

Section B: Curriculum spokes

This section provides you with ideas and resources for activities in a variety of curriculum areas. It aims to give you a sprint start on which to build your Tour de France theme.

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Curriculum Spokes Introduction

There is a wealth of material on the Tour de France that documents the first hundred years of this legendary race. The countdown is now well under way for the Yorkshire Grand Départ in July 2014. The theme provides a fantastic vehicle for enhancing and enriching the curriculum. It is a very topical, all-embracing theme that can equally support historical research and ICT, as well as the obvious suspects such as French and Literacy and it's perfect for promoting fitness and healthy living.

The following section aims to give you a sprint start with some ideas for activities and resources. As an on-line working document it is intended that more suggestions and tried-and-tested ideas will be absorbed into the pack as time moves on. You may find that as the preparations for Le Grand Départ gather momentum other activities present themselves, which you may wish to share with regional colleagues. The pack will be updated each term, so if you have anything to add please email TdF.york@york.gov.uk

The activities are deliberately not geared specifically to either KS2 or KS3, though some will clearly be more appropriate for one key stage rather than the other.

The aim is to provide you with ideas for activities that you can then adapt to suit your particular age-group if required.

A useful visual introduction can be found on You Tube – A Documentary by Chickasmith, entitled '100 Years of the Tour de France'

This excellent documentary was produced in 2003, tracking the history of the Tour and its legacy. Directed by Christophe Muel, and narrated by Mike Tomalaris, it is shown in three parts:

1. Birth of a Legend
2. The Legend Rolls on
3. Stars of the Road

Containing original footage, it provides an excellent introduction to the Tour as well as a good source or material for various curriculum areas.

We are very grateful to a number of partners who have contributed to this section and continue to help and guide us, as noted on page C4.



Curriculum Spokes

Art & Media

Lesson plan Art & Media

- To create a static piece of art that can be photographed from above
- To create a moving bicycle that can be filmed from above

	Activity	Resources
Le Départ	<p>Introduction</p> <ul style="list-style-type: none"> • Watch the 'Illuminating the Route' powerpoint presentation • Watch the 'Farmers' bike' video 	Powerpoint 'Illuminating the Route' • Slides 1-6 TDF Farmers' bike video http://www.youtube.com/watch?v=XCXqyrZcUWQ
Étape 1	<p>Create the Moving bike on paper</p> <ul style="list-style-type: none"> • Discuss the materials used by the famers to create the moving bike • Working in small groups the students use the items on the sheets to create their plan of the moving bike – as seen from above • Review and photograph each bike 	Powerpoint 'Illuminating the Route' • Slides 7-13 • Activity sheet 1 (in PowerPoint) + scissors cameras
Étape 2	<p>Plan the 'Words using people'</p> <ul style="list-style-type: none"> • Read the hypothetical challenge from Bradley Wiggins • Students work together on making words using their bodies • Students draw the shapes and demonstrate to the rest of the group • Groups guess the words 	Powerpoint 'Illuminating the Route' • Slide 14-17 • Activity sheet 2 (in Powerpoint)



Lesson plan Design a bike for the Tour de France

Activity	Resources
<p>Étape 3</p>	<p>Create ‘Words using people’ – Yorkshire, Tour de France, Grand Départ</p> <ul style="list-style-type: none"> Working in groups to correspond with the words, the students plan out how to make the words using their bodies Groups draw their plans Groups practice their ‘Artwork’ Groups demonstrate their ‘Artwork’ to the rest of the class <p>Create the moving bike</p> <ul style="list-style-type: none"> Students work in groups to plan and demonstrate their own moving bike – half the group can be the static bike frame while the other half create the moving bike wheels The groups swap over so that all the students get chance to be the bike frame and moving wheels Ask the students to find music to move their bikes to, or compose their own ‘Moving bikes’ theme! Video the students Tour de France moving bikes <p>Write a News Report</p> <ul style="list-style-type: none"> Students take on the role of journalists and write a news report about the Tour de France, the Grand Départ and the ‘Illuminating art ‘along the route
<p>Finishing line</p>	<p>Students feedback on:</p> <ul style="list-style-type: none"> The challenges of making moving art The challenges of finding/making the right music Working together in a team

Curriculum links

ICT, Literacy, Music



Curriculum Spokes Design Technology

Design Technology is literally what makes the wheels go round for the Tour de France!

Activity Ideas:



Design a bike for the Tour de France

Investigate how a road bike works, what forces are exerted on it and how the materials it is made of impacts on its design and function. In the role of Bike Design companies the students work in groups to design their own Tour de France bike

Curriculum links:

ICT, Science, Literacy, Maths



Lesson plan Design a bike for the Tour de France

Investigate how a road bike works, what forces are exerted on it when it is ridden, and how the material it is made of impacts on its design and function. Find out how much the design of the bike can affect the performance in a race like the Tour de France. In the role of Bike Design Companies, the students work in small groups to design their own Tour de France racing bike

