

GRAPHIC NOVEL

CLASS X : SOCIAL SCIENCE (HISTORY)

CHAPTER : 4

AGE OF INDUSTRIALISATION

(ART INTEGRATED LEARNING)



Delhi Public School

Sector 45, Gurgaon

Affiliated to C.B.S.E

ACKNOWLEDGEMENT

"I can do things that you cannot, you can do things I cannot, together we can do great things."
Mother Teresa

Training and Ideation **Mr Sandeep Sethi**, Director Education
M.S.M.S.II.Museum Trust

Coordination **Ms Aditi Misra**, Director Principal, DPS
Gurgaon

Ms Sapna Dhawan, Dean, Student Welfare,
DPS Gurgaon

Subject Experts **Ms Leeza Dutta**, PGT History

Ms Avni Mehta, PGT History

Ms Gunjan Jalodia, TGT Social Science

IT Support **Ms Chanchal Chandna**, PGT Computer
Science

Art and Graphics **Ms Madhumita Nandi**, HOD Art

Ms Bhavna Srivastava, Deputy HOD Art

Ms Shallu Sawhney, PRT Art

Language Support **Ms Sonia Jain**, Mentor English Dept.



To access the comic book and additional interactive digital content, download DIKSHA app from Google Play Store on your Android smartphone or tablet and scan the QR code using DIKSHA app.

TABLE OF CONTENTS

S.No.	CONTENT	PAGE NO.
1	LEARNING OUTCOMES	5
2.	CHARACTERS	6
3.	STORY BOARD	8
4.	PLANNING AND VISIT TO RAIL MUSEUM	9
5.	MEETING THE FAIRY QUEEN	12
6.	PROTO INDUSTRIALISATION	16
7.	COMING UP OF FACTORIES AND PACE OF INDUSTRIAL CHANGE	18
8.	ACTIVITY 1 – WORD SEARCH	25
9.	LIFE OF THE WORKERS	26
10.	ACTIVITY 2 – ACROSTIC POEM	30
11.	PECULIARITIES OF INDUSTRIAL GROWTH IN INDIA & INDIAN INDUSTRIALISTS	31
12.	CONDITION OF INDIAN WEAVERS	38
13.	IMPACT OF WORLD WAR 1 ON INDUSTRIALISATION IN INDIA	41
14.	ACTIVITY 3 – WEAVE A STORY	44
15.	ACTIVITY 4 – LET’S RECALL	45
16.	INDIA AS A MARKET FOR BRITISH GOODS AND ROLE OF ADVERTISEMENTS	46
17.	CONCLUSION	50
18.	ACTIVITY 5 – REAL LIFE FUN ACTIVITY 6 – TIME TRAVEL	52
19	ACTIVITY 7 - CROSSWORD	53
20.	GLOSSARY	55
21	BIBLIOGRAPHY	56

Disclaimer

This is a work of fiction by Delhi Public School , Sector 45, Gurgaon. This novel is designed to provide information and motivation for learning to young readers. The information in this novel is meant to supplement, not replace the textual information. The characters in this novel are fictitious and any resemblance to any names, characters, incidents is entirely coincidental. Any reference to historical events, real people or real places are used fictitiously.

PREFACE

*"Don't limit a child to your own learning,
for he was born in another time."*

- Rabindranath Tagore

The graphic novel, Age of Industrialisation, is a modest attempt to provide a resource that will make the teaching-learning process interactive and joyful for the students, by incorporating 21st century skills.

The novel takes the readers on a journey to explore the Industrialisation Era from the 18th century to the 20th century. A group of four friends, time travel through centuries, exploring and understanding the events that shaped the way societies have evolved. The global phenomenon is understood from its inception stage of Proto-industrialisation, tracing its journey through Britain and India.

The modern world is the story of technological change and innovation, of progress and industrialisation. The pace of industrial change, the aspirations of industrialists, and the hope and fears of workers and weavers, are presented in this novel. The students will analyse the events and find answers to a number of questions, while dwelling on the content. Was Industrialisation merely the story of development? Was there any difference in the process of Industrialisation in Britain and India? What was the condition of workers and weavers during this period? Can we today continue to glorify continuous mechanisation of all work?

This graphic novel aims to spark the curiosity of its readers and encourage them to develop a holistic approach towards learning. For the readers to understand the technological changes and industrial pace in today's world, they need to turn to the history of Industrialisation.

CLASS X

Subject: Social Science

Chapter: Age of Industrialisation

Proto-industrialisation, The coming up of factories, Hand labour and Steam power, Life of workers, Industrialisation in colonies, Factories in colonies, Innovations and Market for goods

Aim:

1. To use visual representation to understand the beginning and the spread of Industrialisation.
2. To plan a resource that will be easy to understand, engaging and engrossing. It will aid the students in self- directed learning.

Learning Outcomes:

1. To develop an understanding of the processes of change and development-both in time and space, through which human societies have evolved.
2. To understand that Industrialisation is a global phenomenon, a macro-change that began in 18th century in Britain.
3. To familiarise the students with the Proto-industrial phase and early Factory-system.
4. To compare the process of Industrialisation in an imperial power (Britain) to a colony (India), during the 18th and 19th centuries.
5. To identify and comprehend the condition and position of the industrialists and the working class in Britain and India.
6. To assess the impact of innovation on industrial growth.
7. To understand the role of advertisements in the process of Industrialisation in the 19th century.

Characters



The Fairy Queen

Built in 1855, also known as East Indian Railway Nr 22

Oldest working steam locomotive
An exhibit at the National Rail Museum

Present Day – Team from a school visiting the National Rail Museum



Rohan
Student



Riya
Student



Kirti
Student



Shikhar
Student



Ms. Singh
Teacher

1770 Britain



Mr. Blackwell
Merchant



Mr. Joe
Peasant



Sir Richard Arkwright
23rd Dec 1732 – 3rd Aug 1792
An English inventor and a leading entrepreneur during the early Industrial Revolution



James Watt
19th Jan 1736 – 25th Aug 1819
Scottish inventor who invented the Watt steam engine in 1776

Characters

1840-1850 Britain



Mr. Johnson
British



Mr. Smith
British



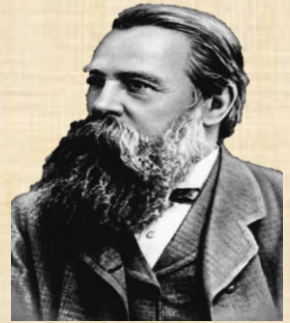
Young Boy
British



Young Girl
British



Woman
British



Frederic Engels
28th Nov 1820 – 5th Aug 1895
A philosopher, historian, political scientist and revolutionary socialist

1770 -1835 India



Weaver1
Indian



Weaver 2
Indian



Mr. Dwarkanath Tagore
1794–1846

One of the first Indian industrialists to form an enterprise with the British



Mr. Roger
East India



Gomastha
Indian Official

Storyboard

21st
Century
India

Fairy Queen: The steam locomotive at the
National Rail Museum

18th
Century
Britain

Proto-industrialisation
Why were there no factories?
Where was the work done?
Role of peasants / merchants

19th
Century
Britain

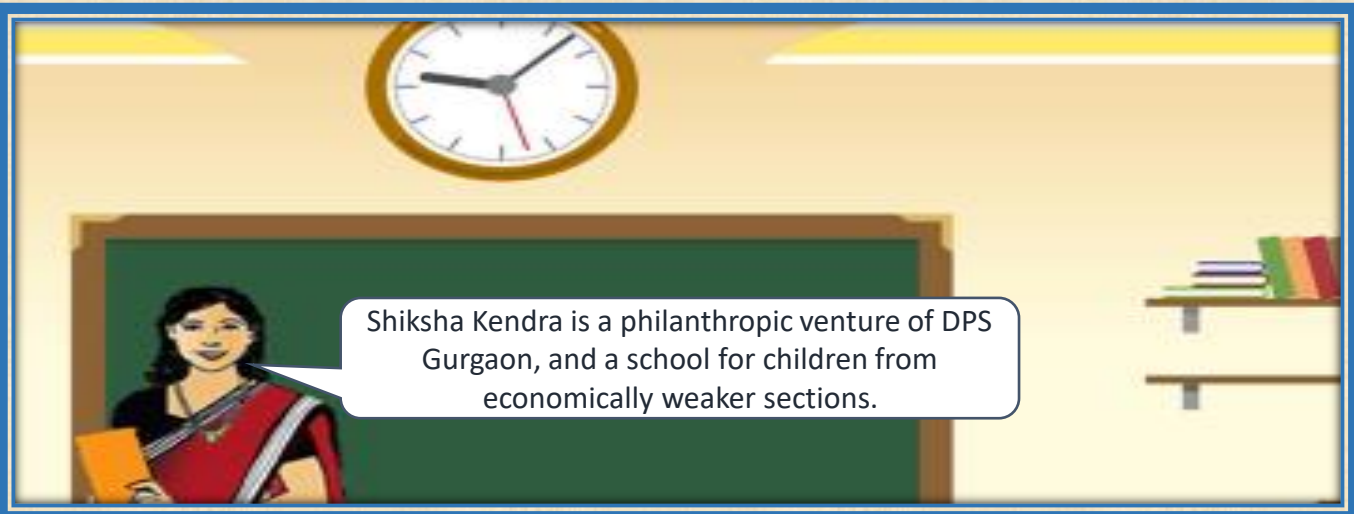
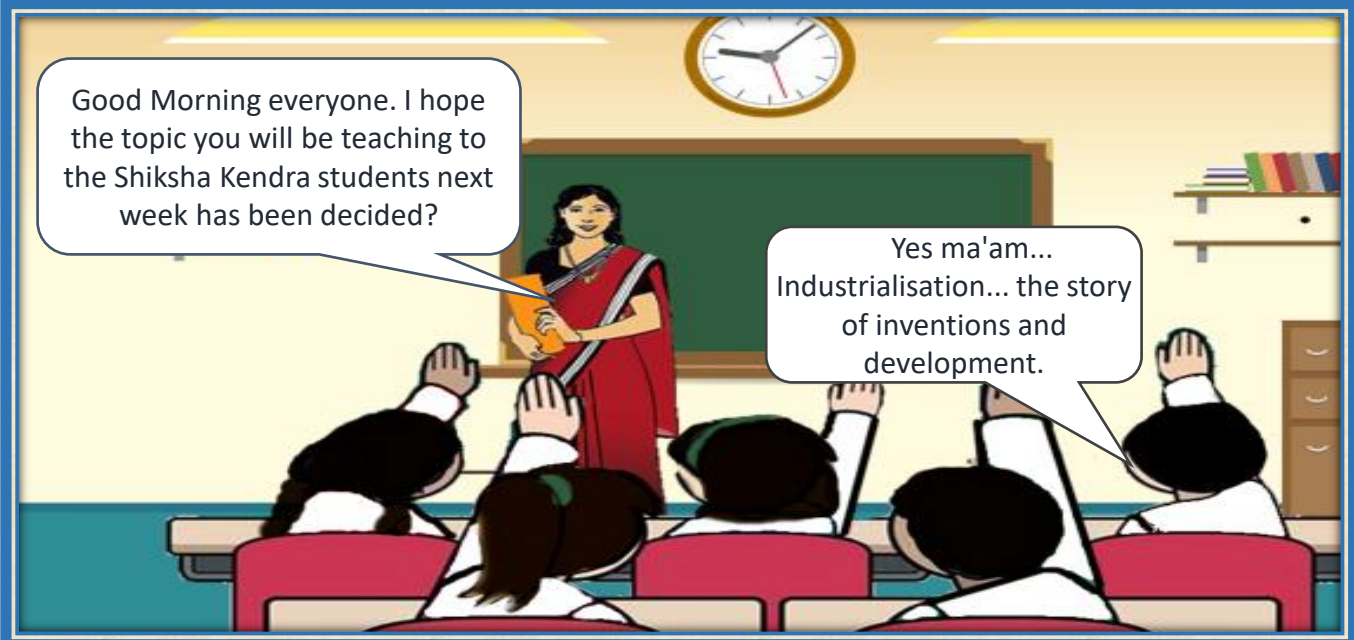
Fairy Queen: This is the era I was born in.
(1855)
Industrialisation in Britain
Britain: Textile & Iron and Steel Industry
Inventions and Innovators

18th & 19th
Century
India

Conditions of workers before and after
the British Rule in India
Important ports and Industries
Indian industrialists
Workers and Role of Jobber

20th
Century
India

Idea of Swadeshi
Impact of First World War
Impact of innovations on Industrial
growth
Advertisements



What is the serious discussion you all are involved in?

My parents are out of town this weekend so I have to take care of my grandparents. I will be missing the trip to the Museum.



I promised mom I will help her with the cleaning of the house. So I will be missing the trip too.

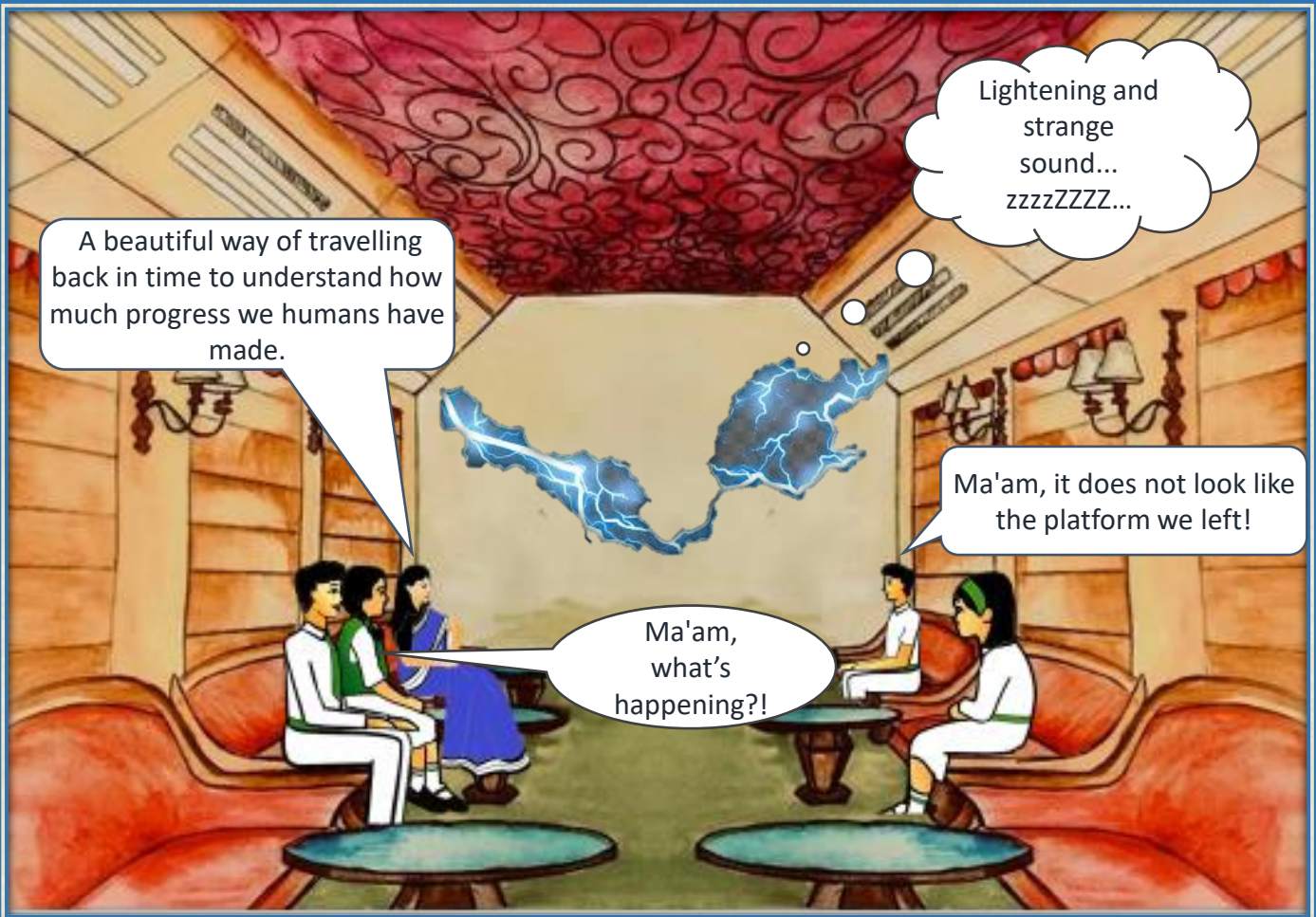


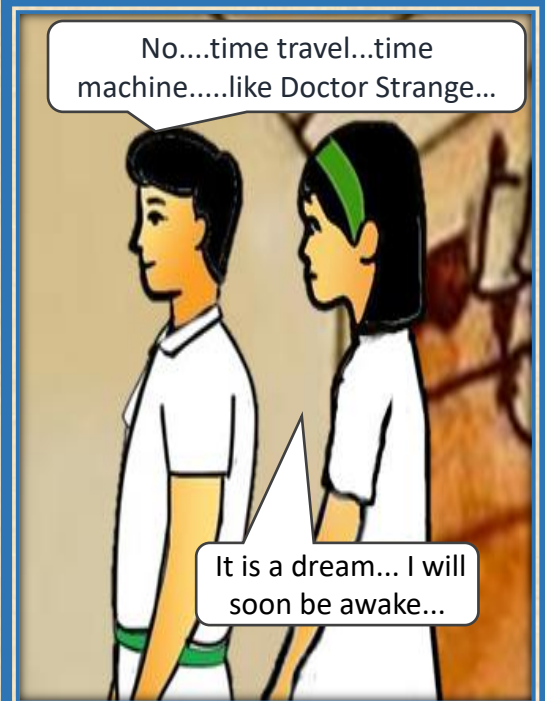
Don't worry guys, we will collect the information and share with you all.

