### GRADE 4 SOCIAL SCIENCE

FIRST TERM SYLLABUS: THE HISTORY OF TRANSPORT

<table>
<thead>
<tr>
<th>No</th>
<th>SYLLABUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Design of Mindmap</td>
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<td>2</td>
<td>Transport and Travel</td>
</tr>
<tr>
<td>3</td>
<td>The Transportation of Goods</td>
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<td>4</td>
<td>The History of Transport</td>
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<td>5</td>
<td>Transport and Holidays</td>
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<td>6</td>
<td>Inventions which changed Transport and Travel Forever</td>
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<td>7</td>
<td>Changes to Transport (Good or Bad)</td>
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<td>8</td>
<td>The History of Flight</td>
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<td>PowerPoint Project on the History of Flight</td>
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<td>The History of Cars</td>
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<td>11</td>
<td>The History of Water Transport</td>
</tr>
<tr>
<td>12</td>
<td>Water Transport Project</td>
</tr>
</tbody>
</table>

Film: Apollo 13
DESIGN OF MIND MAP

Using Inspiration 6 on the school computer, design a mind map of TRANSPORT making use of the 6 areas of transport that we have discussed in class, these being:

Animal transport
Human transport
Air transport
Rail transport
Water transport
Road transport

INSTRUCTIONS

- Before you start, go to “File”, then “Page set-up” and click on “Landscape”.
- Go to “Format” and then go to “Size”. The size of your font/writing must be 14. You must then choose to type in “Arial”.
- You must have a central heading titled TRANSPORT in capital letters.
- You must have six pictures showing each of the means of transport we have discussed, with the headings that I have written above, beneath each picture.
- These pictures and headings must flow around the central heading TRANSPORT.
- Once you have done this, you must link up these 6 areas to the main heading TRANSPORT by using the “link” button on the second row. Click on “link”, the picture and then the central heading. Arrows will appear linking the two together.
- Make a separate “bubble” with your name and grade in it.
- Make sure your mind map is nicely spaced so that it looks good.
- If your picture column disappears, press F8.

Check list before asking me to mark it.

<table>
<thead>
<tr>
<th>TRANSPORT heading</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal transport plus picture</td>
<td></td>
</tr>
<tr>
<td>Human transport plus picture</td>
<td></td>
</tr>
<tr>
<td>Air transport plus picture</td>
<td></td>
</tr>
<tr>
<td>Rail transport plus picture</td>
<td></td>
</tr>
<tr>
<td>Water transport plus picture</td>
<td></td>
</tr>
<tr>
<td>Road transport plus picture</td>
<td></td>
</tr>
<tr>
<td>Links to main heading</td>
<td></td>
</tr>
<tr>
<td>Name and grade</td>
<td></td>
</tr>
<tr>
<td>Neatness and correct spelling</td>
<td></td>
</tr>
</tbody>
</table>
**Transport** is the way in which people, animals or things are carried from one place to another.

**Travel** is the word we use when we speak about people or things moving from one place to another.

<table>
<thead>
<tr>
<th>How far could PEOPLE travel in 1 hour in the past?</th>
<th>How far can PEOPLE travel in 1 hour today?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking: 9 km an hour</td>
<td>Walking: 9 km an hour</td>
</tr>
<tr>
<td>Using a coach or cart drawn by horses: 20 km an hour</td>
<td>Driving a motor car: 120 km an hour</td>
</tr>
<tr>
<td>Travelling on a steam train in 1860: 75 km an hour</td>
<td>Travelling on the world's fastest electric train: 300 km an hour</td>
</tr>
<tr>
<td>Driving an early motor car in 1913: 25 km an hour</td>
<td>Flying in an aeroplane: About 1,000 km an hour</td>
</tr>
</tbody>
</table>
## THE TRANSPORTATION OF GOODS

The oldest form of transporting goods is humans carrying things. The heavier the item, the longer it takes to carry it.