	Activity	Resources
Le Depart	<p>Introduction to the Road bike</p> <ul style="list-style-type: none"> Watch footage of Sustrans video http://youtu.be/v0F8T-EGSYM Discuss how the road bike is used and the stresses it must accommodate Watch footage of Tour de France Talk about how the riders in the Tour de France use their bikes in different ways for different conditions 	<p>Sustrans video</p> <p>Online footage of the Tour de France www.letour.fr The tour in videos</p> <p>Tour de France videos - Google youtube</p>
Étape 1	<p>Examine the Road bike</p> <ul style="list-style-type: none"> Students examine the road bike and discuss the different parts of the bike, names, their uses and the forces that act on the bike when it is being ridden –eg friction, air resistance <p>Activity sheet</p> <ul style="list-style-type: none"> Students match the correct force labels to the arrows on the sheet 	<p>Road bike</p> <p>Road bike Activity sheet - page B6</p>
Étape 2	<p>Examine the frame of the bike</p> <ul style="list-style-type: none"> Explain the Frame Design Activity sheet Discuss the different properties of the materials (handle them if available) Students work together in two's or small groups on the Frame Design Activity sheet to discuss the properties of the frame materials Students design their bike frame Discuss the materials they have chosen 	<p>Frame Design Activity sheet - pages B7/B8/B9</p> <p>Examples of the different materials – steel, aluminium, titanium, carbon fibre, bamboo (if possible)</p>



Activity	Resources
Étape 3	Tour de France racing bikes <ul style="list-style-type: none">• Investigate the different kinds of bikes used in the Tour de France• In the role of Bike Design companies the students work together in small groups to design a bike for the Tour de France
Finishing line	Groups present their bike design to the rest of the class and explain the materials used

Curriculum links

ICT, Science, Literacy, Maths



Work sheet Road bike

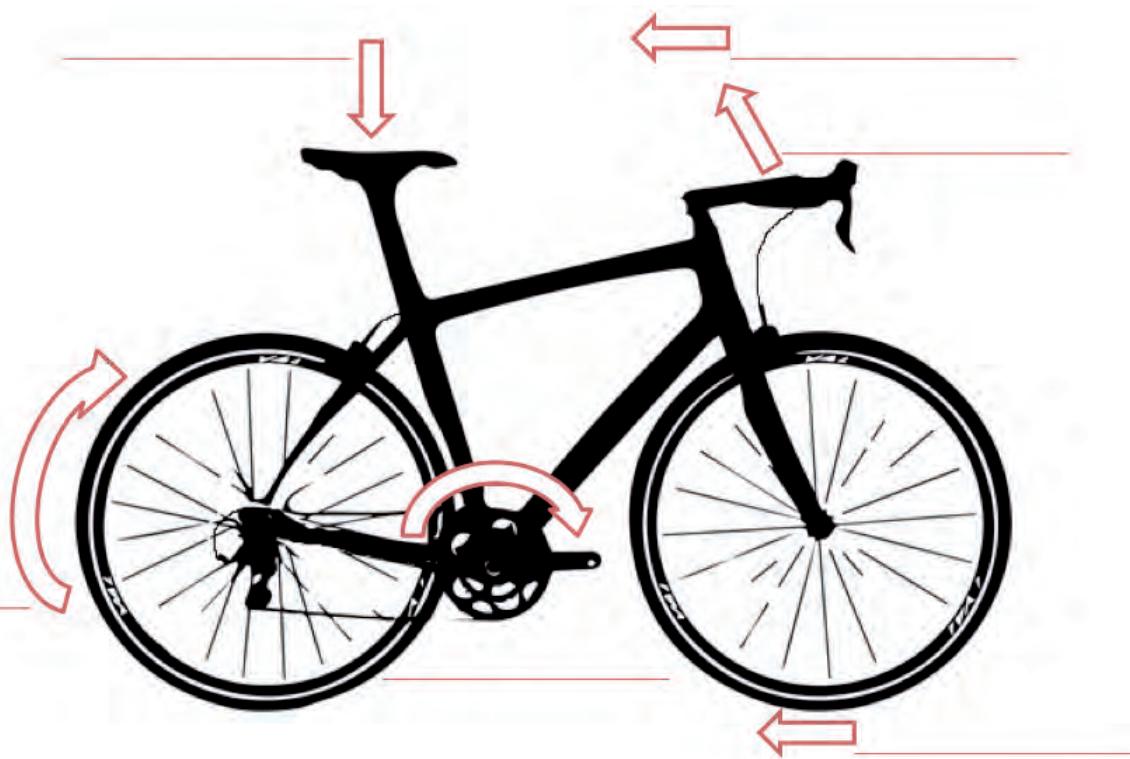
Name _____

Class _____

**Match the forces with the correct arrows on the bike diagram.
Write the force next to the arrow.**

Forces

- The rider's weight
- Pushing and pulling the pedals
- Pulling on the handlebars
- Friction on the tyres
- Air resistance on the cyclist
- The wheels turning





Work sheet Frame design

Name _____ Class _____

Read through the materials table below.

Material	Properties				
	Cost	Weight	Corrosion	Strength	Stiffness
Steel 	Cheap	Medium	Fast	High	Low
Aluminium 	Cheap	Medium	Medium	Medium	High
Titanium 	Expensive	Light	Slow	High	Low
Carbon Fibre 	Expensive	Light	Slow	Medium	Medium
Bamboo 	Expensive	Medium	Medium	Medium	Medium



Work sheet Frame design

In the box, draw your own bike frame made from one of the materials in the table.