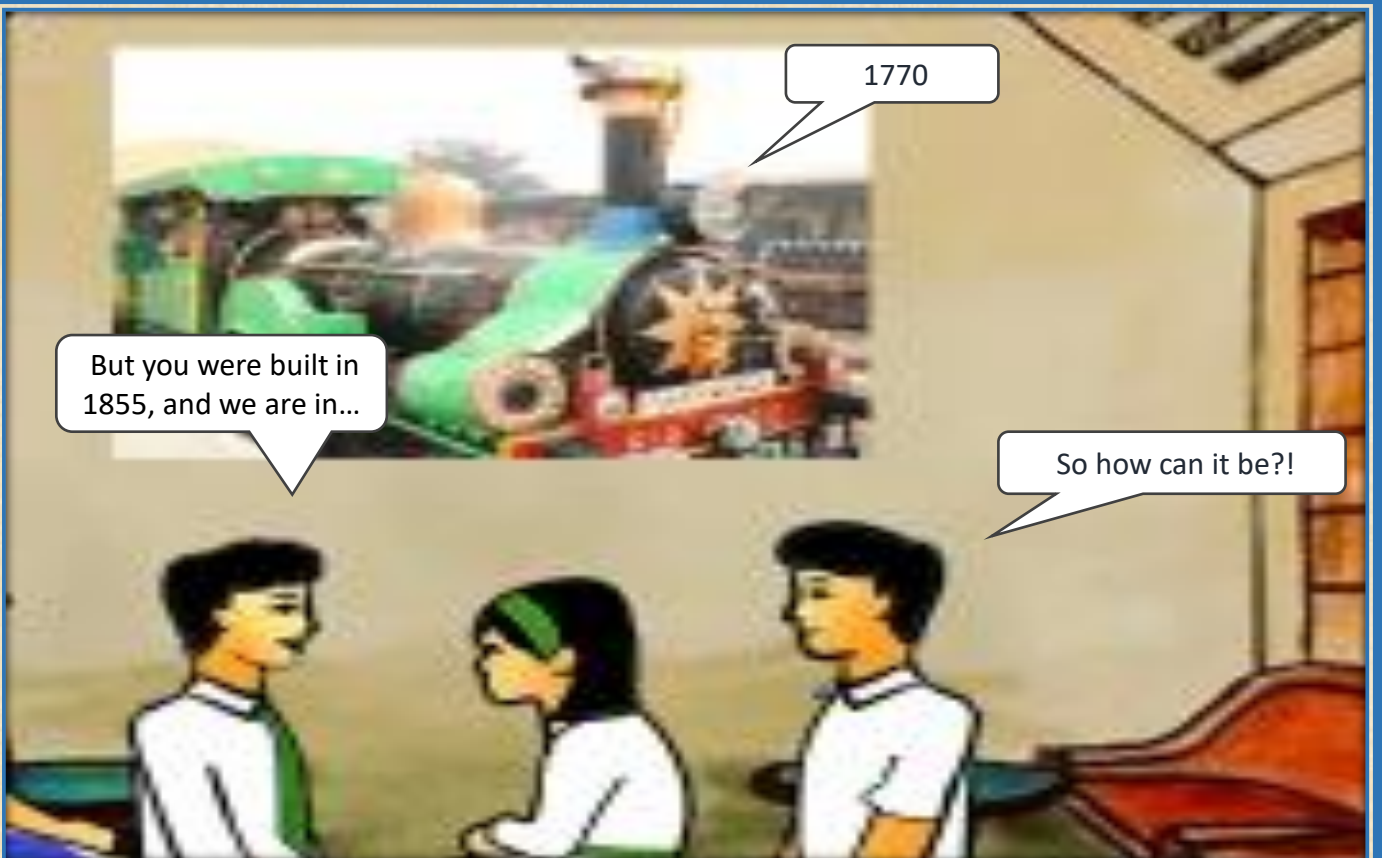
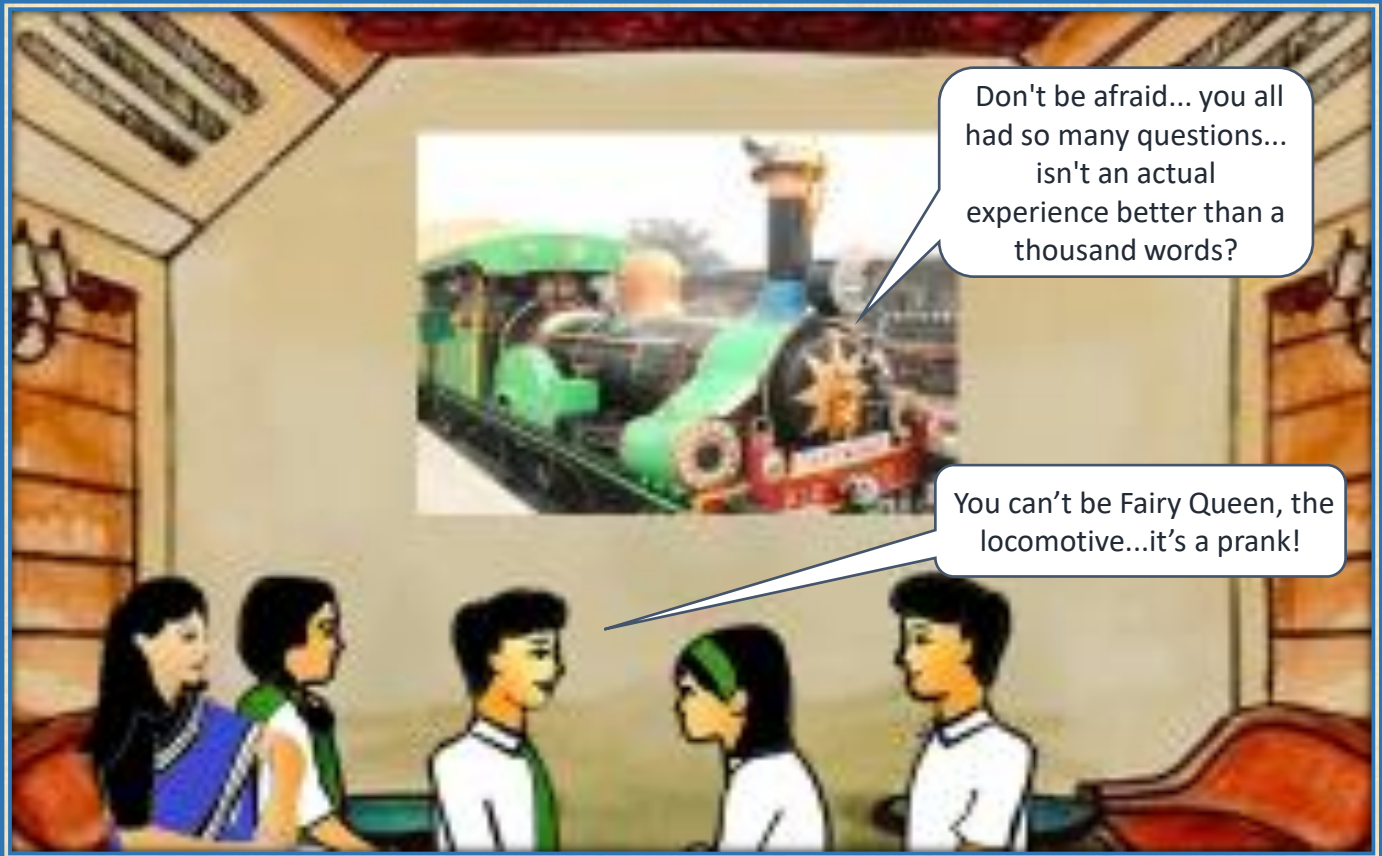
Yes, and all we need in return are your mom's famous sandwiches!













Hello children! Are you ready to be intrigued by my world...

My father owns a big factory as well, Mr. Blackwell. Do you also own a factory with many workers?

Let me tell you how we produce for an international market without big factories...

Yes! I have read about it. In the past the production was done at home in the countryside by artisans and peasants.

You are right! Here is Mr. Joe, the peasant, to tell you about his work and life...

I live in the countryside and work from home with my family, for Mr. Blackwell.

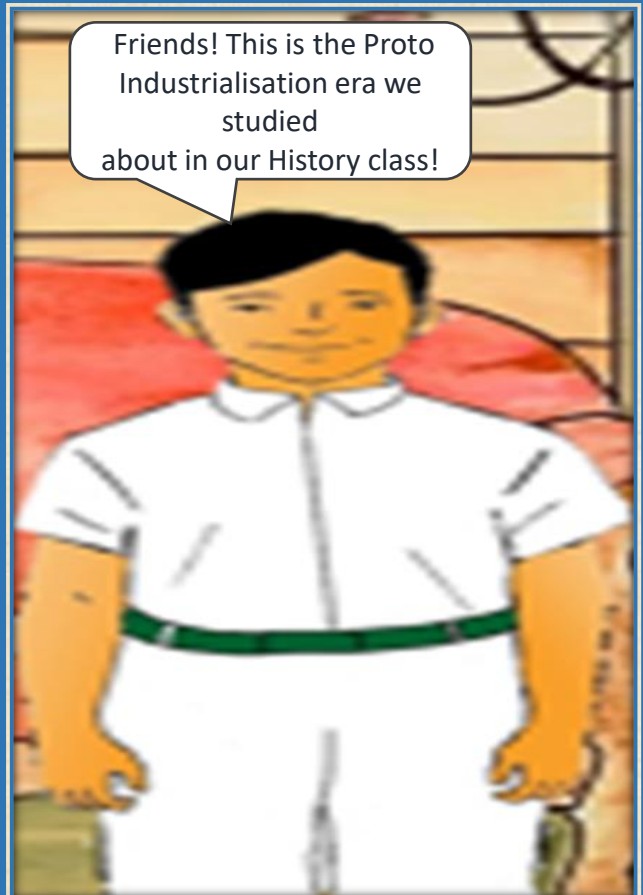
Don't you work in your fields?

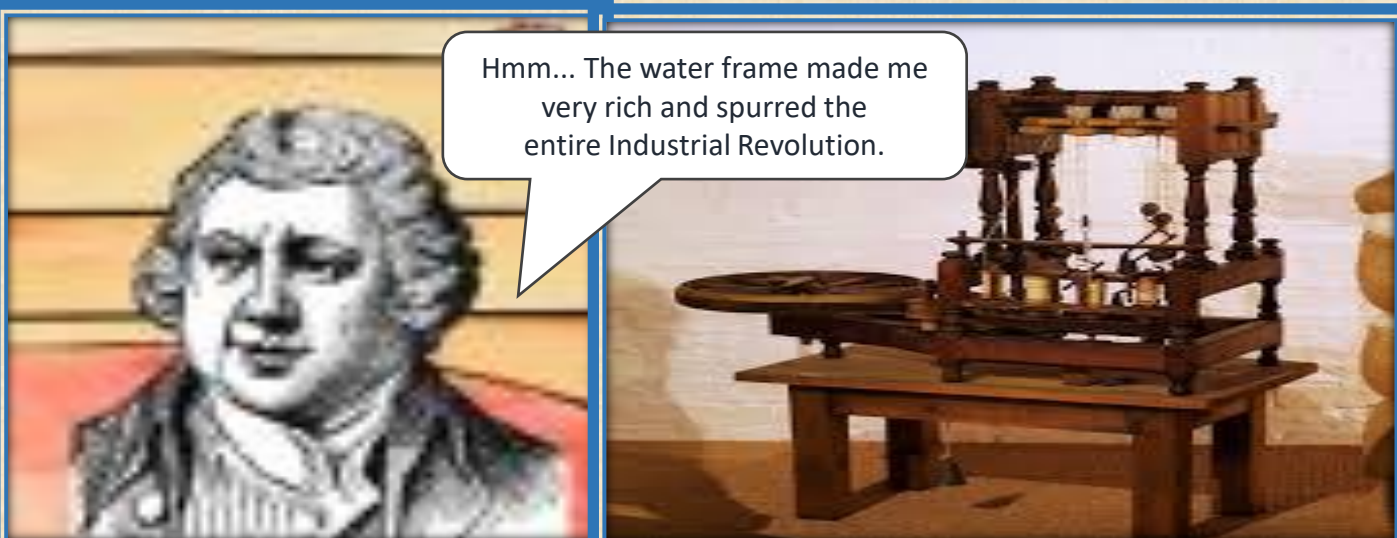
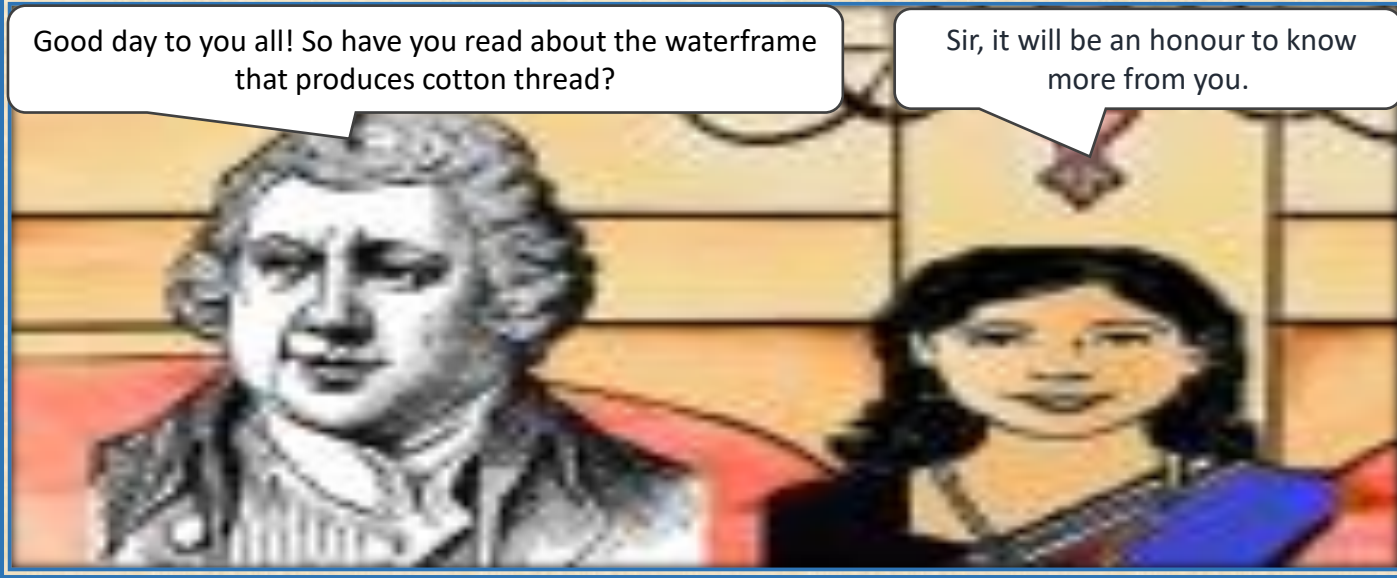
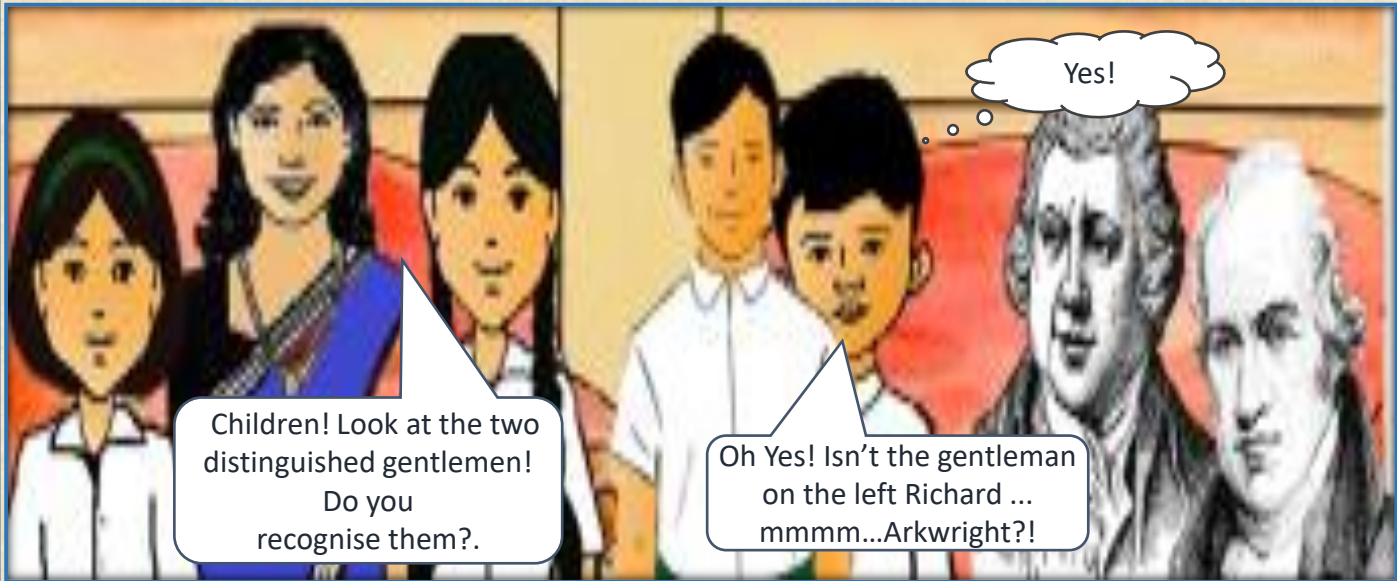


Yes I do, but I also work for Mr. Blackwell, spinning yarn and weaving cloth, which adds to my income.



Friends! This is the Proto Industrialisation era we studied about in our History class!

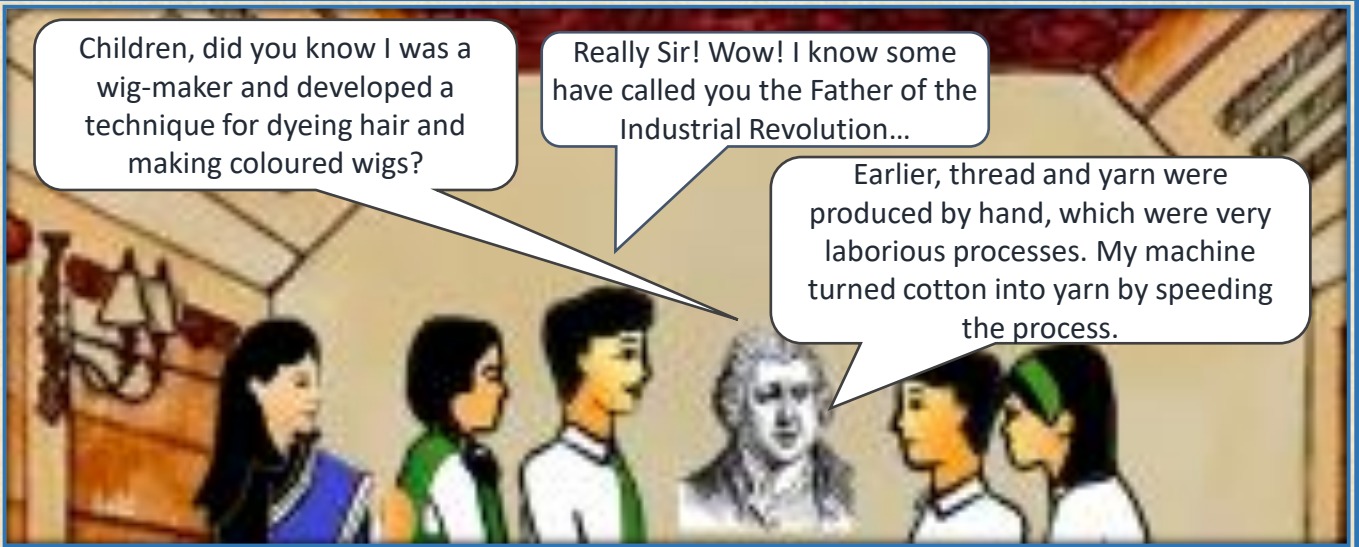




Children, did you know I was a wig-maker and developed a technique for dyeing hair and making coloured wigs?

