text about Alexander Graham Bell.
- b) Look up any new words in your dictionary.

Alexander Graham Bell was born in Edinburgh, Scotland, on March 3rd, 1847.

He had found out a lot about the study of sound when he was very young. He was so specially talented that he started to teach at university as a "pupil-teacher" when he was 16.

At the age of twenty-six he moved to Boston, USA, and worked as a professor at Boston University. His aim was to transmit words electronically. He constructed a new type of transmitter and made a lot of experiments.

In March 1876 he sent his assistant Watson to a different room on the next floor of the building (far away from him). While Bell was assembling the last parts of his telephone, some battery acid dripped onto his trousers. He called for his assistant Watson. Through the instrument, Watson heard the following words:

"Mr. Watson, come here. I want you!", and Watson went to Bell's room. It was a great invention.

In 1892 Watson and Bell made their first telephone call from New York to Chicago and 23 years later they made their first call from the east to the west coast.

c) REVISION: Questions.

“Did you go on holiday last year? (**Yes**, I did)”

“Didn't you go to work yesterday? (**No**, I didn't)”

Yes / No

(**To be**) “was your teacher at school today? (**Yes**, he was)”

“Were you sick yesterday? (**No**, I wasn't)”

Answering
questions
correctly

“**When** did you arrive? -- I arrived at 10

“**What** did you say? – I **said**, come with me!

“**Where** did buy yesterday? – I **bought** a new car.

More
Information

(**To be**) → “**How** were your students today? – They were fantastic!

→ “**Who** was that man?” – That was my father.

d) Imagine you meet a Scotsman. You are interested in Bell's life and his invention, so you ask him a lot of questions. Write a question to each of these answers into your folder:



Example:

1. - Question: "When did he move to Boston"?

- Answer: "He moved to Boston in 1873"

2. - Question: -----

- Answer: "He was born on March 3, 1847"

Task 5: The story about the invention of the pedal bike

The velocipede was the first bike. It was invented by a German. You are going to write the story about the invention of the bike.

a) Put the words of the jumbled sentences into the right order and write them into your folder.

The invention of the pedal bike

1. the German baron – built – a two-wheel bike – Karl Friedrich Christian Ludwig Drais von Sauerbronn

2. had to sit – and walk – he – on the saddle

3. was called – his invention – the “velocipede”

4. helped – people – four times faster – on foot only – the velocipede – to move – than



5. was used – the velocipede – until 1839

6. added – Kirkpatrick Macmillan – that moved – two pedals – the back wheel – in 1839

7. allowed – to cover – this pedal-powered bicycle – in a shorter time – people – longer distances

8. became – popular – it – very

9. was manufactured – it – in large numbers – that is why

Test yourself

a) Read the text. Fill in the missing verbs in simple past.

Colour TV

John Logie Baird _____ (to be) a Scot. He _____ (to live) from 1888 to 1946 and _____ (to invent) colour TV.

John Baird _____ (to like) to do experiments when he _____ (to be) a child. He _____ (not construct) a telephone by using ropes and tins, as children usually do, but he _____ (to try) something extraordinary. He _____ (to develop) an electrical system and _____ (to draw) cables from his parents' house to the homes of his four friends. He _____ (want) to use cables to transmit language. It _____ (to be) a tragedy that he _____ (to have to) remove the cables after a short time, because they had hung deep across the road and _____ (to be) dangerous.

John Baird _____ (to invent) black and white TV, as well. But in 1928 he _____ (to become) a star when he _____ (to be) successful in colour transmitting. On July 3rd, 1928 he _____ (to send) the first colour pictures from London to New York. After Baird's first experiment with colour TV in 1928, people _____ (to have to) wait for another 40 years to get the chance for colour TV.