Bike frame name

Bike frame material

Why did you choose this material to make your bike frame?

Special features of your frame



Work sheet Design a bike for the Tour de France

Name of your Bike Design Company _____

Draw your Tour de France bike in the box

Name of bike _____

List the materials you have used for specific parts _____

Present the special features of your bike



Curriculum Spokes French

The Tour de France is the perfect vehicle to enhance your French curriculum! While some activities are clearly designed for either KS2 or KS3, you may wish to adapt the theme for your particular age group.

Activity Ideas:



Jersey Boys

Les Maillots de la Tour de France

A worksheet focused on the four jerseys and who wears them. Colour in the jerseys and label which cyclists wear them in English or in French



Word Search – in French!

French word-search (see French cycling terms)



'Local Guide to the Tour de France - in French!

Produce a guide to your local area in French for French visitors as per the Literacy Spoke.

As an enhancement adapt for other languages – German and Spanish



Le Tour de France –un poème

Write a poem on the theme of the Tour de France in French.



'Ma première bicyclette'

Write your story 'My first bicycle' in French and illustrate it with drawings and /or photographs. Alternatively produce your story in the style of a cartoon using words and pictures.



Un menu de Yorkshire

Produce a menu that represents the best of Yorkshire with a French translation for the Tour de France competitors.



Un poster du Yorkshire Grand Départ

Design a poster in French promoting Le Yorkshire Grand Départ to our French friends.



Un quiz sur le Tour de France

Work in small groups to create a Tour de France Quiz in French.
Hold a quiz session where each group administers their quiz.



Le Tour de France Grand Départ Carousel

Organise a French Tour de France day with a carousel of activities taking place at the same time. This could be for the school (primary) or year group (secondary)

Resources and Links:

TES website: www.tes.co.uk

- **'All about the Tour de France bicycle race'**, R Cook, 2011
This contains lots of useful information and includes downloadable photos, videos and clips for an activity
- **'Beat the Mouse'** – powerpoint based on terms in the TdF
Author : Alec Stonehouse
- **Le Tour de France 2013** – powerpoint with useful facts about the recent event: Author : Ludden

Look out for more resources as the Grand Départ approaches

- **Camembear and the Tour de France : Le Grand Départ 2014**
'Learning French with Camembear' is an innovative, and interactive programme which enables teachers and practitioners to introduce and develop French throughout the primary years, seizing on the earliest opportunities to introduce French in Early Years Foundation Stage and Year 1. Join Camembear to follow Le Grand Départ from Yorkshire in July 2014 with 'Camembear on a bike' . To find out more see 'Camembear and the Tour de France : Le Grand Départ 2014 ' or visit the website: www.headstartlanguages.co.uk
- **A BBC page about the Tour**
<http://www.bbc.co.uk/news/magazine-23343625>

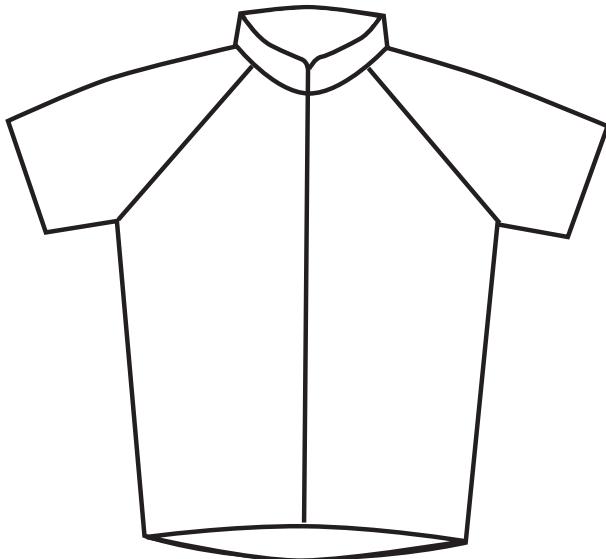
Curriculum Links:

Literacy, Geography, Art, Design

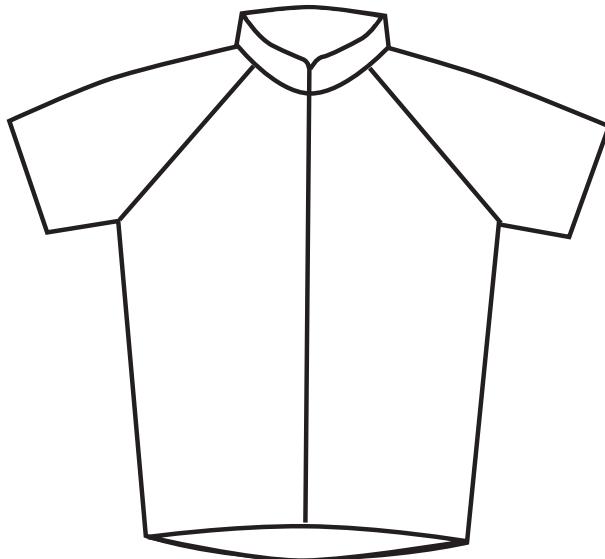


Work sheet **Les Maillots de la Tour de France**

Qui porte le maillot vert?