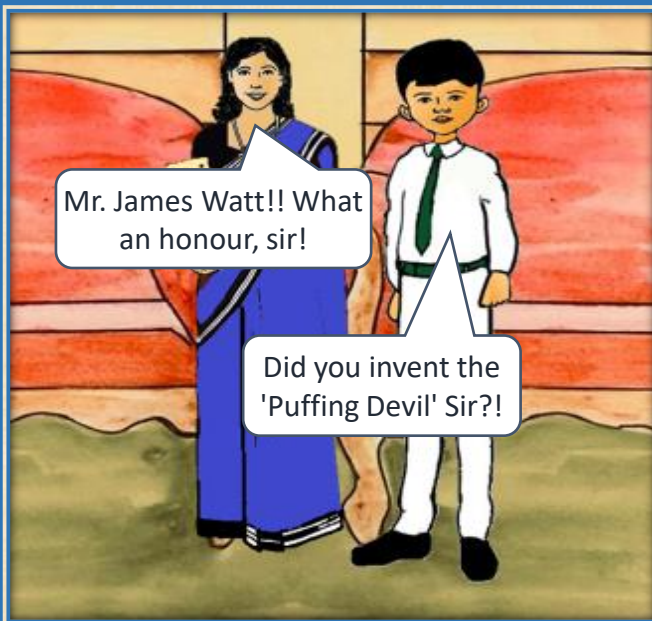
Really Sir! Wow! I know some have called you the Father of the Industrial Revolution...

Earlier, thread and yarn were produced by hand, which were very laborious processes. My machine turned cotton into yarn by speeding the process.

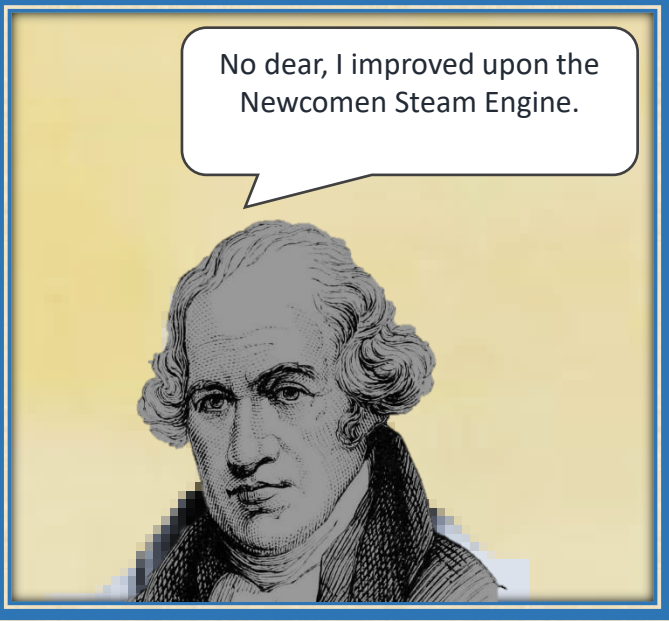


Mr. James Watt!! What an honour, sir!

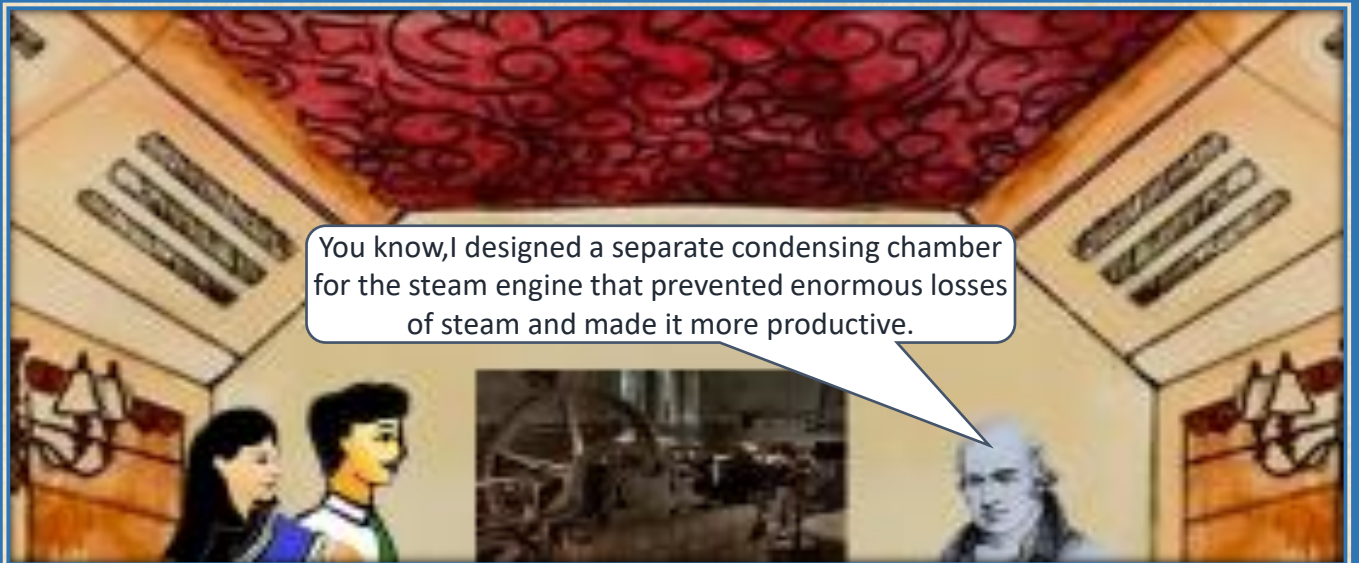
Did you invent the 'Puffing Devil' Sir?!

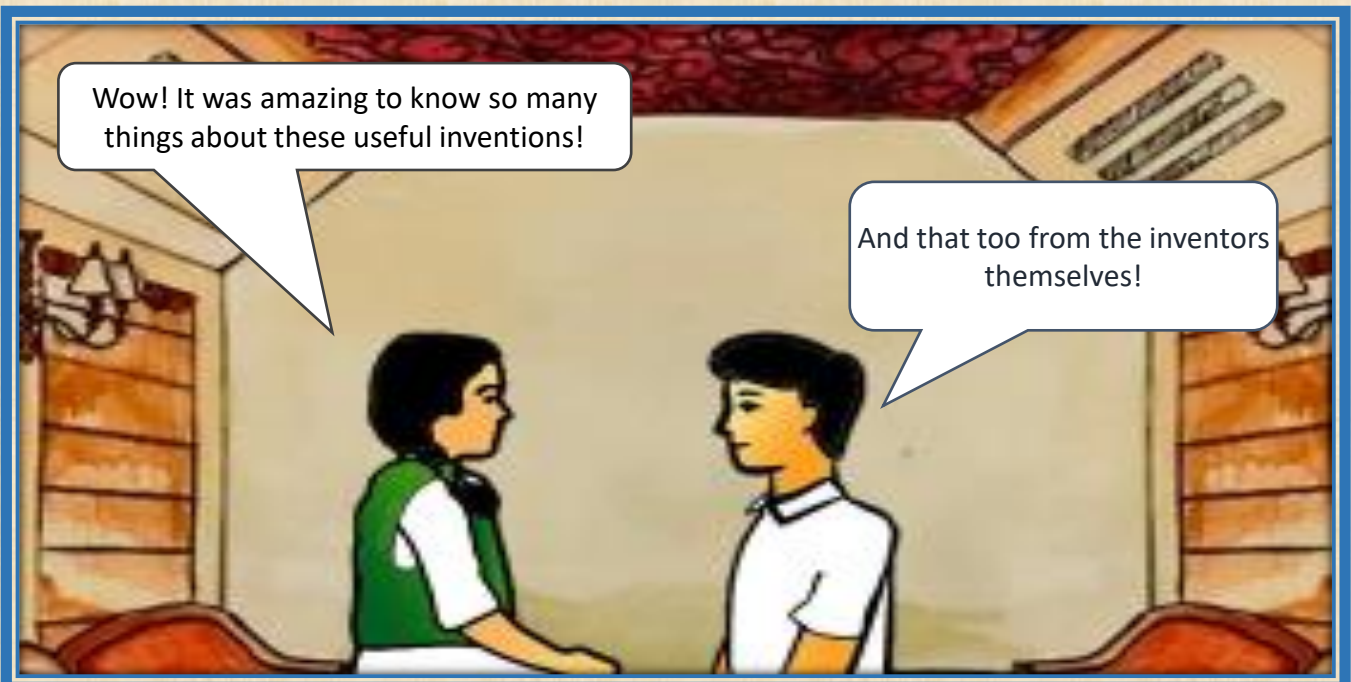
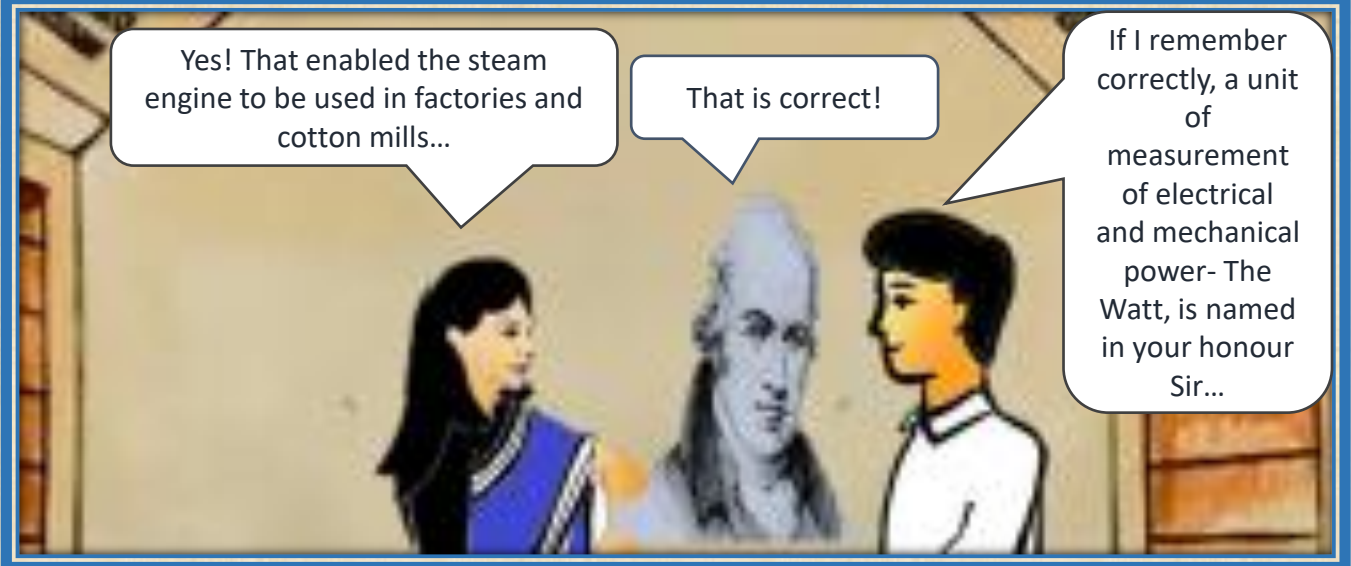


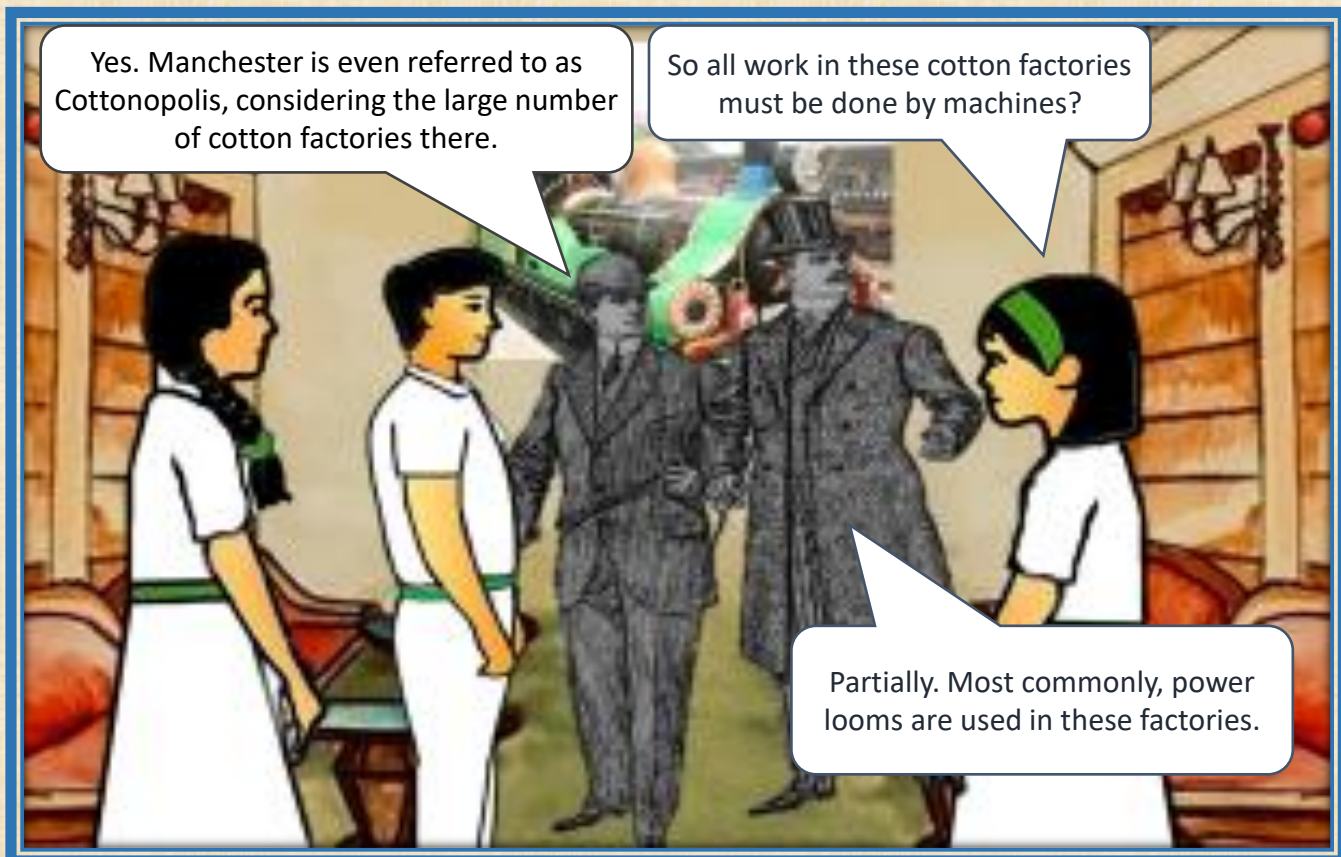
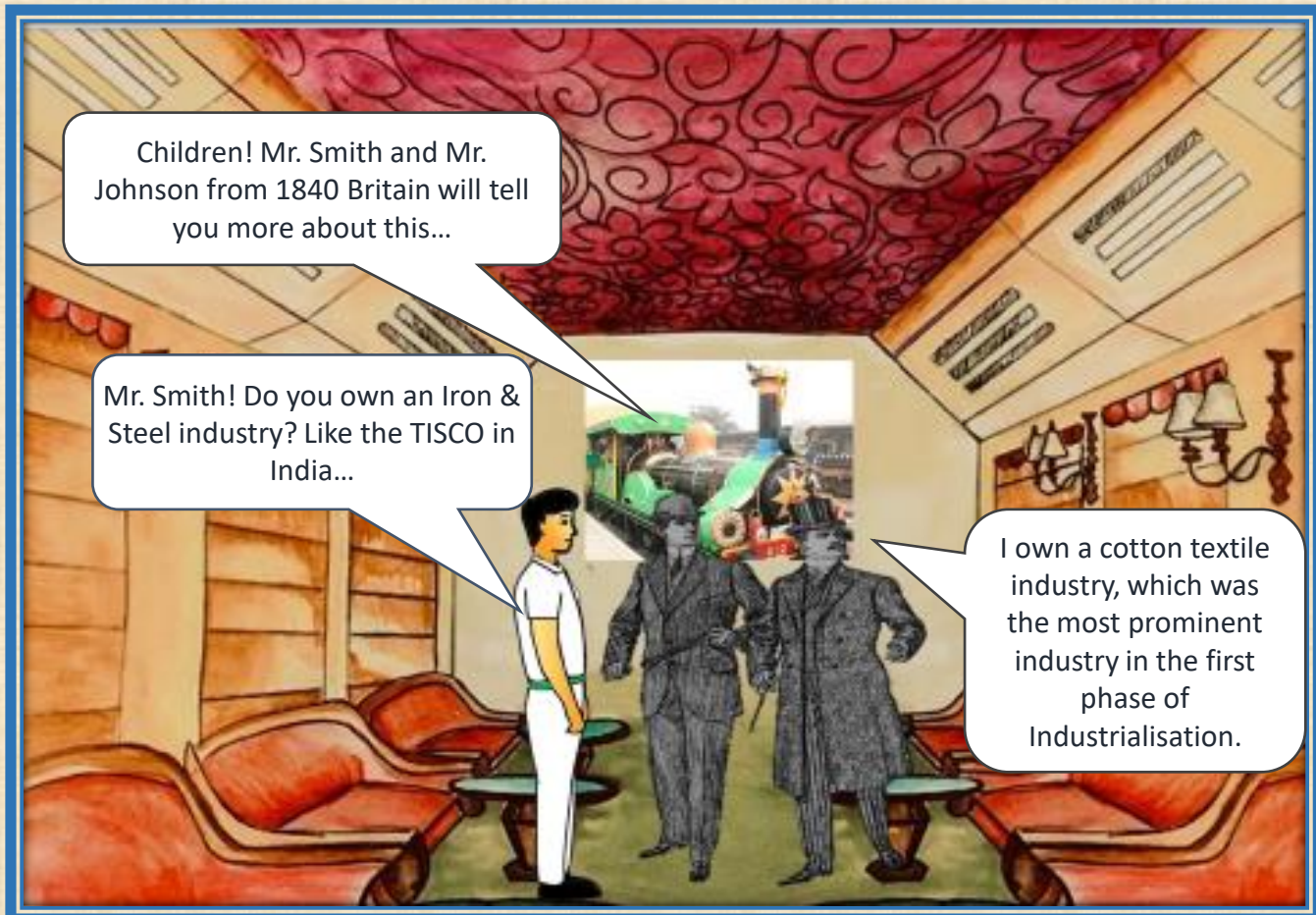
No dear, I improved upon the Newcomen Steam Engine.