### How far could goods be transported in a day in the past?

<table>
<thead>
<tr>
<th>Method</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transporting goods in a wagon pulled by oxen</td>
<td>15 km a day</td>
</tr>
<tr>
<td>Transporting goods by pack animals (donkeys, horses or camels that carry things)</td>
<td>40 km a day</td>
</tr>
<tr>
<td>Transporting goods by sailing ship</td>
<td>it depends on the day – sometimes only a few km’s a day.</td>
</tr>
<tr>
<td>Driving an early motor car in 1913</td>
<td>25 km an hour</td>
</tr>
</tbody>
</table>

### How far can goods be transported in a day now?

<table>
<thead>
<tr>
<th>Method</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transporting things by goods train</td>
<td>800 km a day</td>
</tr>
<tr>
<td>Transporting goods by long-distance truck</td>
<td>800 km a day</td>
</tr>
<tr>
<td>Transporting goods by container ship</td>
<td>more than 1 000 km a day</td>
</tr>
<tr>
<td>Flying in an aeroplane</td>
<td>About 1 000 km an hour</td>
</tr>
</tbody>
</table>
THE HISTORY OF TRANSPORT

Some forms of transport have not changed at all over time, while others have changed a great deal. It is only in the last 200 – 300 years that trains, ships with engines, motor cars, aeroplanes and spacecraft have been invented.

THE WHEEL OF CHANGE

ACTIVITY:

Neatly colour in each section of your WHEEL OF CHANGE in a different colour.
TRANSPORT AND HOLIDAYS

ORAL

Two hundred years ago only very rich people had the time or money to travel. Today, young people want to travel when they leave school and they travel all over the world.

Imagine that you are living about 6 000 years ago (about 4 000 BC in the time of Abraham and Sarah, Isaac and Jacob) and you are going on holiday. Answer the following questions and weave it into an oral. Tell me:

- Who you are and what your family consists of in terms of parents, sisters, brothers etc.
- Where you are living?
- Where you are wanting to travel to?
- How far away is your destination?
- What means of transport are you taking?
- How long is the journey going to take you?
- Are you going away by yourself or with your family?
- How are you going to cope with your luggage? Do you have any?
- How long are you going to spend there?
- What are you going to do when you get there?
- Does your method of transport cause much pollution?

My accommodation: Kirkdale Cave

The view from Kirkdale Cave
INVENTIONS WHICH CHANGED TRANSPORT AND TRAVEL FOREVER
(Test: Learn pages 2, 3 and 7 in SS book)

The wheel was first invented over 5,000 years ago. Wheeled carts meant that goods and heavier loads could be transported over longer distances.

For thousands of years, the sailing ship could only move when the wind blew from behind them. The Chinese then invented sails that allowed ships to sail against the wind. They also invented a compass to help sailors. With the help of these new inventions, sailors could sail out of sight of the land without getting lost. They could also return to land without having to wait for the wind.

The steam engine was another very important invention. The steam engine used steam energy from water that is boiled by a coal fire in the engine. Steam engines were used in trains and ships.

Steam trains could carry more goods and were faster than horses. This made travel cheaper so more people began to travel.

The first motor car to be built in huge numbers and very cheaply was the Model T Ford which was made in America. This invention changed the way many people traveled all over the world.

The first aeroplane was built by two American brothers, Wilbur and Orville Wright in 1903. The plane was called Flyer 1 and flew for 12 seconds before it crashed. This invention was the start of air travel.

Rocket technology is one of the most important inventions of the last hundred years. It has given humans a way of travelling into space and discovering a whole new world.
CHANGES TO TRANSPORT: GOOD OR BAD?

Changes in transport have brought people closer together but the changes have also affected our environment. Roads and bridges have linked places together but mountains have also had to be tunnelled to make way for railway lines. These improvements have damaged the environment around us and have polluted our air.

Oil is in demand all over the world today and big ships called oil tankers transport the oil to many places. These tankers are often involved in accidents or break down because they are old. When a tanker is damaged, oil spills out into the sea and this affects the environment badly. Thousands of fishes and sea birds die and the beaches close to the spill get covered in oil.

PROJECT: MAKE A POSTER

This map shows the routes taken by the oil tankers when they transport oil. The thicker the line, the more tankers use the route. Which part of the world is most at risk from the oil tankers?

Make a poster on A4 paper about the dangers of oil pollution and how it affects the environment.
THE HISTORY OF FLIGHT

Kites (400 BC)
In about 400 BC, the Chinese discovered a kite that could fly in the air. They used the kites for:
- Fun
- Religious ceremonies
- To test weather conditions.

Humans
The fact that something could fly in the air like birds, inspired humans to think about flying. These earlier fliers made wings out of feathers or light-weight wood, and attached them to their arms. These results were often fatal.

Hot Air Balloons (1783)
Two brothers, Joseph and Jacques Montgolfier were the inventors of the first hot air balloon. They used the smoke from a fire to blow hot air into a silk bag which was attached to a basket. The hot air then rose and allowed the balloon to be lighter than air.

The first passengers were a sheep, a rooster and a duck. The balloon climbed to a height of about 6 000 feet and travelled for nearly 2 kilometers. After the success of this mission, the brothers then began to send men up in balloons. The first manned flight was on November 21, 1783.