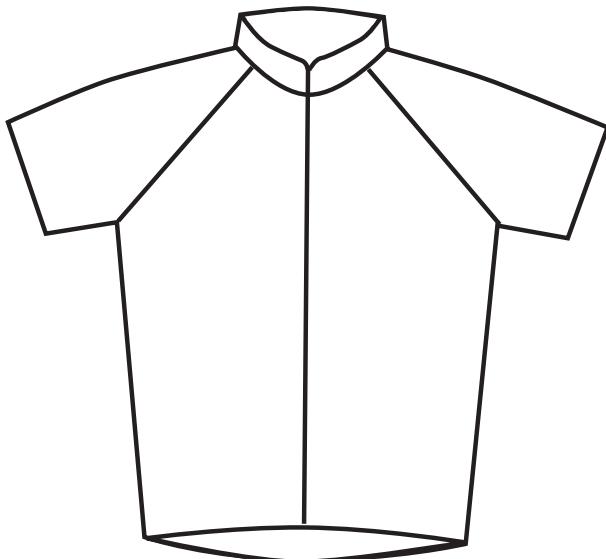


Qui porte le maillot blanc?



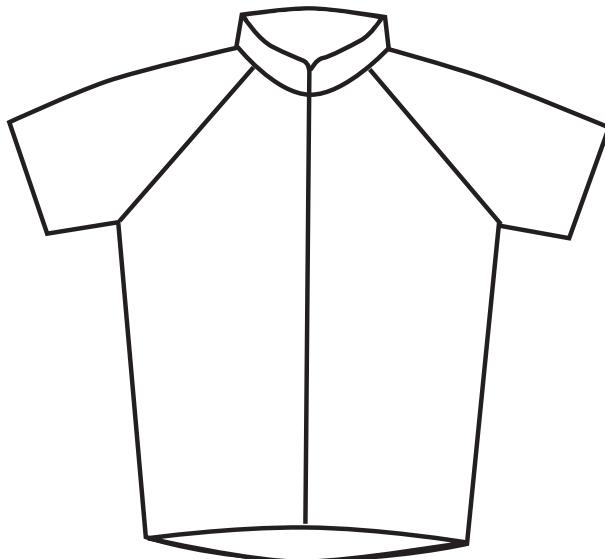
A: _____

Qui porte le maillot à pois?



A: _____

Qui porte le maillot jaune



A: _____

A: _____

Choose the correct answer: (in English or French)

the best climber/le meilleur grimpeur

the overall leader/le coureur qui occupe la première classe

the best sprinter/le meilleur sprinteur

the best young rider/le meilleur jeune

Answers: The Green jersey: the best climber - le meilleur grimpeur
The White jersey: the overall leader - le coureur qui occupe la première classe
The Yellow jersey: the best sprinter - le meilleur sprinteur
The Polka-dot jersey: the best young rider - le meilleur jeune

leader - le coureur qui occupe la première classe

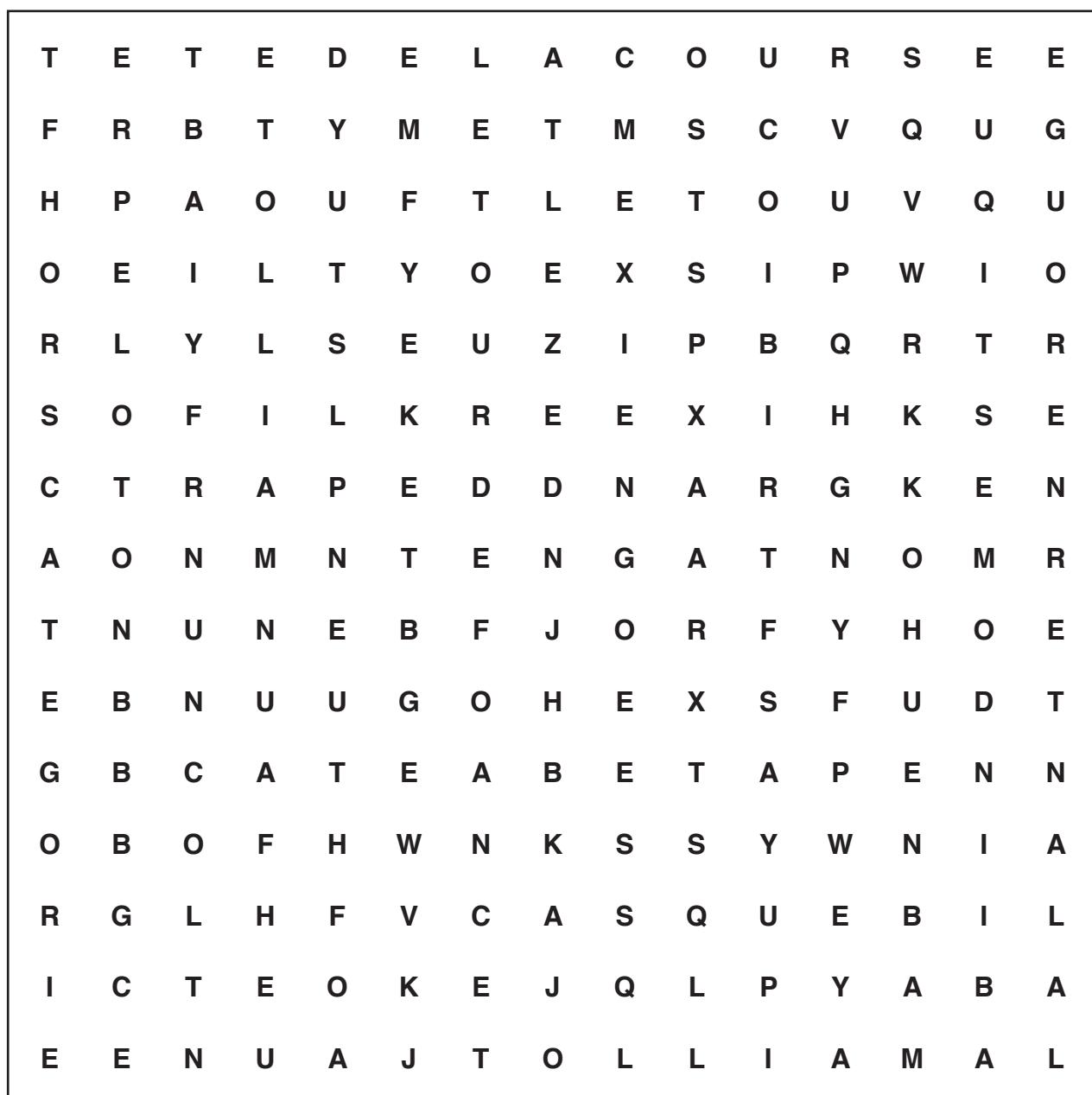
meilleur grimpeur - le meilleur grimpeur