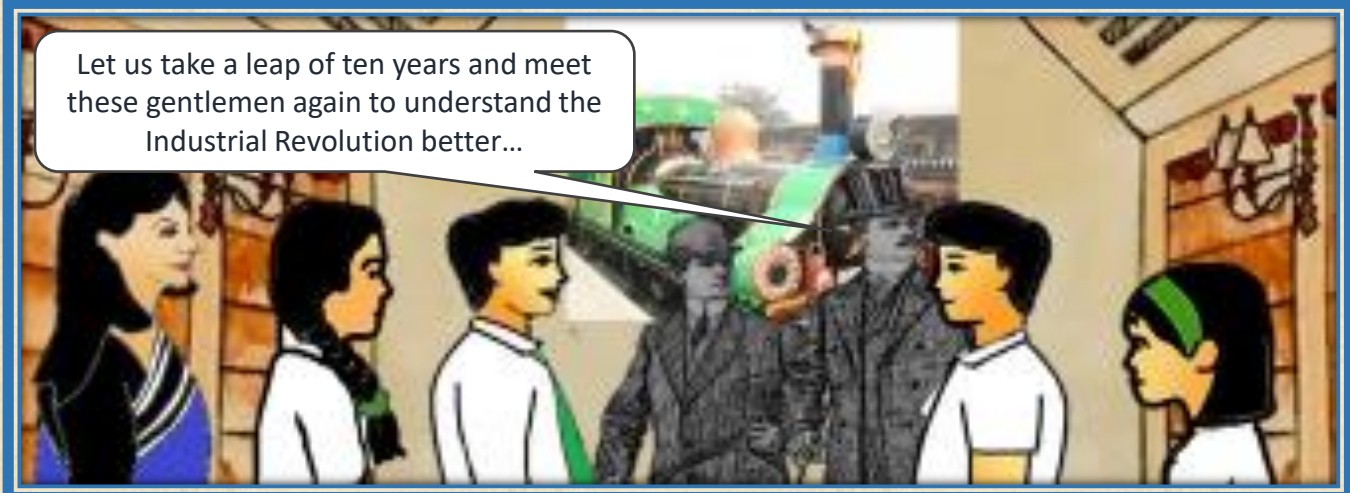
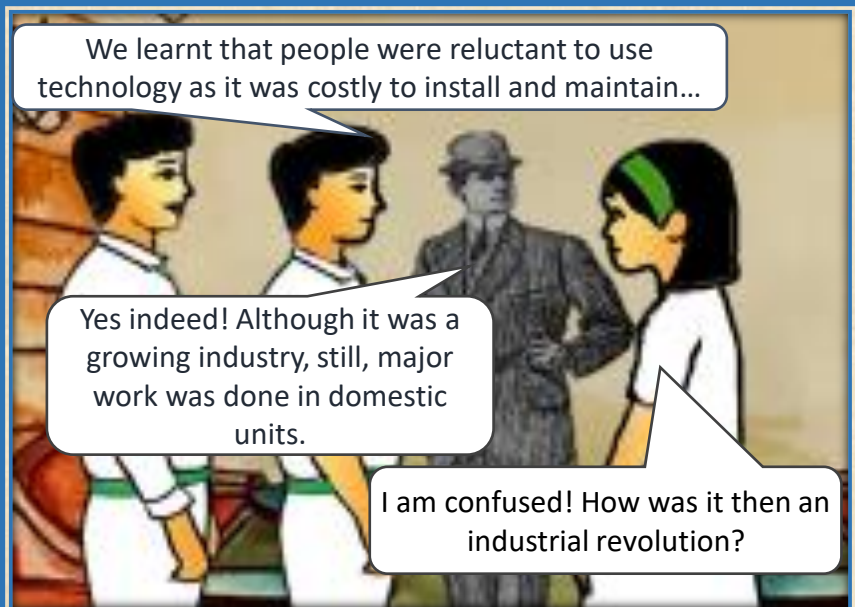


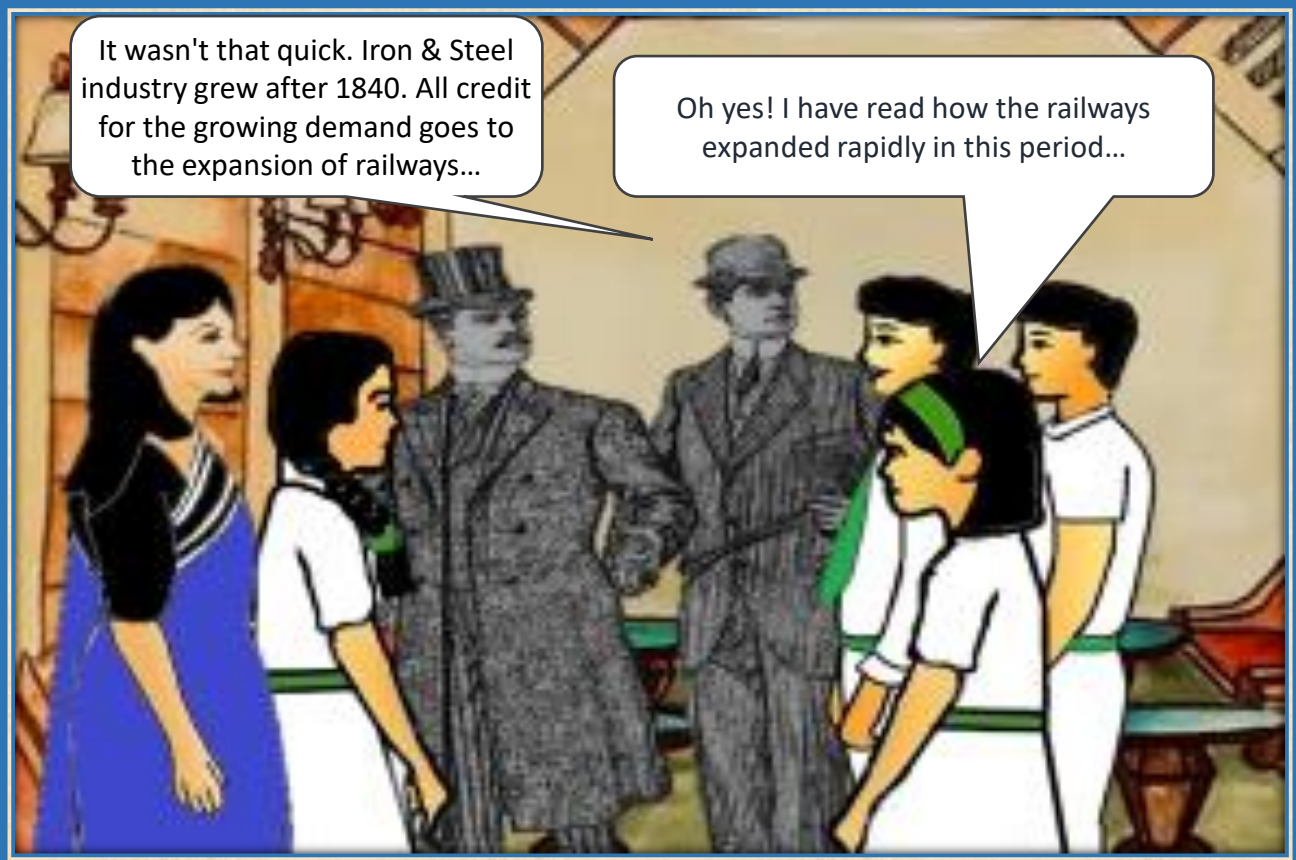
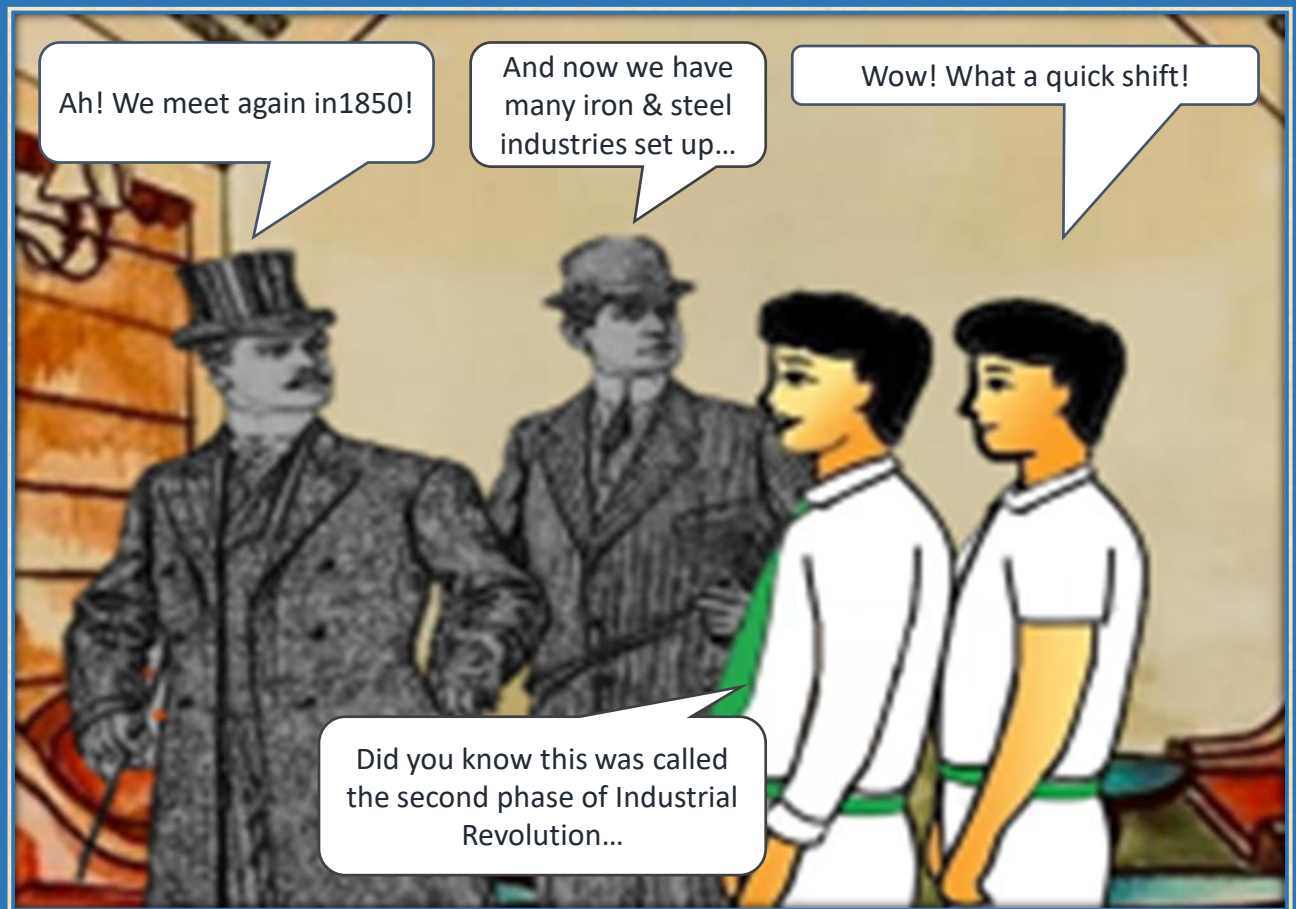
You know, I designed a separate condensing chamber for the steam engine that prevented enormous losses of steam and made it more productive.













Finally people accepted the use of machines...

Yes. But the traditional industries were not completely displaced by the new ones.

And still there was only a small percentage of people working in these new industries...



Wow! That is so interesting...the old and the new existing together...

These things happened gradually... After all 'Rome wasn't built in a day'...



Thank you so much Mr. Smith and Mr. Johnson!

Fare-thee-well children!

Activity 1

INDUSTRIALISATION

WORD SEARCH

J	A	M	E	S	W	A	T	T	T
M	A	E	K	E	T	A	B	V	G
I	E	R	J	O	B	B	E	R	O
L	H	C	C	G	S	F	E	D	M
L	L	H	A	U	T	Z	D	I	A
T	A	A	R	H	A	A	E	J	S
S	B	N	D	V	P	B	F	K	T
R	E	T	I	W	L	N	G	L	H
Q	L	M	N	X	E	C	T	M	A
P	O	N	G	Y	R	D	H	N	S
F	L	Y	S	H	U	T	T	L	E

ANSWERS
 MERCHANT, STAPLER, CARDING, MILL, GOMASTHAS,
 JOBBER, FLYSHUTTLE, LABEL and JAMES WATT





All this feels so surreal...

Rohan, no comments from you...the cat's got your tongue?!



What is this commotion about? Why are these crowds of people milling around?!

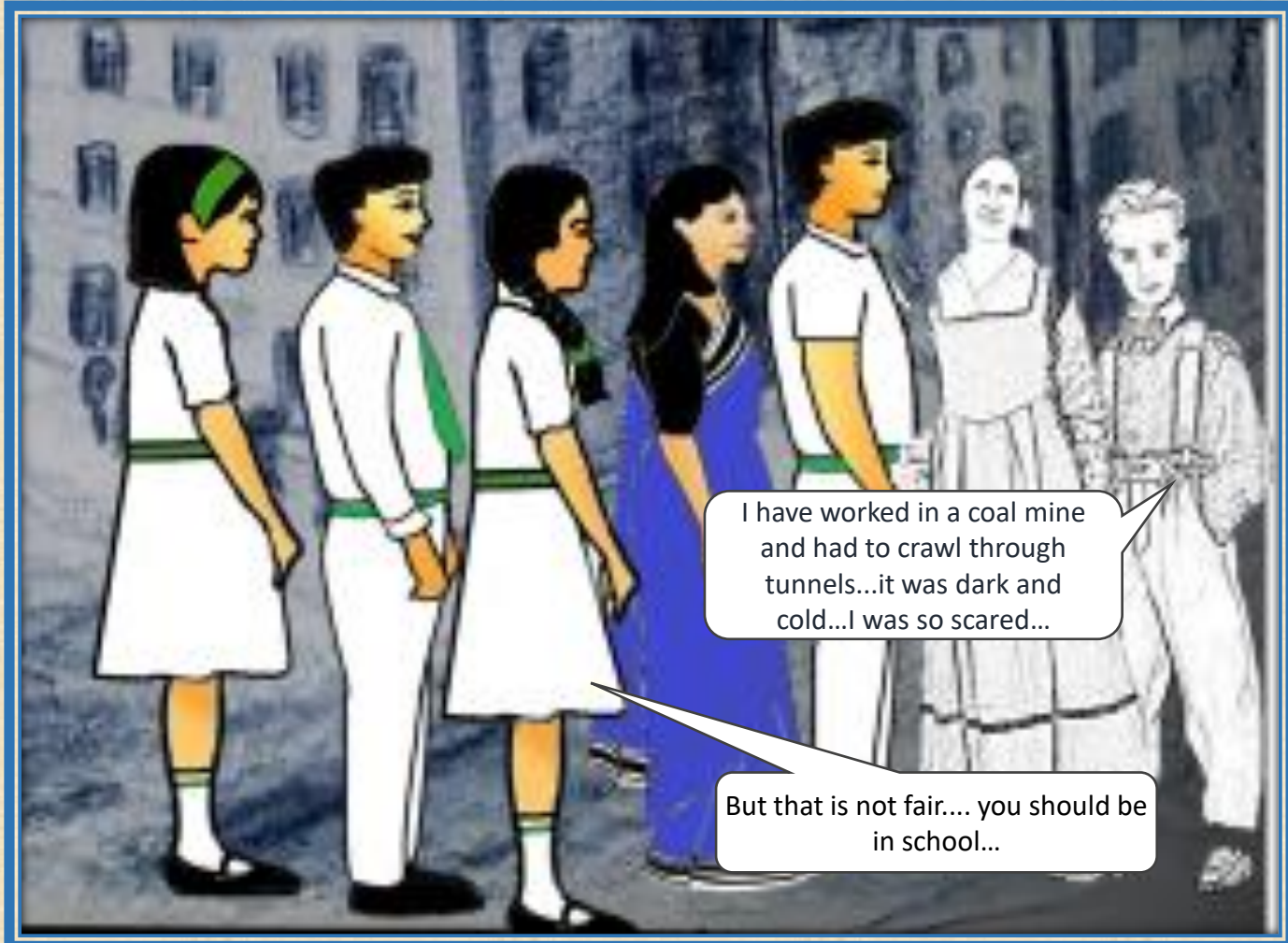
Oh dear, what's happening?



Look at that boy and that girl. Don't they remind you of Tom Gradgrind and Sissy Jupe?

Who are Tom and Sissy?

Kirti, they are famous characters from Charles Dickens's *Hard Times*.



Who are you?

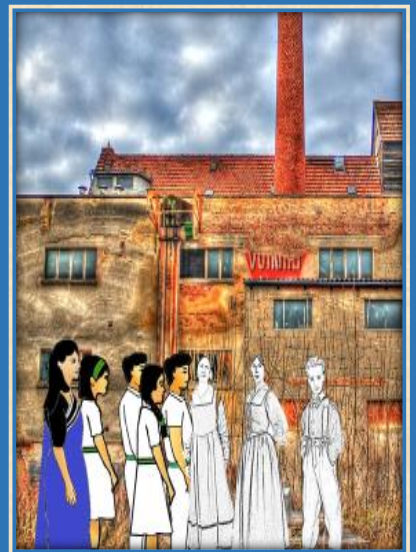
We mean you no harm. We work in the nearby factory.



You look so tired...

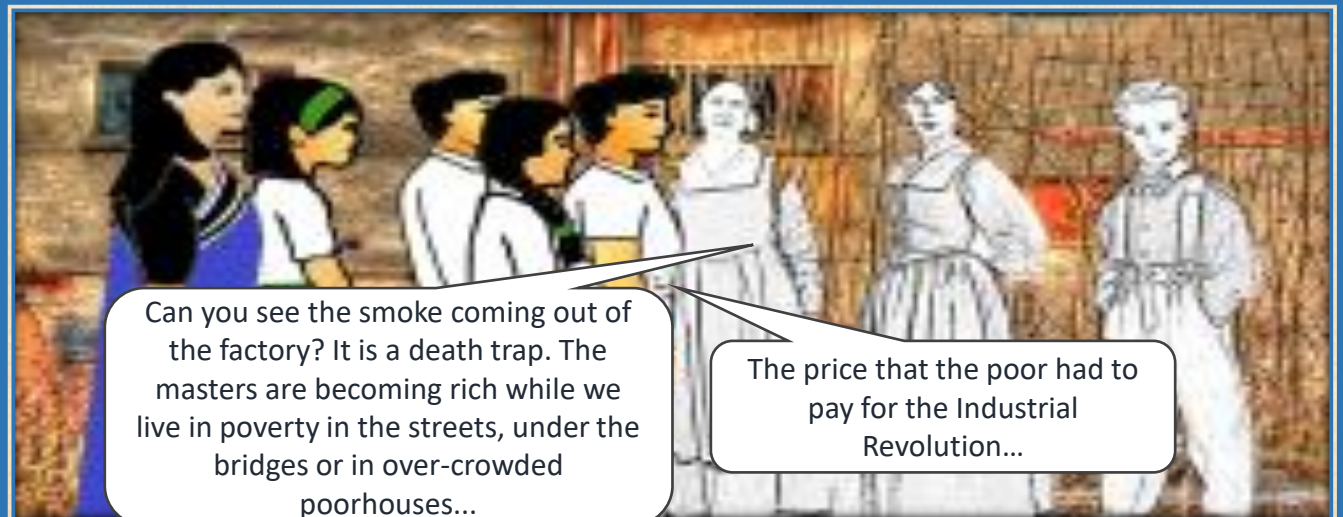
We work in hazardous and unsanitary conditions for long hours for a pittance.