Gliders (1799 – 1850)
The next development was that of a glider. A German engineer, Otto Lilienthal, designed a glider that could fly a person quite a long distance. After 2 500 flights he was killed when he lost control of his craft in a strong wind and crashed.

An Illustration of Lilienthal’s glider
The first powered plane – a model only (1891)
Samuel Langley was the first person to realize that man needed power to fly. He built a model of a plane called the “aerodrome” that included a steam powered engine. In 1981 his model flew for just less than a kilometer before running out of fuel. Langley then built a full sized aerodrome but it was too heavy and it crashed. He then gave up trying to fly.

A model of the aerodrome

1903 - The first flight (Orville and Wilbur Wright)
Orville and Wilbur Wright spent many years learning all they could about the early development of flight. They read all the literature that had been published up until that time. They then built the “Flyer” which took off from the ground on December 17, 1903. The flight travelled 120 feet in 12 seconds. Both brothers took turns during the test flights, but since it was Orville’s turn when the plane lifted off the ground, he is credited with the first flight.
POWERPOINT PROJECT

Design a PowerPoint project on THE HISTORY OF FLIGHT. Do not use custom animation.

Your project must consist of 7 pages and must be done at school. It must be completed by ____________________. You may work on your own or in pairs.

Page 1 (Title page)
- the title, THE HISTORY OF FLIGHT (in capital letters) - 3 marks
- A picture suitable for the topic
- Your name and grade

Page 2
- The title KITES (in capital letters) – 3 marks
- Using bullets, list two interesting facts in short sentences.
- Copy and paste a suitable picture.

Page 3
- The title HOT AIR BALLOONS (in capital letters) – 3 marks
- Using bullets, list two interesting facts in short sentences.
- Copy and paste a suitable picture.

Page 4
- The title GLIDERS(in capital letters) – 3 marks
- Using bullets, list two interesting facts in short sentences.
- Copy and paste a suitable picture (type: Otto Lilienthal: glider)

Page 5
- The title THE FIRST POWERED PLANE (in capital letters) – 3 marks
- Using bullets, list two interesting facts in short sentences.
- Copy and paste a suitable picture (type: Samuel Langley: first powered plane for picture)

Page 6
- The title THE FIRST FLIGHT (in capital letters) – 3 marks
- Using bullets, list two interesting facts in short sentences.
- Copy and paste a suitable picture.

Page 7
- The title BIBLIOGRAPHY – 2 mark
- Write: I got my information from ..............................

TOTAL MARKS: 20

Marks will be lost for:
- not completing your work in time. (-1)
- for not using full sentences. (-1)
- for using custom animation. (-1)
THE HISTORY OF CARS

Steam powered engines (1769)
The first road vehicle that could travel by itself was powered by a steam engine. Nicholas Cugnot, a Frenchman designed this vehicle in 1769. This vehicle could travel 5 km/h and had to stop every 10 to 15 minutes to build up steam.

England then developed steam-powered vehicles that could carry up to 22 passengers a time. When these vehicles became big competition for the railroads and stage coaches, the government made a law that a signalman had to walk in front of the vehicle warning of its approach.

The electrical car (1800’s)
The electrical car became very popular in the early 1800’s but they could not travel faster than 32 km/h and the battery had to be recharged every 80 km.

The gasoline car (1860)
The gasoline car gradually replaced the steam and electric cars. These cars had internal combustion engines which meant the engine could burn the petrol inside itself to produce energy to make the car move. This car was able to travel 10 km in two hours.

Modern-day car (1896)
The type of engine we use in our cars today was built in Germany by Karl Benz and Gottlieb Daimler and the general design of cars we use today was developed in France.

Henry Ford, a pioneer American automaker, wanted to make a car that many people in all walks of life could afford. The only way to do this was to improve the assembly line methods which he did.

He achieved his goal with his car called Model T in 1908 which he sold for 850 dollars. In 1916 he was able to sell the same car from 400 dollars as he was able to cut the assembly line time from 12 and a half hours to 1 and a half hours. Ford sold over 15 million cars from 1908 to 1927.
Activity 1
Bernice Mitchley was a young girl in the 1920’s. Today she is a granny. This is what she wrote about what she remembers about the Model T Ford.

“My father had a Model T Ford called Tin Lizzy. You didn’t start this car by turning a key. The car had to be cranked up with a starting handle. This wasn’t always easy, as the handle could kick back quite viciously. When we went for a drive, we would take a bottle of distilled water with us, as well as several cans of petrol. We usually also had ropes and chains in case the car got stuck when the roads were wet and muddy.”