meilleur sprinteur - le meilleur sprinteur

meilleur jeune - le meilleur jeune



Work sheet French word search



Find the following French words in the grid:

le Tour de France
Grand Départ
domestique
équipe
peloton

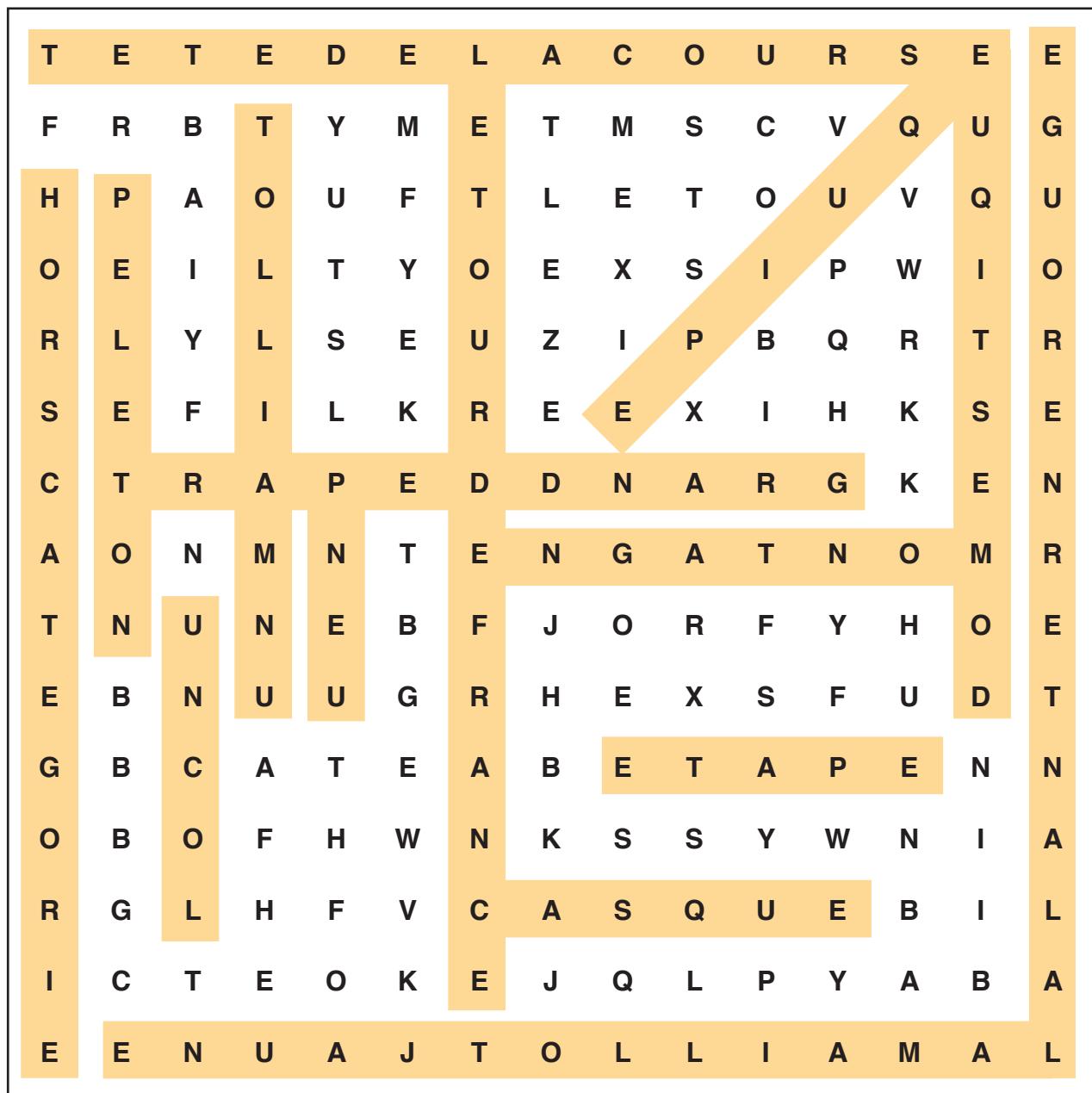
casque
un maillot
un col
étape
hors catégorie