I have cut my fingers many times spinning the wheel.



Can you see the smoke coming out of the factory? It is a death trap. The masters are becoming rich while we live in poverty in the streets, under the bridges or in over-crowded poorhouses...

The price that the poor had to pay for the Industrial Revolution...



Activity 2:

Write an Acrostic poem using a word from the chapter: Age of Industrialisation.

An acrostic poem is a poem where the first letter of each line spells out a word. The example of the poem on the word, WORKERS is given below, explaining the condition of workers during the 19th century.

Example:

- **W:** Warren of worry-land was worried about job in cities
- **O:** Of all the jobs available, the only condition was kin, friend or a relation
- **R:** Roaming around jobless due to seasonality of work,
- **K:** Knowing many were there to do the same job,
- **E:** Engrossed in the fear of unemployment was poor Warren
- **R:** Relying on living in night-shelters, casual wards or at times under the bridges,
- **S:** So the misery continued due to the fluctuating wages of poor Warren in worry-land.

A woman in a white shirt and red skirt is riding a bicycle and talking to a group of school children. The children are standing in a line, wearing white uniforms with green belts. In the background, there is a steam train with a red star on its side and a factory with smoking chimneys.

Ma'am, we are so lucky to be in the 21st century!

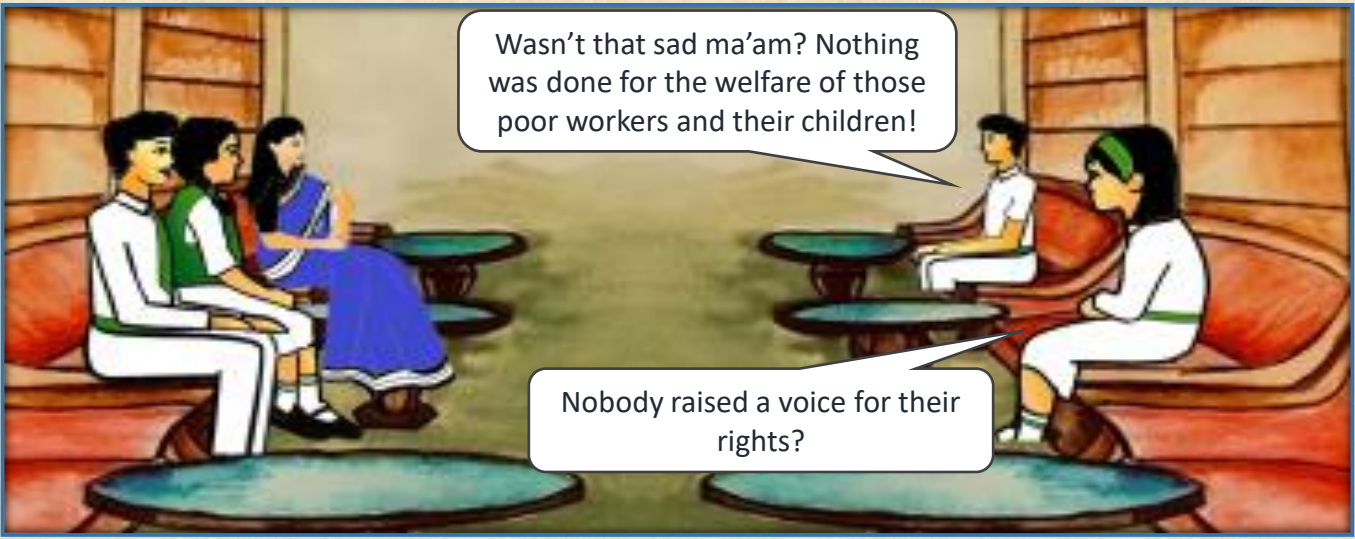
Yes ma'am! And also that we can go to a good school, we have food on our table, a nice house, good clothes and loving parents and friends.

I agree! We take all we have for granted but we should actually be thankful.

A woman in a blue sari is talking to a group of school children. The children are standing in a line, wearing white uniforms with green belts. In the background, there is a steam train with a red star on its side and a factory with smoking chimneys.

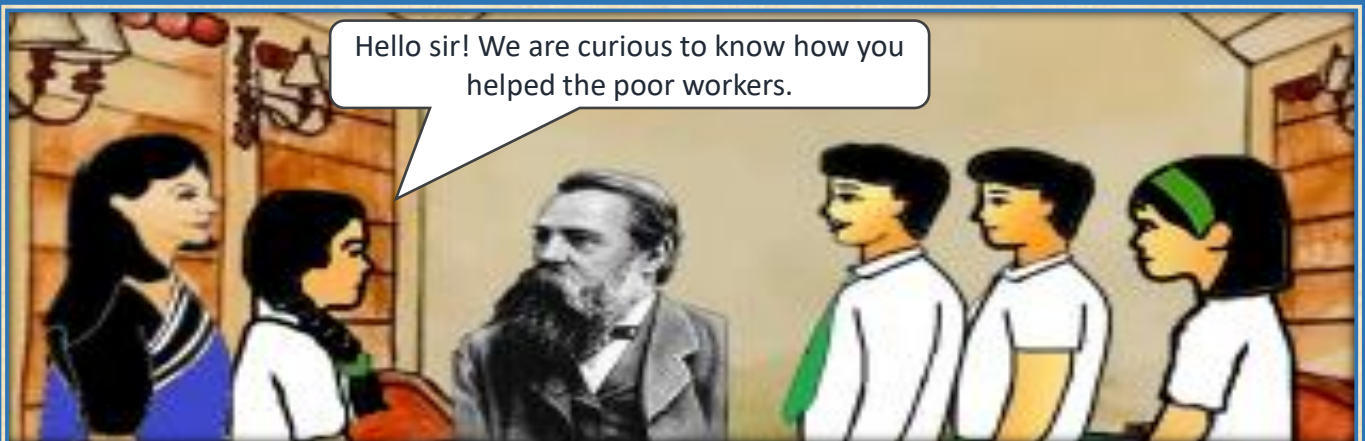
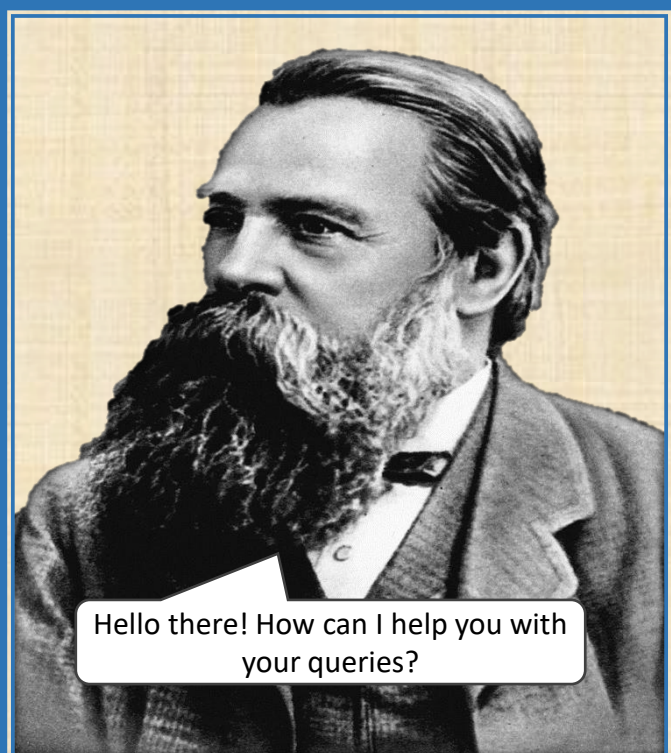
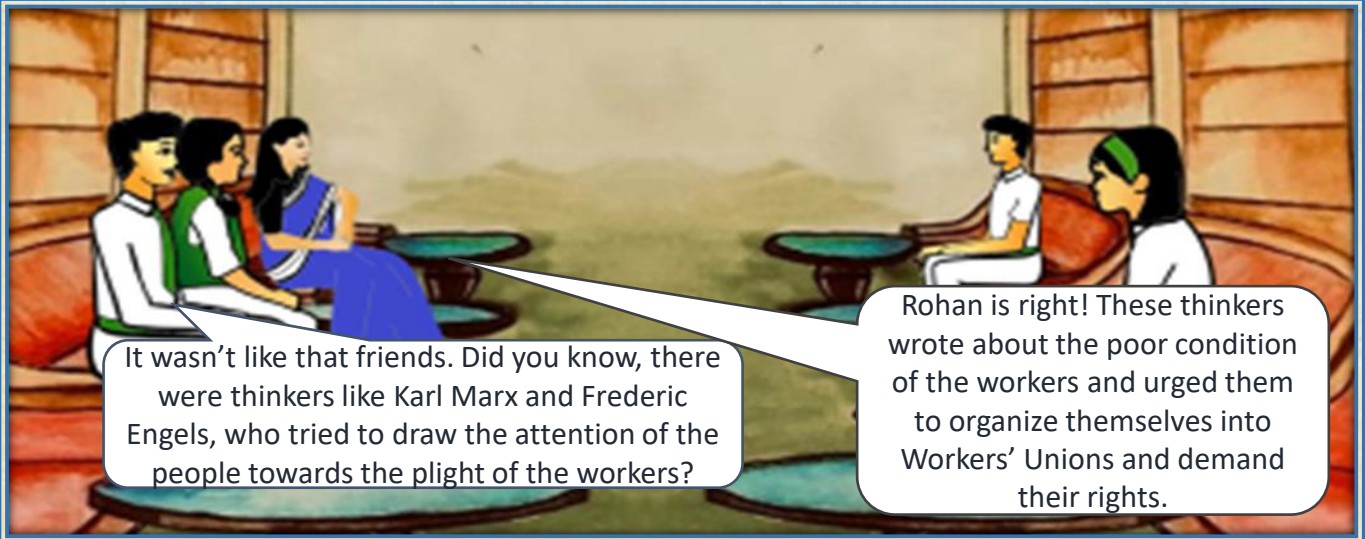
This is what History teaches you. Learn from past experiences and build a better future.

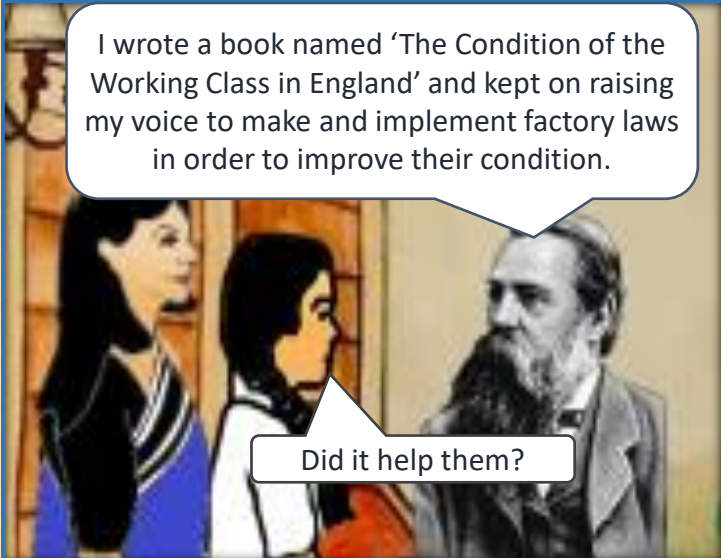
Ma'am, we all learnt not just about Industrialisation but also the fact that we should always count our blessings.

A group of people are sitting on a bench, talking. There are four people in total, two men and two women. They are all wearing white uniforms with green belts. The background is a simple, stylized illustration of a building.

Wasn't that sad ma'am? Nothing was done for the welfare of those poor workers and their children!

Nobody raised a voice for their rights?



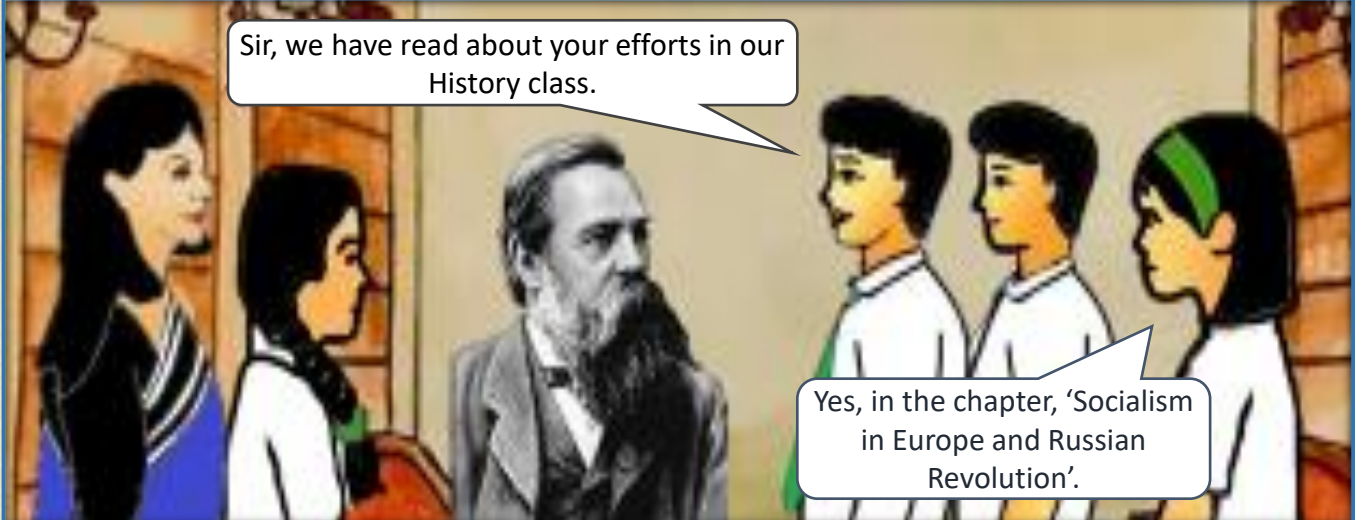


I wrote a book named 'The Condition of the Working Class in England' and kept on raising my voice to make and implement factory laws in order to improve their condition.

Did it help them?



Yes. With combined efforts made by my friend Karl Marx and me, some factory laws were made, which helped in banning child labor in hazardous places, limiting working hours, improving sanitation conditions etc.



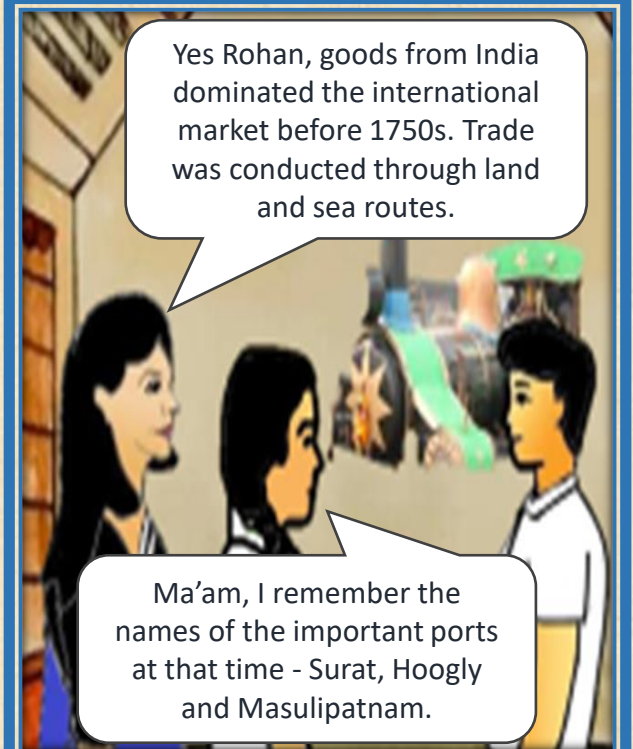
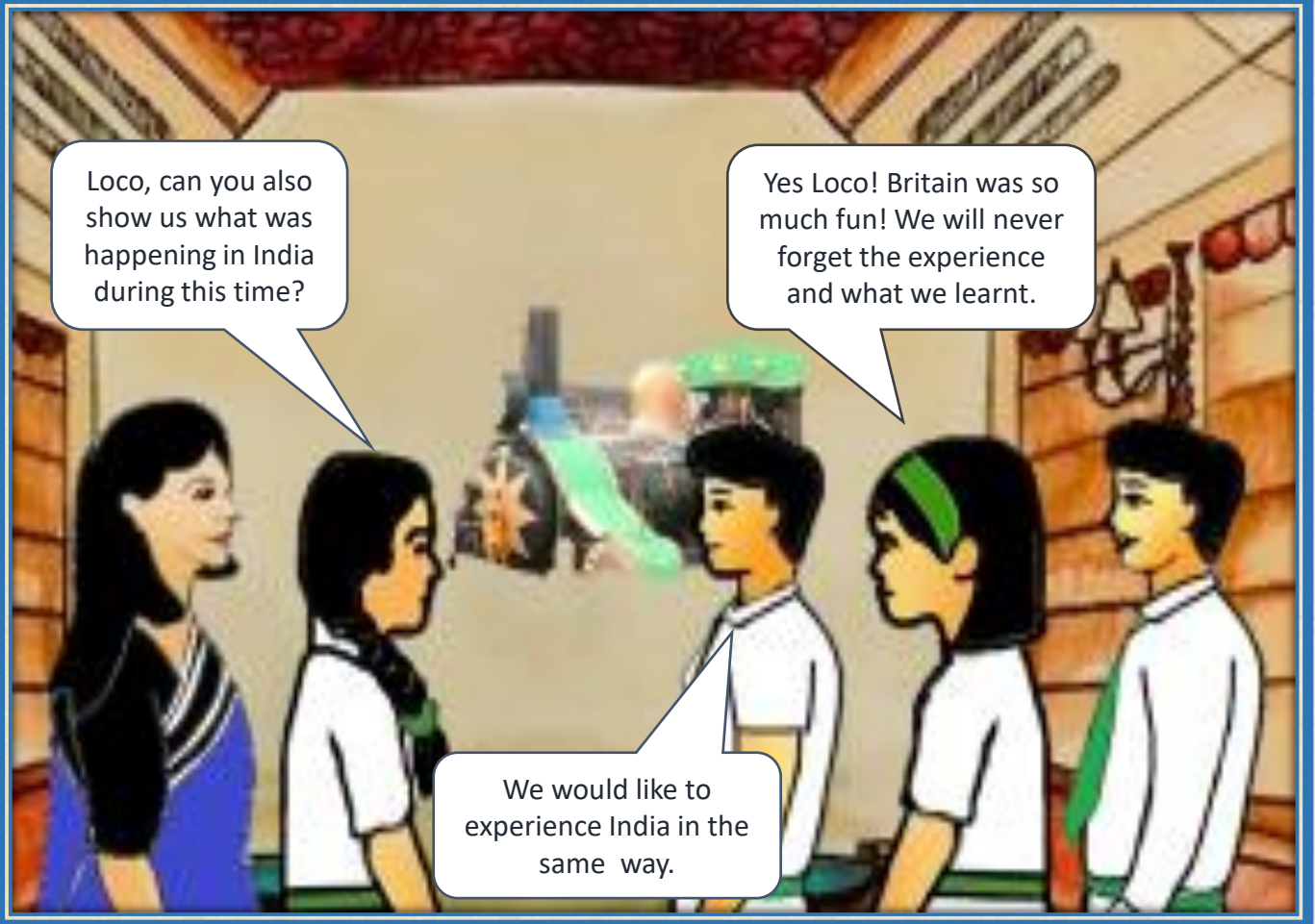
Sir, we have read about your efforts in our History class.