Most of us use cars, buses or taxis every day. Read what Granny Mitchley had to say and then answer these questions.

a) What do you think the roads were like in the early 1920’s?
b) How did you have to start the car?
c) What did you have to remember to take with you?
d) How have all of these things (a, b and c) no changed?

Activity 2: Read the following.

“I can only just remember my first trip in a car. It was 1938 and I was five years old. Seven adults and two children plus heaps of luggage – were all loaded into two small cars. We left home at 7.15 am and travelled south for a fortnight’s seaside holiday. According to my grandfather’s diary, it took him eleven hours to drive the 166 miles (267 km) to the sea at an average speed of 15 mph (24 kph).

“(In 1958) my first car was a Ford Popular. It had a long narrow window at the back like the slit in a letterbox. There was no heater and the windscreen wipers only worked when the car was moving. It had three forward gears and you had to press the clutch pedal twice each time you changed gear up or down. Top speed was about 50 mph (80 kph). It was probably the most reliable car I have ever had. There was so little to go wrong.”

**ORAL**

Ask you grandparents or parents about the first car they owned. Write down what they tell you and be ready to speak about it in class. If you can, find a picture of the car that would be great.
THE HISTORY OF WATER TRANSPORT

BC

(6 000 BC) Egyptians reed boats were made of bundles of bound papyrus reeds. They were steered with oars, a paddle or a pole. They were useful for transporting goods across short stretches of water eg the Nile River.

(4 500 – 3 500 BC) Sailing ships/Oar powered ships
The people living around the Mediterranean Sea were a great seafaring people. They built sailing ships to carry cargo and they used the wind to move them along. In time, they began to use oarsmen so the ships could move even when there was no wind blowing.

AD

(AD 1200) The rudder
With the invention of the rudder in China, sea travel changed dramatically as can be seen by the following discoveries.

(AD 1787) The Steamboat
The era of the steamboat began in America when John Fitch sailed a forty-five foot steamboat on the Delaware River on August 22, 1787. Fitch then built a larger vessel that carried passengers and cargo.
(AD 1891) The Submarine

- A Submarine is a water craft that can operate underwater.
- Military submarines were first widely used in World War 1.
- Scientific submarines (one or two man vessels) are used to examine the sea floor.
- Nuclear submarines can remain submerged for 6 months.

(AD 1912) The Titanic

The Titanic, a British luxury passenger liner sank on April 15, 1912 en route to New York City from Southampton, England, during its maiden voyage. The vessel sank with the loss of about 1500 lives.

Titanic, at the time, was the largest and most luxurious ship afloat. Shortly before midnight on April 14, the ship collided with an iceberg. Five of its watertight compartments were ruptured causing the ship to sink at 2:20 am on April 15th. Most of those who died came from wealthy American, British and European families.

On 1 September, 1985, the Titanic was found lying upright in two pieces on the ocean floor at a depth of about 4000 m (about 13000 feet).

(AD 1955) The Hovercraft

Christopher Cockerell wanted to build a vehicle that could move over the surface of the water on a layer of air. The result of this was the Hovercraft. The first passenger service began in 1962 and a 40 mile crossing took about 20 minutes which was a vast improvement on the time of a typical ferry at the time.
WATER TRANSPORT PROJECT

Using the books I have got for you from the library, choose one of the following to do a PowerPoint presentation on.

Ships of Long Ago
Great Sailing Ships
Ships

Project
Besides the first page where you put the title of your project (in capital letters), your name, grade and suitable picture, your PowerPoint will consist of 5 pages. Each page must have a heading (in capital letters) and at least 3 bullets which have facts which relate to the heading. You must have a picture on each page. You will end your project with a page for your Bibliography – telling me where you got your facts from.

You must use the same font (Arial 14) throughout for your typing and your headings must be the same size and font throughout.

Please do not use any custom animation!!!

MARKING OF PROJECT

<table>
<thead>
<tr>
<th>Section</th>
<th>Possible marks</th>
<th>Actual marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front page – heading, name, grade, picture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Content page 1: 3 good points + picture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Content page 2: 3 good points + picture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Content page 3: 3 good points + picture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Content page 4: 3 good points + picture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Content page 5: 3 good points + picture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Bibliography</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

-1 for not using proper sentences
-1 for not having same font throughout
-1 for not using bullets
-1 for using custom animation
-1 for not finishing by due date

TOTAL 20