le maillot jaune
pneu
tête de la course
la lanterne rouge
montagne



Answers

French word search





Glossary of French terms

le cyclisme

cycling, biking

le* Tour de France

the Tour de France, literally “tour of France”

*Not la Tour de France, which would mean “tower of France”

- learn more²

la Grande Boucle

literally, “the big loop” - le Tour de France’s informal nickname

People and Riders

un autobus

group that rides together to finish within time limit

un commissaire

referee who travels by car

un coureur

rider, cyclist

un cycliste

rider, cyclist

un directeur sportif

team manager

un domestique

support rider

un échappé

breakaway

une équipe

team

un grimpeur

climber

un grupeto

same as autobus

un peloton

pack, bunch

un poursuivant

chaser

Equipment

un bidon

water bottle

un casque

helmet

une crevaison

flat, puncture

un dossard

number on rider’s uniform

un maillot

jersey

une musette

feed bag

un pneu

tyre

un pneu crevé

flat tyre

une roue

wheel

un vélo de course

racing bike

une voiture balai

broom wagon

Tracks and Courses

une borne kilométrique

milestone (literally, a kilometer marker)



un col
mountain pass

une côte
hill, slope

une course
race

une course par étapes
stage race

une descente
downward slope

une étape
stage, leg

la flamme rouge
red marker at 1 kilometer from finish

hors catégorie
beyond classification (extremely difficult)

une montagne
mountain

une montée
upward slope

un parcours
route, course

une plaine
plains, flat land

une piste
track

une route
road

Standings and Scoring

la bonification
bonus points

une chute
fall, crash

le classement
standings

contre la montre
time trial

la lanterne rouge
last rider

le maillot à pois
polka dot jersey (worn by best climber)

le maillot blanc
white jersey (worn by best rider under 25)

le maillot jaune
yellow jersey (worn by overall leader)

le maillot vert
green jersey (worn by leader in points / best sprinter)

Verbs

accélérer
to accelerate

s'accrocher à
to cling, hang on to

attaquer
to attack, spurt ahead

changer d'allure
to change pace

changer de vitesse
to shift gears

courir
to ride

dépasser
to overtake

déraper
to slip, skid

s'échapper
to break away

**grimper**

to climb

prendre la tête

to take the lead

ralentir

to slow down

rouler

to ride

Other useful words and phrases

les Coureurs Groupes

sponsored riders

les Coureurs Isolés

self-sufficient riders

Hot-Spot Sprint

a point part-way through a stage where points and small time bonuses are awarded for the first three riders

Points competition

points are awarded after each stage, with a maximum of 35 for first place. The scoring is weighted in favour of the flat stages and the maillot vert is contested by the sprinters.

UCI

Union Cycliste Internationale, the International Cycling Union, based in Switzerland



Curriculum Spokes Geography

Activity Ideas:



Design a Tourist Brochure

Set the scenario that the students work for a travel company and have been asked to design a Tourist brochure to attract visitors from all over the world to a city, town or village along the Grand Départ Route of the Tour de France through Yorkshire. Invite a local Travel company in to talk to the students at the start of the project. Work in groups to develop your brochure featuring photographs, accommodation, attractions, climate, together with means of and access to main travel routes. You could choose your own city, town or village to promote or another location in Yorkshire. Present your brochure to a local Travel operator and/or Welcome to Yorkshire.

As an extra enhancement add some key words or phrases in French



Create a Tourist Attraction Map plotting various attractions along the Yorkshire Grand Départ Route.



Design a Cyclists' Route to follow the Tour de France on the Grand Départ. Using maps of the area research the roads, tracks and terrain that cyclists could use to keep them on course with the Peloton. Provide information about the terrain, climate and anticipated weather. Plot in refreshment stops and suggestions for an overnight stop. Try out your route – or part of it!



Design a Tourist Brochure for a location in France. Research the route through France and repeat the first activity with a French location



Research and track the Route and geographical landscape of the Tour de France 2014. Work in groups to write and present a Briefing report to



your Tour de France Cycle Team of the 2014 route. Report on the length of the stages and the terrain. Report on which mountain climbs are featured and how high they are. Talk about the climate and typical weather patterns for the time of year. If feasible include expected weather forecasts.



Stage Journeys

The average length of each stage of the Tour de France is 413 km. Find out how far that is in miles. Work in two's or small groups to investigate the stage distance and what places this distance would take you to in the UK.