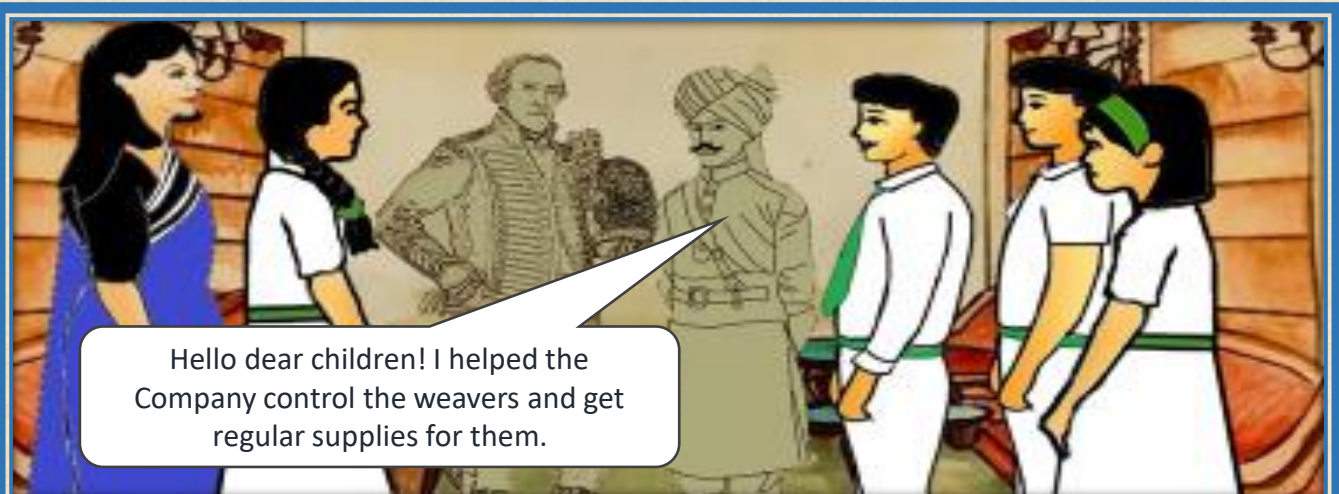
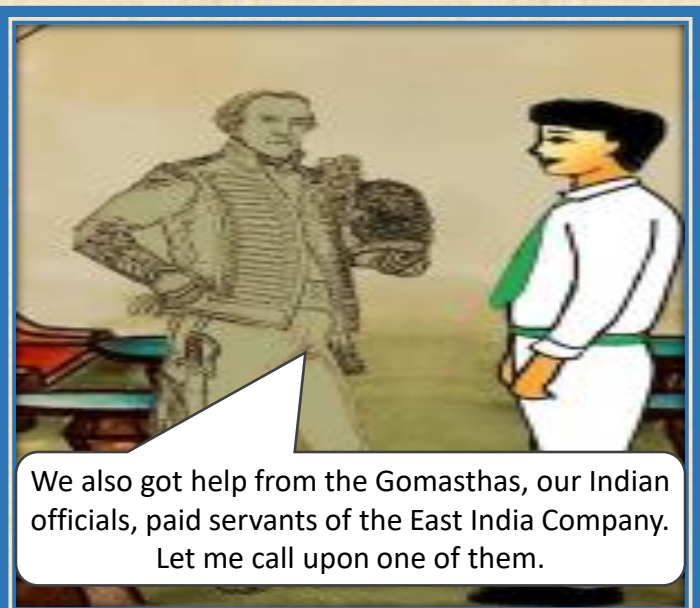
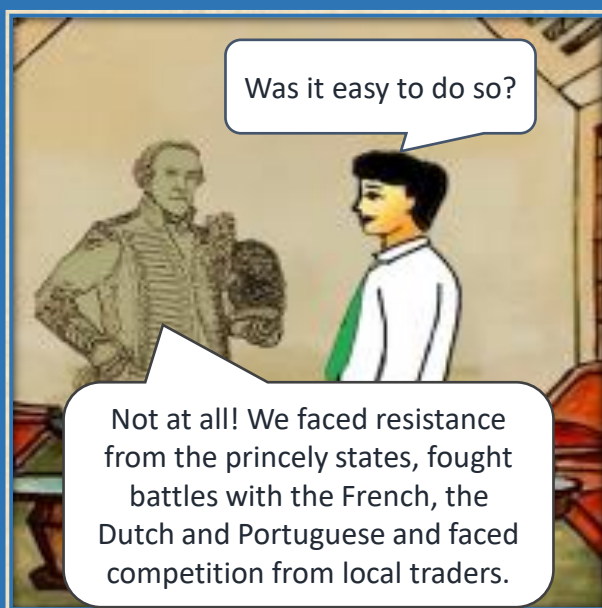
Yes, in the chapter, 'Socialism in Europe and Russian Revolution'.



Farewell, children of the future!

Thank you sir, for the insights.





The weavers did not like you much as you did not treat them well.

That's true (a little disappointed)...but it was what I was expected to do...

Many weavers lost their livelihood, deserted their villages and migrated because of the ill-treatment.

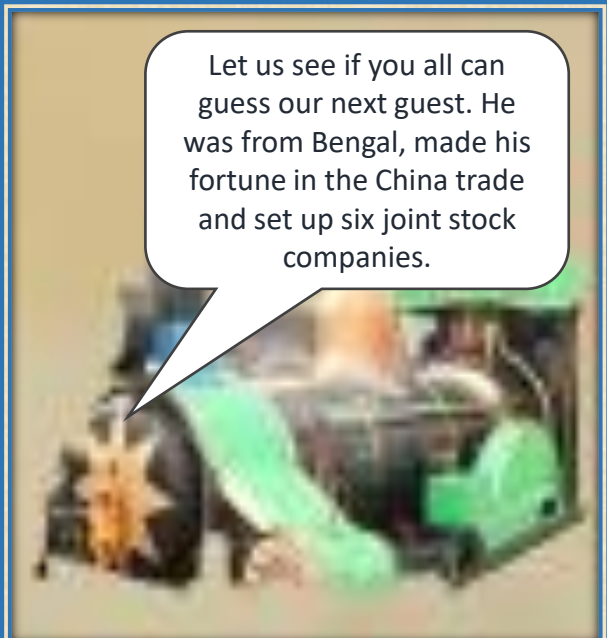


Don't be so gloomy. 19th century brought a ray of hope when Indian industrialists made their presence felt.



Loco, who are we meeting next? Is it an industrialist from the 19th century?

Let us see if you all can guess our next guest. He was from Bengal, made his fortune in the China trade and set up six joint stock companies.



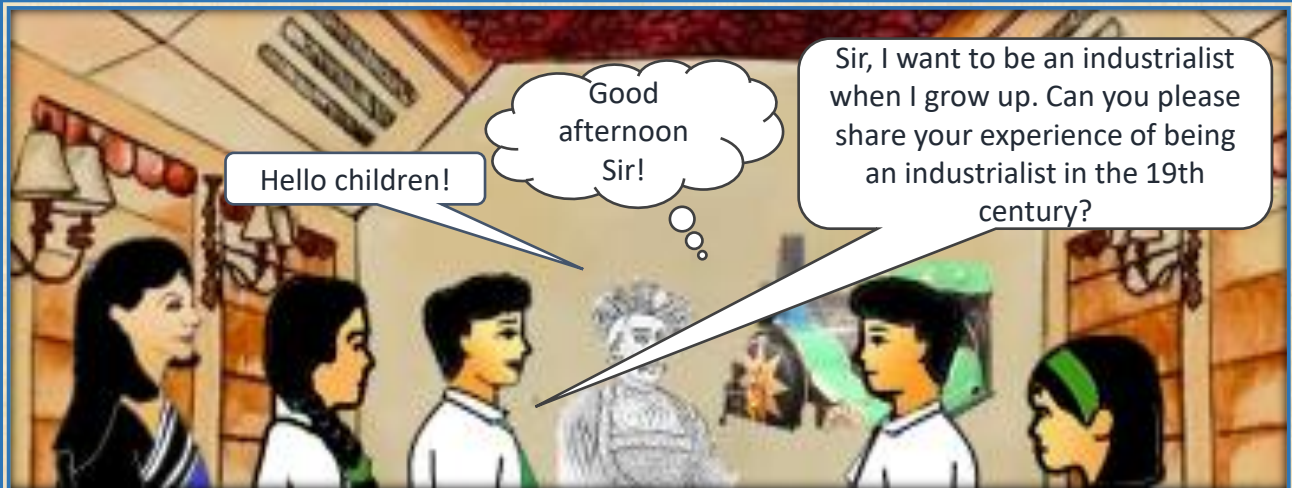
Dinshaw Petit? No... he was from Bombay...

Seth Hukumchand set up the first jute mill, so it can't be him...



I think it is Dwarkanath Tagore, grandfather of Rabindranath Tagore. He was also involved in the shipbuilding business.

That is correct Rohan!



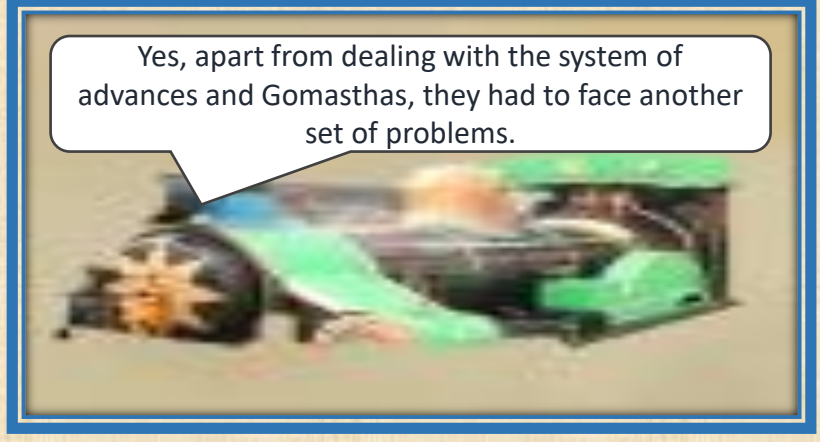
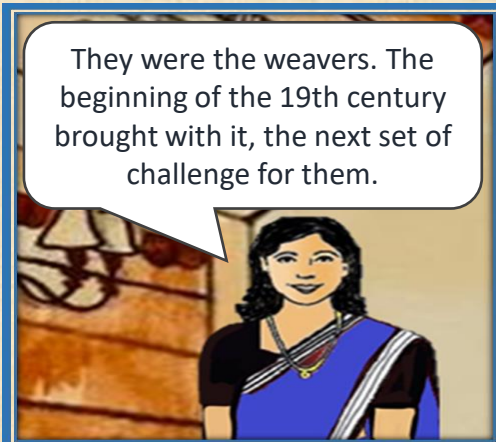
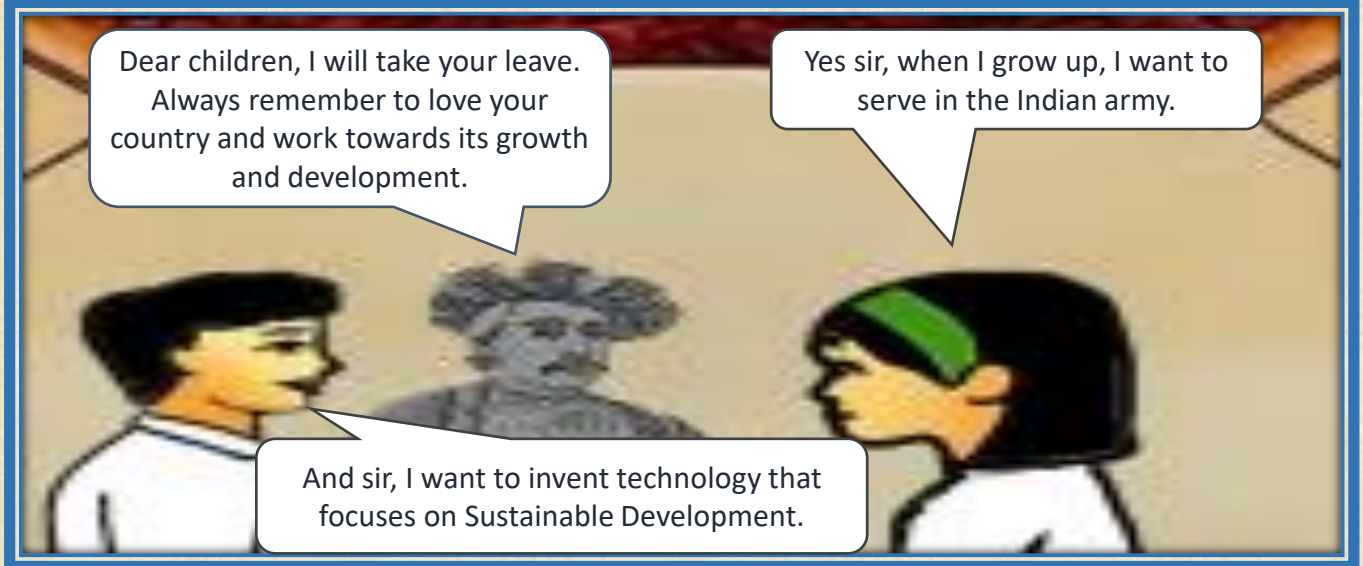
Hello children!

Good afternoon Sir!

Sir, I want to be an industrialist when I grow up. Can you please share your experience of being an industrialist in the 19th century?

It was really tough, children. We were junior partners and all decisions were taken by the British. We were only allowed to sell raw materials to Europe.

But things became better in the late 19th century. A number of mills were established in many parts of India.





Let the weavers share their story with you...



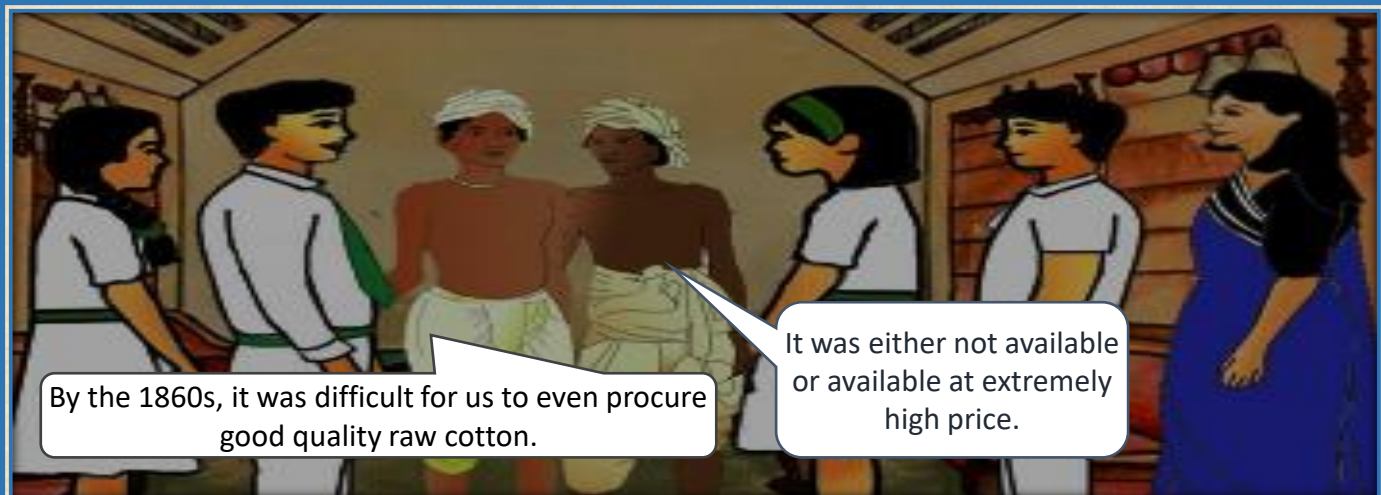
We were happy and content but suddenly things changed. We heard the news that the British government had imposed heavy taxes on the goods we sold to Britain



As if that was not enough, Manchester entered the Indian market! They sold their cheap machine made goods and we could not compete with it!

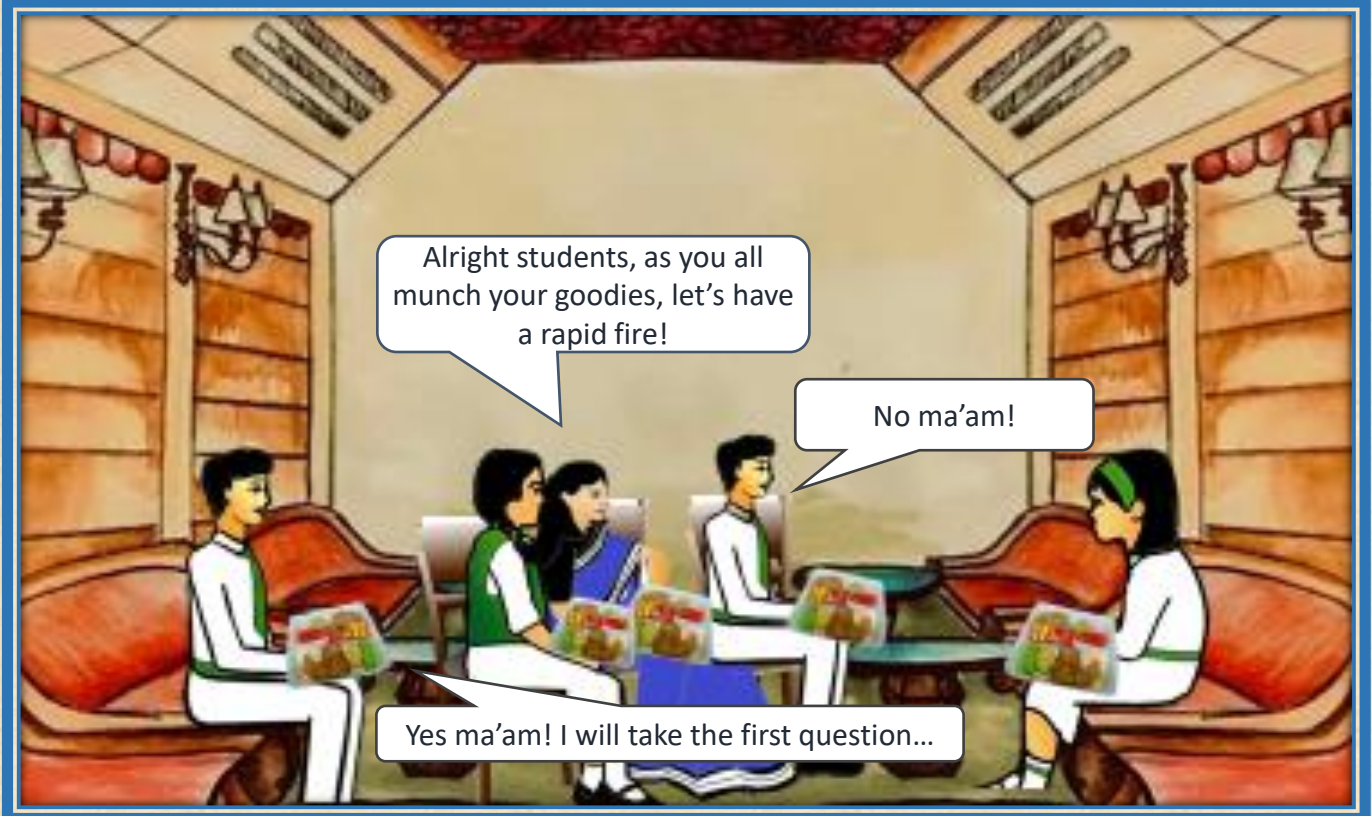


As a result, by the 1850s, the export market (Britain) of weavers collapsed and the local market (India) shrank.



By the 1860s, it was difficult for us to even procure good quality raw cotton.

It was either not available or available at extremely high price.







The First World War also created conditions which helped in the growth of Indian Industries.

Yes children. Indian factories were called upon to supply for the war needs such as jute bags, cloth for army uniform...

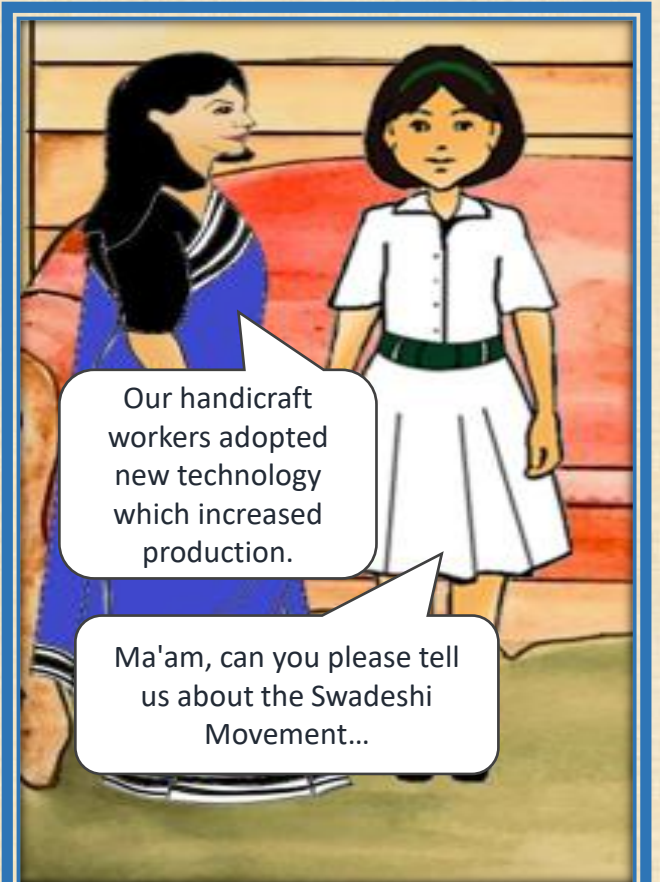
...tents, leather boots and horse saddle as well



WOW

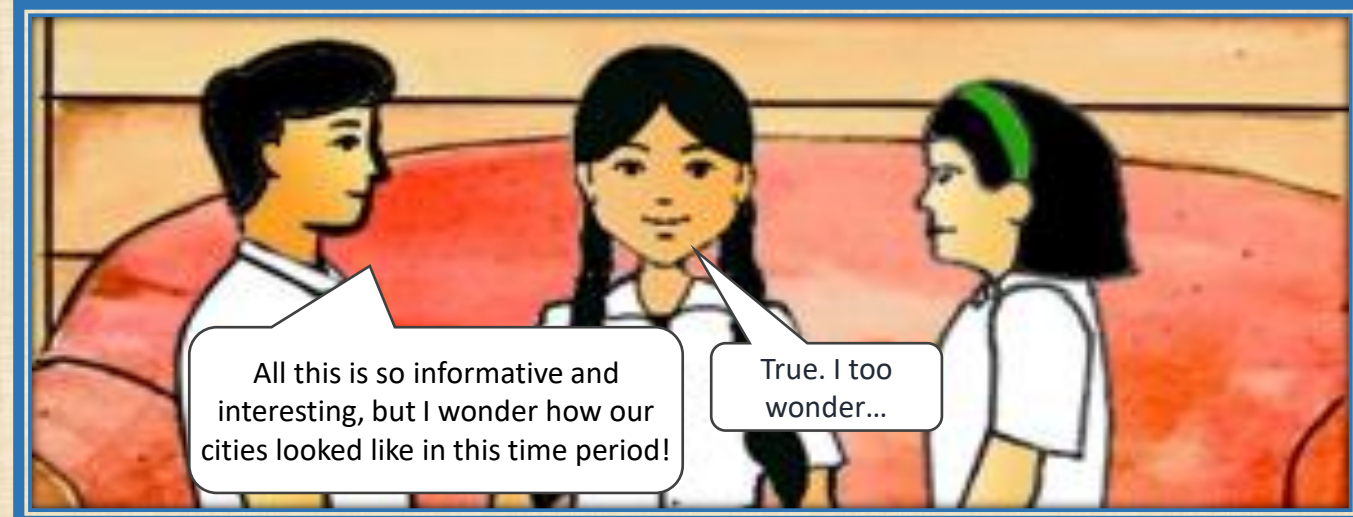
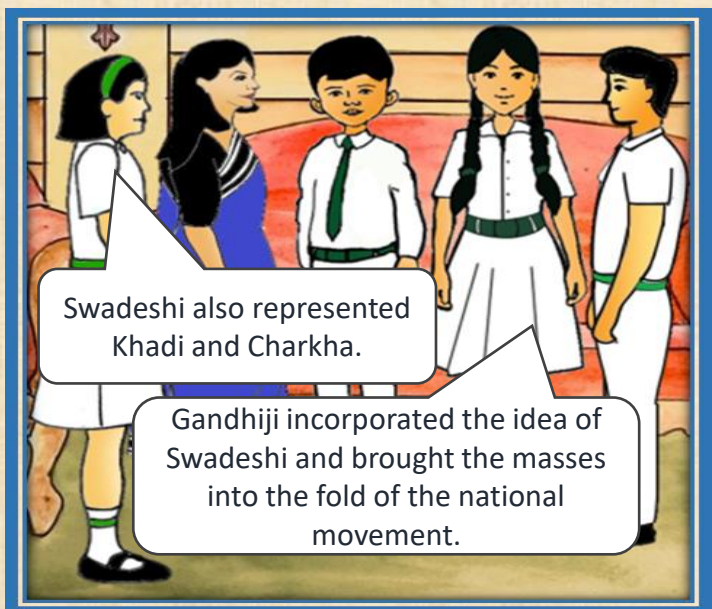
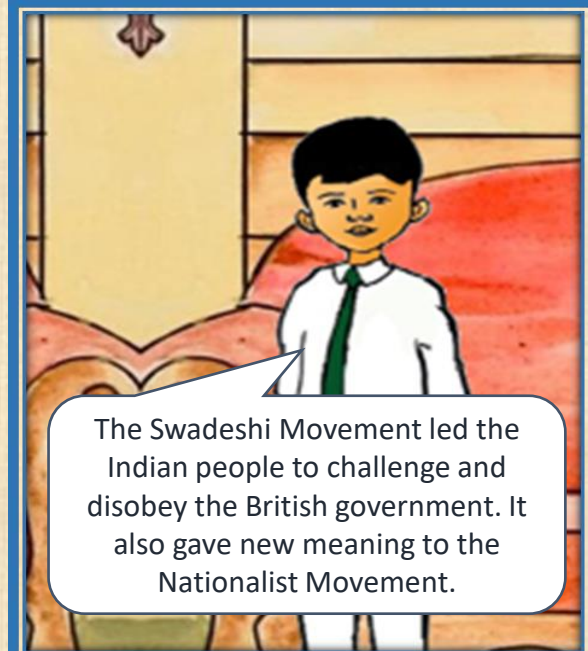
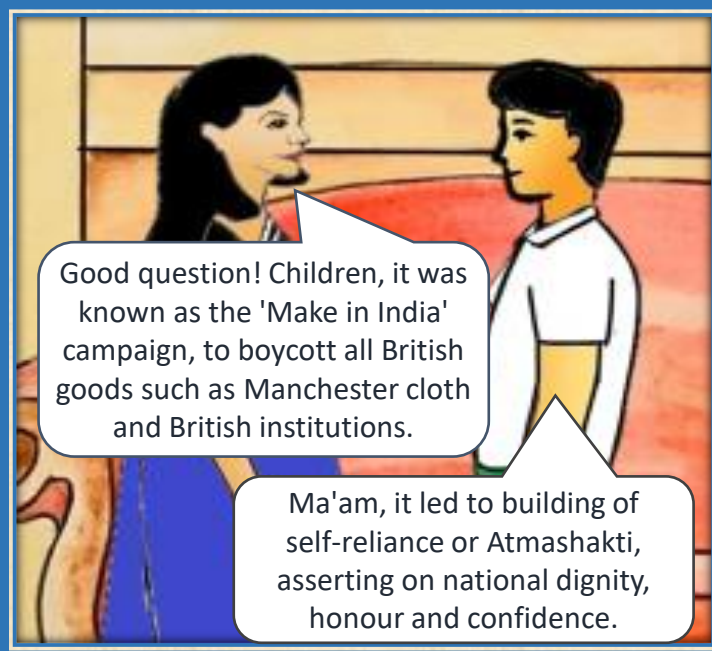
That means new factories were set up and many workers were employed.

Yes. Our Industrial production bloomed.



Our handicraft workers adopted new technology which increased production.

Ma'am, can you please tell us about the Swadeshi Movement...



Activity 3:

Weave a story using the key-words/phrases given below and write a story on the topic: Industrialisation in colonies.

- Supply merchants
- Brokers
- Old ports
- Clashes
- System of advances
- New ports
- Local market shrank
- Gomasthas
- Concessions
- Export market collapsed
- American civil war
- Weavers
- Factories
- Manchester
- Network of exchange trade

Activity 4: Let's Recall



Image 1



Image 2

- Identify the Personalities given as Image 1 and 2.
- What was their contribution during the Industrialisation Era?



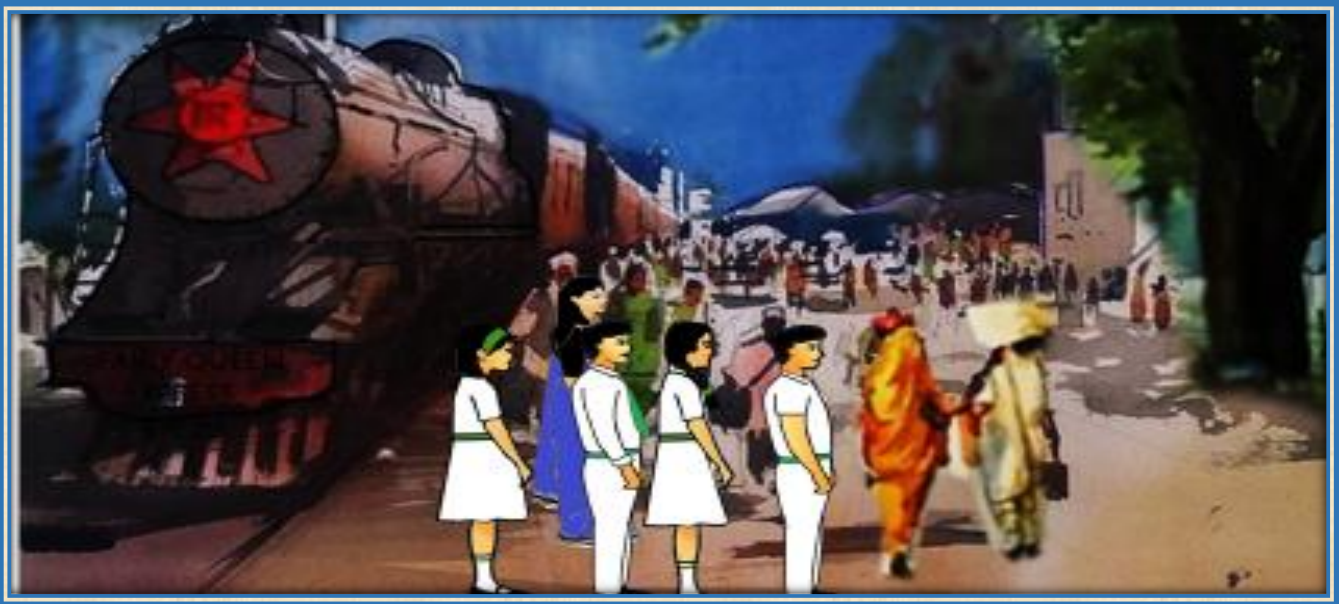
Can't we have a real time experience of one of our cities of that time? Dear Loco! Can we?!

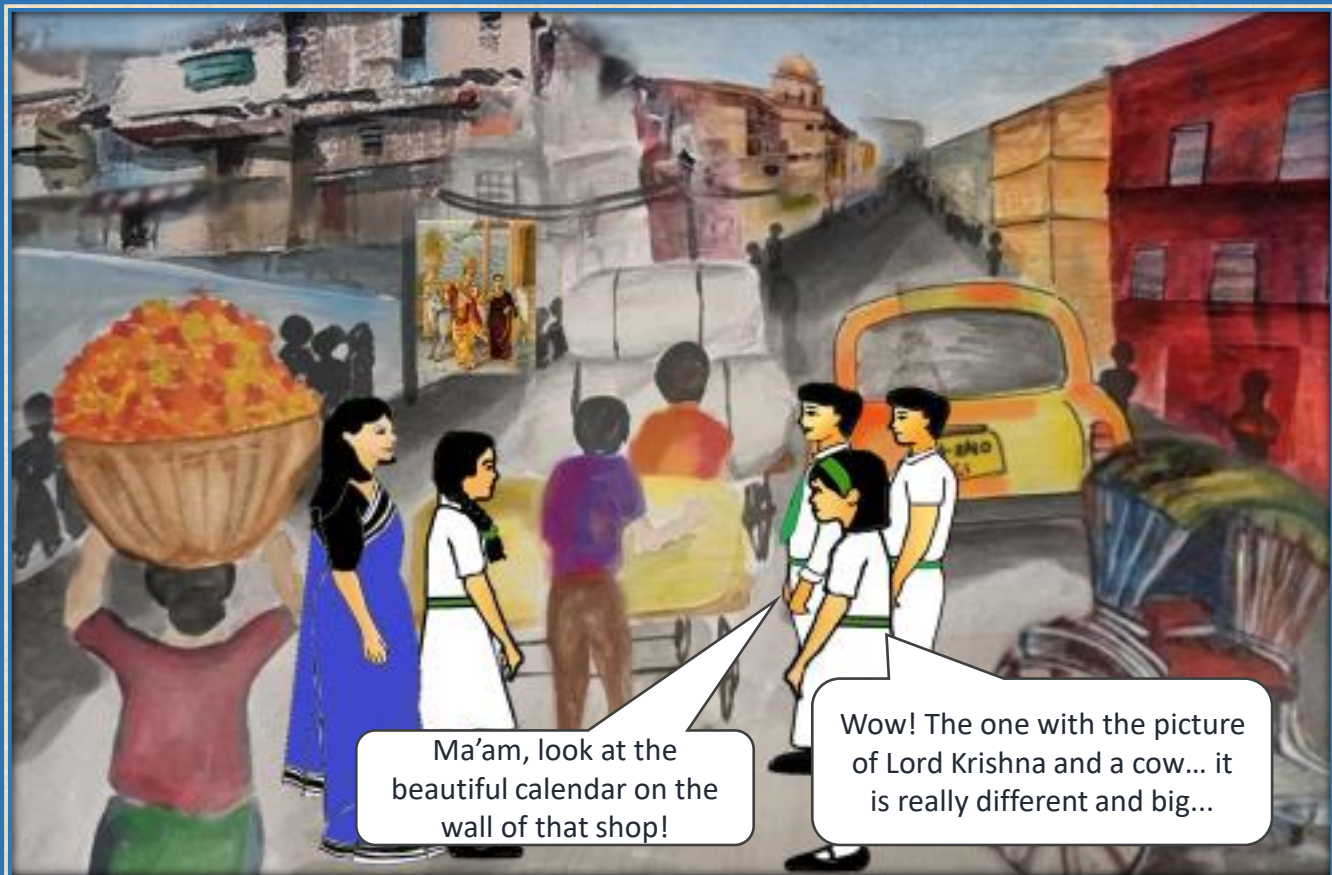
Children, Let me take you to my favourite city.

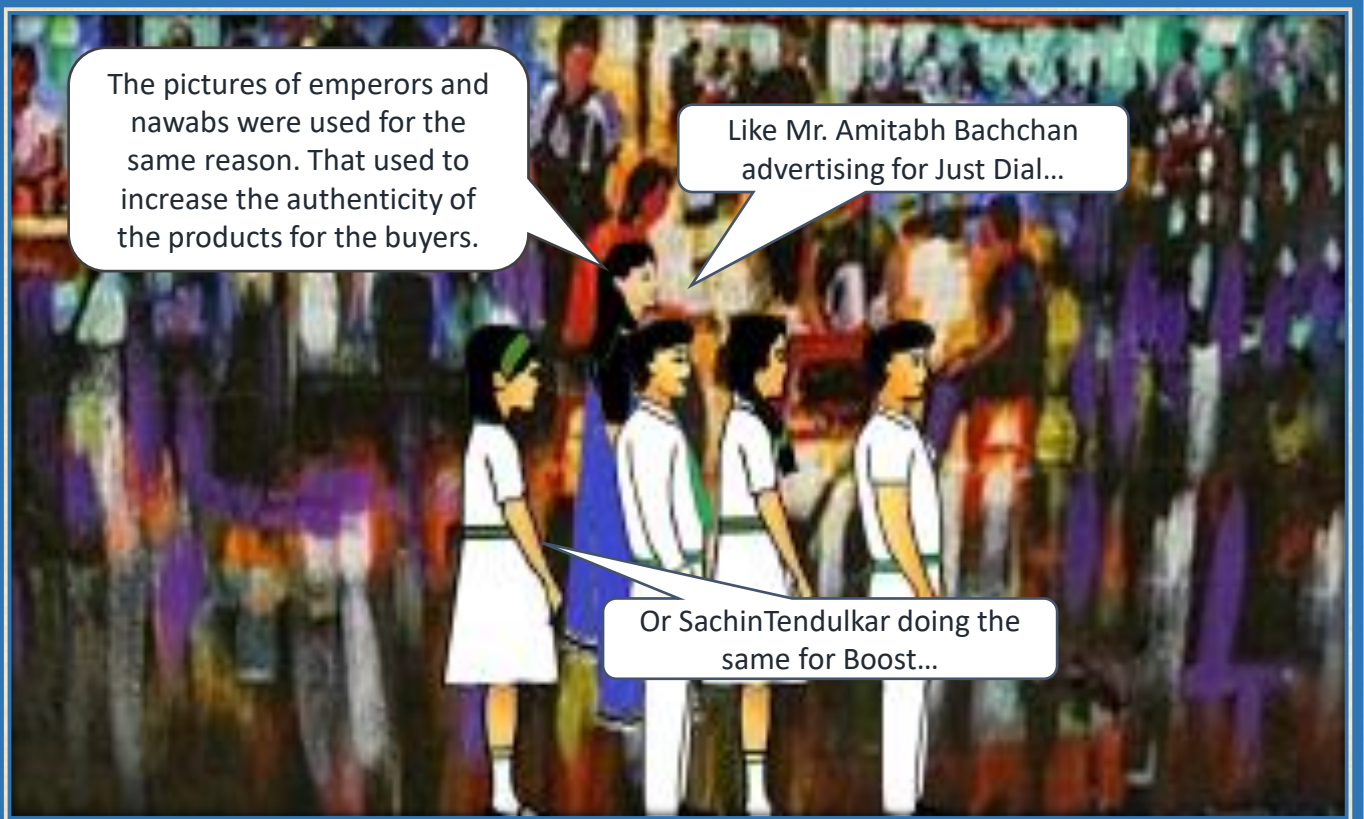


Let me guess... Are we going to Calcutta or Bombay or Madras?

We are visiting a market in Calcutta in 1917.







The pictures of emperors and nawabs were used for the same reason. That used to increase the authenticity of the products for the buyers.

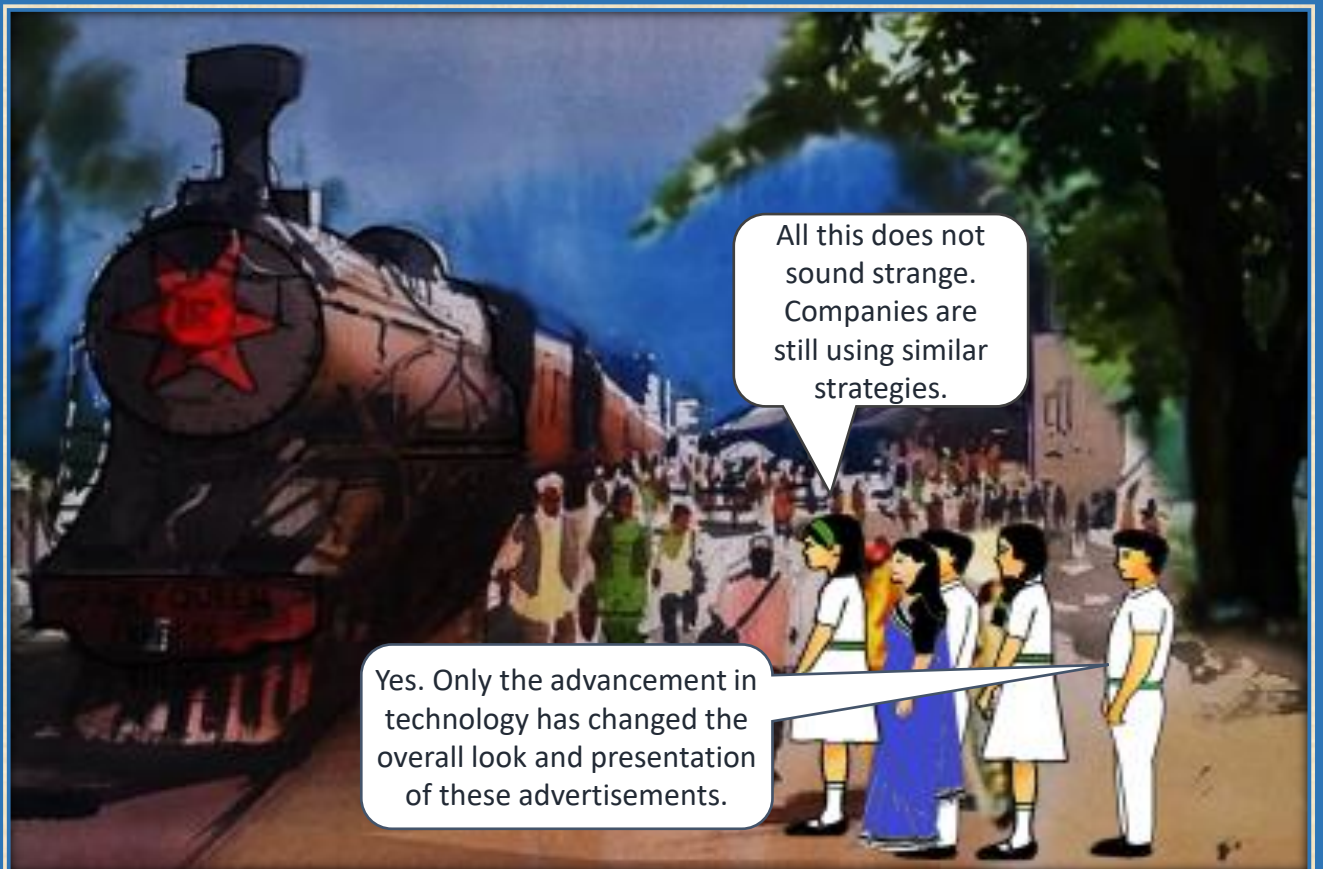
Like Mr. Amitabh Bachchan advertising for Just Dial...

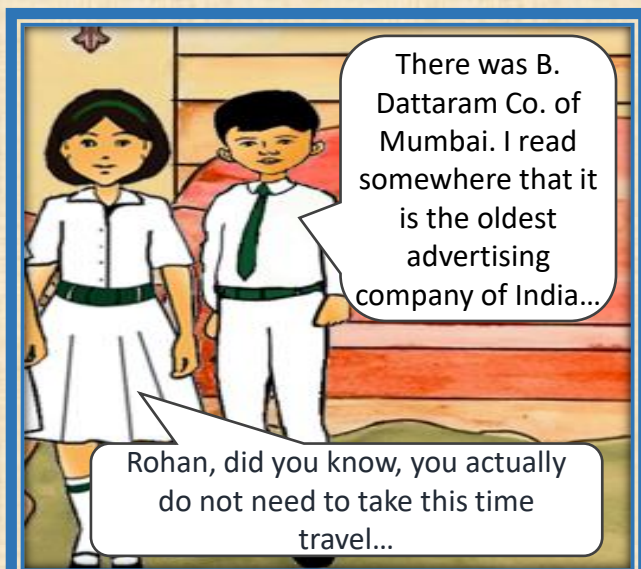
Or Sachin Tendulkar doing the same for Boost...



Ma'am, then how was the advertising for the foreign clothes done?

The cotton fabric imported from Britain usually had the labels stating-'Made in Manchester'. It was enough for the customers to trust the quality of the product and make them buy it.





It was magnificent! We experienced and learned so much!

There are so many stories to tell!

Our class with our Shiksha Kendra friends is going to be awesome!

They are never going to believe when we share our experiences with them!

But they are going to love the story! It is straight out of a sci-fi movie!

Loco... We are going to miss you. Thank you for the journey and the memories.

Good bye children! I had a great time as well. May the lessons you learnt on this journey, help you become better students and more importantly, better people!

Friends, look at the time! It has just been 45 minutes and we travelled through centuries.

Thank you ma'am, for bringing us here. Now we understand History is not just about facts but experiences.

Activity 5: Real Life Fun

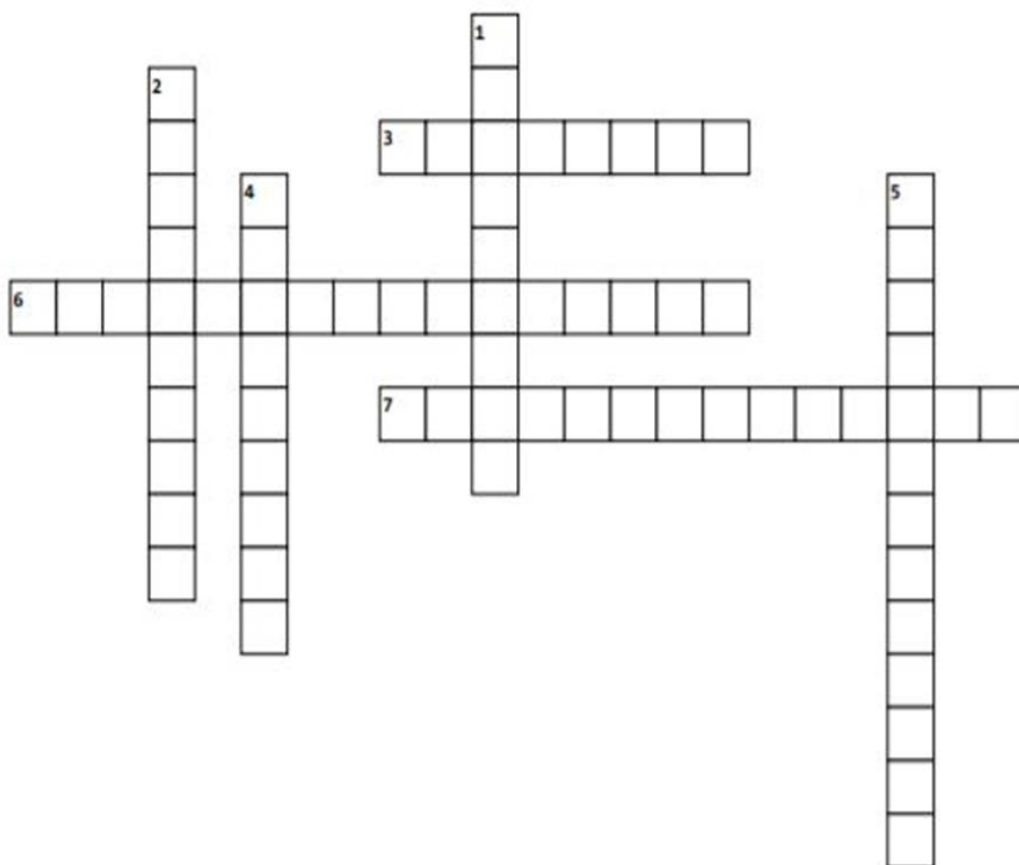
Visit a museum and explain the journey of Industrialisation as experienced by the workers, in the form of a song/drawing/comic strip.

Activity 6: Time Travel

If you were given a chance to travel back in time and change one event in the history of Industrialisation, which event would you choose and why?

Activity 7: Crossword

Age Of Industrialisation



Across

- 3. AN INDIAN OFFICIAL APPOINTED BY EAST INDIA COMPANY TO CONTROL THE WEAVERS
- 6. INVENTOR OF WATER FRAME
- 7. HE ESTABLISHED THE FIRST JUTE MILL IN INDIA

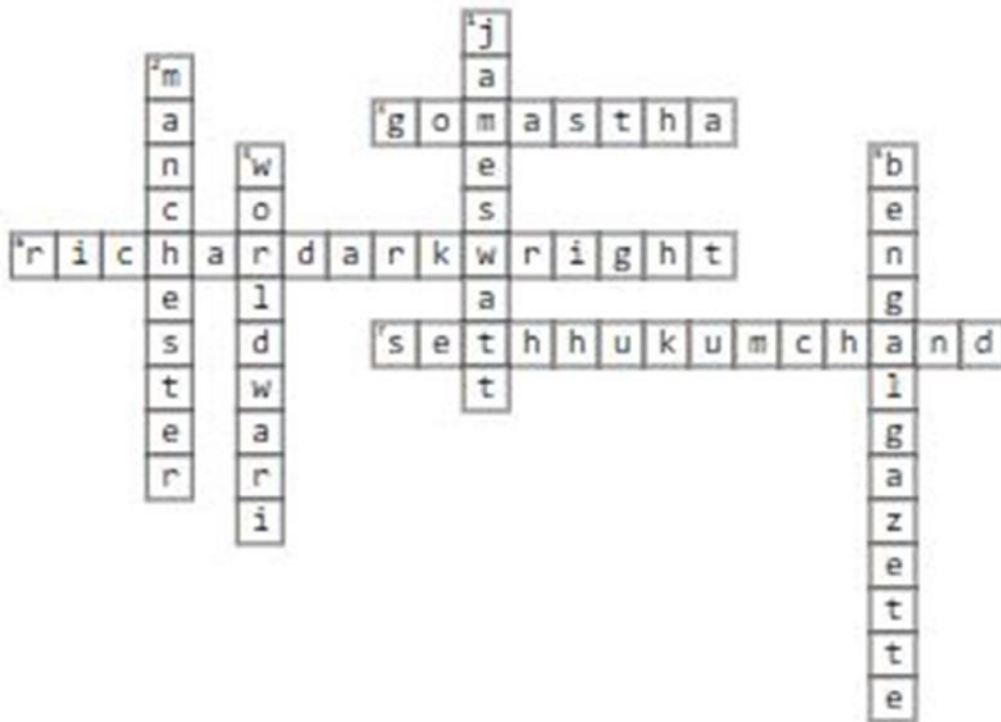
Down

- 1. IMPROVED THE STEAM ENGINE
- 2. COTTONOPOLIS OF BRITAIN
- 4. THE GREAT WAR TO END ALL WARS
- 5. THE NEWSPAPER PUBLISHED BY JAMES AUGUSTUS HICKEY

Note: No box to be left empty for space

Activity 7: Crossword Answers

Age Of Industrialisation



Across

3. AN INDIAN OFFICIAL APPOINTED BY EAST INDIA COMPANY TO CONTROL THE WEAVERS
6. INVENTOR OF WATER FRAME
7. HE ESTABLISHED THE FIRST JUTE MILL IN INDIA

Down

1. IMPROVED THE STEAM ENGINE
2. COTTONOPOLIS OF BRITAIN
4. THE GREAT WAR TO END ALL WARS
5. THE NEWSPAPER PUBLISHED BY JAMES AUGUSTUS HICKEY

GLOSSARY

Advertisements	A person or thing regarded as a means of recommending something.
American Civil War	A civil war in the United States from 1861 to 1865, fought between northern states loyal to the Union and southern states that had seceded to form the Confederate States of America.
Charkha	A domestic spinning wheel chiefly used for cotton
Cottonopolis	It was the nickname given to Manchester city in the nineteenth century, as it was a metropolis and the centre of the cotton industry.
Factory Laws	Laws to regulate the condition of factory workers.
Gomasthas	Indian officials, appointed by the East India Company to control the weavers and regulate the supplies.
Industrial Revolution	The process of change from an agrarian and handicraft economy to one dominated by industry and machine manufacturing. This process began in Britain in the 18th century from there it spread to other parts of the world.
Khadi	An Indian handspun cotton cloth
Monopoly	The exclusive possession or control of the supply of or trade in a commodity or service.
Nationalist Movement	A movement which promotes the interests of a particular nation, especially with the aim of gaining and maintaining the nation's sovereignty (self governance) over its homeland.
Power Loom	a mechanized loom which used the large shaft and sped up the process of textile production.
Proto Industrialisation era	The period when production for an international market was done at home in the countryside by artisans and peasants.
Puffing Devil	Steam driven road locomotive by Richard Trevithick in 1801.
Swadeshi Movement	A movement for national independence in India boycotting foreign goods and encouraging the use of domestic products.
System of advances	It was a system in which the British officials gave loans in advance to the weavers to persuade and tempt them to agree and weave fine textile for them.
Water Frame	Spinning frame powered by a water wheel. It was developed by Richard Arkwright in 1769.
Workers' Union	Organizations that represent the collective interest of workers.

BIBLIOGRAPHY

- ❖ India and the Contemporary World-II
- ❖ "National Rail Museum". S Shankar. Retrieved 9 January 2013.
- ❖ "The Fairy Queen: the World's Oldest Working Locomotive". Sterling Holidays Blog. 1 May 2014. Retrieved 15 July 2018. The picture in the citation shows the EIR 22 on the headstock, which stays for the railway and the locomotive number.
- ❖ MS Powerpoint
- ❖ Expression Editor - many-fe.noprod-b.kmt.orange.com

MESSAGE FROM DIRECTOR PRINCIPAL



The creation of this graphic novel has been a unique experience for all of us. It has, in a sense, involved the 4 Cs, the 21st Century skills : Creativity - since all of us have created these graphic novels, Collaboration- all departments came together to work as a team, Critical thinking- putting our heads together to think of the best ways to engage our learners and of course, Communication - among ourselves and more importantly, communicating learning outcomes to our audience.

I think the Graphic novel is a great way to break up complex modules and explain them through a story.

My heartfelt gratitude to Ms. Anita Karwal and Mr. Manoj Ahuja, for encouraging the teams to create this content. A debt of gratitude to Mr. Sandeep Sethi, without whose training and patient hand holding, this novel would not have seen the light of day!

Kudos to the teachers for venturing into uncharted waters and reaching their goal!

Aditi Misra
Director Principal
Delhi Public School
Sec 45 Gurgaon

Rohan, Riya, Kirti and Shikhar embark on a journey in the Fairy Queen, the oldest working steam locomotive, traversing time zones to understand and explore the different stages of Industrialisation in Britain and India from the 18th to the 20th century, witnessing changes, developments, inventions, struggles and achievements. The story begins with the students visiting the Rail Museum and travelling through time to meet important personalities, who share their experiences of Industrialisation in Britain and India, with them. Join this group of young people, and be a part of their journey to explore and experience the era of Industrialisation.



DELHI PUBLIC SCHOOL – GURGAON

(Affiliated to C.B.S.E)

Site No. 1, Sector-45, Urban Estate, Gurugram-122003

www.dpsgurgaon.org