- Starting at your school, use a UK map to plot out at what places you would end up tracking a radius of 413km. Find ten places on this radius and find out some key facts about your ten places. Present your places and facts to the rest of the group.
- Plan a journey of 413km from your school , agreeing together your final destination. Decide what form of transport you would take. Track the towns and villages you would travel through.

Curriculum Links:

Literacy, ICT, French, Art, Design, Enterprise, Maths



Curriculum Spokes History

The Tour de France provides a wealth of material for historical research and provides an ideal theme to use to enhance your history curriculum.

Activity Ideas:



Timeline

Produce a Timeline to highlight significant world events during the last 100 years alternating with events from the Tour de France (see 100 year Bike Race plan on page B22)



The 100 Year Bike Race Investigate how the Tour de France has changed during the 100 years since it began

Challenge your students to find out :

- how the race has been affected by historical events
- how technology has been used in the development of the race
- how the race reflects the changing world

(See 100 Year Bike Race plan)



Portrait of a Tour de France cyclist

Work in groups to select a Cyclist from any era and research his biography. Use the worksheet and Factsheets if required as a guide to build up a portrait of the cyclist and present to the rest of the class in whatever medium you wish – words, art, drama or music



The History of the Racing bike

Research the history of the Racing bike using a variety of different sources and present your findings to the rest of the class:

- Cigarette cards – google to research these collectable items to be found in many antique and junk shops
- Google – ‘100 years of Tour de France Bikes map the evolution of cycling’
- Google images of Tour de France bikes through the years



The History of Cycling in your local area

Research the history of cycling in your local area using a variety of different sources – newspapers, cycling clubs, families, ‘Cycling Touring Guides of England’ (a range of books published in the 1940’s; originals can be accessed via the internet and also modern reproductions)



Create an imaginary cycling hero but linked significant real life events and history. Challenge your fellow researchers to spot the historical inaccuracies.

Curriculum Links:

Literacy, Maths, ICT, Art, Music, Drama



Lesson plan **The 100 year bike race**

Investigate how the Tour de France has changed during the 100 years since it began. Find out:

- how the race has been affected by historical events
- how technology has been used in the development of the race
- how the race reflects the changing world

	Activity	Resources
Le Départ	<p>Produce a Timeline to highlight significant world events during the last 100 year alternating with events from the Tour de France</p> <ul style="list-style-type: none"> • choose significant years 1903, 1918, 1926, 1939, 1952.... 	Make up cards/pictures with significant world events or make a powerpoint presentation
Étape 1	<p>Factsheets</p> <ul style="list-style-type: none"> • The students work in groups and work through each heading as a carousel to track the changes over the last 100 years logging the information onto the Fact file sheet. 	<p>Factsheets focused on Race winners in five different decades - 1903, 1920's, 1940's, 1960/70's and 2012 tracking different aspects of development</p> <ul style="list-style-type: none"> • Bikes • Support • Food • Route • Quirky fact/Scandal - research • Clothing/kit - research
Étape 2	<p>Group area</p> <ul style="list-style-type: none"> • Each group is then assigned to a particular area and work together to discuss and highlight the most significant changes over the last 100 years. <p>Or</p> <ul style="list-style-type: none"> • Each group takes a different winner and fills in his section of the Factfile sheet 	



Activity	Resources
Finish line	Action Replay <ul style="list-style-type: none">• Each group presents a 30 second action reply of their favourite point in the history of the tour de France or a tableau of a Tour de France event

Curriculum links

Literacy, Maths , ICT



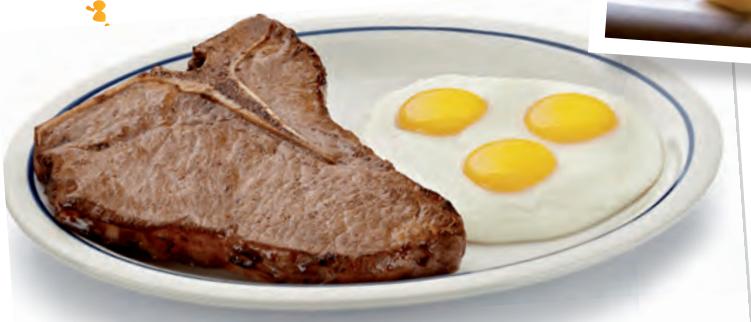
Work sheet Food



1903

1949

1925



1970



2012



Work sheet History Bikes



Steel frame
One Gear – fixed wheel
No Brakes



Steel frame
One Gear – fixed wheel
Brakes – Wooden wheel rims
Drop Handlebars



Steel frame
10 Gears
Steel Wheel Rims



Steel frame
10 Gears
Aluminium wheel rims



Carbon Fibre Frame
22 Electronic Gears
Carbon Fibre Wheels

Match the bikes to the decade:

1903

1920's

1940's

1960/70's

2012



Work sheet Routes



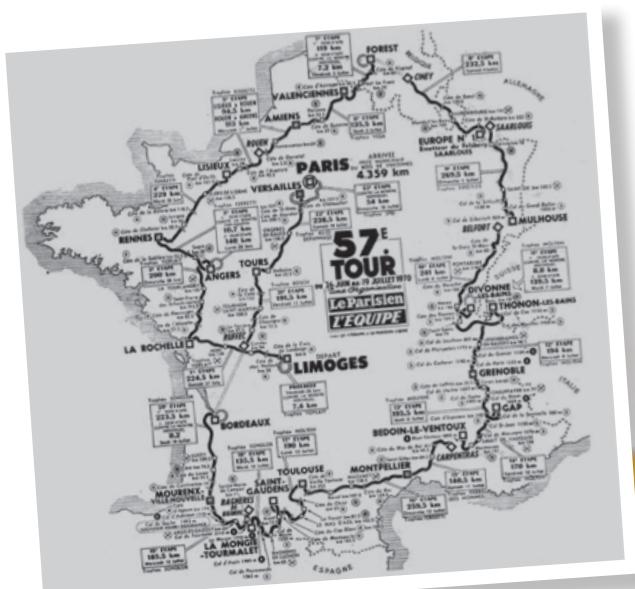
1903 – 6 Stages
– 51 Days
2,428 km raced at an average speed of 25.68 km/hr.



1925 – 18 stages – 29 days,
5430km raced at an average speed of 24,775km/hr



1949 – 21 Stages
– 25 Days
4,808km raced at an average speed of 32.121 km/hr.



1970 – 23 Stages – 24 Days
4,254km raced at an average speed of 35.589 km/hr.



2012 – 21 Stages – 23 Days
3,488km raced at an average speed of 39.83 km/hr.



Work sheet Scandal

1903: Riders were knocked off their bikes by rival fans, others held on to cars and some even caught a train!

1923: Eventual winner Henri Pélissier received a two-minute penalty for throwing away a tyre.

1949: Winner Fausto Coppi admits to using “La bomba”, his nickname for drugs that kept you awake and alert!

1967: British Rider Tom Simpson collapses and dies on Mt. Ventoux with heat stroke made worse by alcohol and amphetamines (drugs)

2012: Tacks are thrown onto the road causing many riders to puncture including Cadal Evans



Work sheet **Biography Portrait**

Using the headings below build up a Biography portrait of your cyclist. Refer to the information sheets or conduct your own research.

Maurice Garin, French, Winner 1903

Career 1893 – 1911

Date of birth

Birthplace

Team

• Bike Photo/Picture

• Support

• Food

• Route

• Clothing/kit

• Special fact/ Scandal



Work sheet Biography Portrait

Using the headings below build up a Biography portrait of your cyclist. Refer to the information sheets or conduct your own research.

Henri Plessier, French, Winner 1923

Career 1911 - 28

Date of birth _____

Birthplace _____

Team _____

- Bike
 - Support
 - Food
 - Route
 - Clothing/kit
 - Special fact/ Scandal



Work sheet Biography Portrait

Using the headings below build up a Biography portrait of your cyclist. Refer to the information sheets or conduct your own research.

Fausto Coppi, Italian, Winner 1949,52

Career 1940 - 59

Date of birth

Birthplace

Team

• Bike Photo/Picture

• Support

• Food

• Route

• Clothing/kit

• Special fact/ Scandal



Work sheet Biography Portrait

Using the headings below build up a Biography portrait of your cyclist. Refer to the information sheets or conduct your own research.

**Eddy Merckx, Belgium,
Winner 1969, 1970, 1971, 1972, 1974
Career 1965 - 78**

Date of birth

Birthplace

Team

Photo/Picture

- Bike

- Support

- Food

- Route

- Clothing/kit

- Special fact/ Scandal



Work sheet Biography Portrait

Using the headings below build up a Biography portrait of your cyclist. Refer to the information sheets or conduct your own research.

Bradley Wiggins, British, Winner 2012

Career 2002 –

Date of birth _____

Birthplace _____

Team _____

- Bike
 - Support
 - Food
 - Route
 - Clothing/kit
 - Special fact/ Scandal



Work sheet Ride fact file

Winners	Maurice Garin French Winner 1903 Career 1893 - 1911	Henri Plessier French Winner 1923 Career 1911 -1928	Fausto Coppi Italian Winner 1949/1952 Career 1940 - 1959	Eddy Merckx Belgium Winner – 1969, 70, 71, 72, 74 Career 1965 - 1978	Bradley Wiggins British Winner 2012 Career 2002 -
Bikes <i>Fact sheet</i>					
Support <i>Fact sheet</i>					
Food <i>Fact sheet</i>					
Route <i>Fact sheet</i>					
Quirky fact/ Scandal <i>Own research</i>					
Clothing/ kit <i>Own research</i>					



Curriculum Spokes

ICT

ICT is employed in a variety of aspects of the Tour de France from the digital countdown on the Welcome to Yorkshire website to timekeeping and interaction between the riders and their team cars.

Activity Ideas:



Advertising animation for the Yorkshire Grand Départ

Use ICT software features to create an innovative advertising animation for the Tour de France



Animated Countdown for the Yorkshire Grand Départ

Use ICT software to create an innovative animated countdown to the Yorkshire Grand Depart

Curriculum links

Literacy, Maths



Lesson plan **Animated Countdown for the Yorkshire Grand Départ**

Use ICT software to create an innovative animated countdown to the Yorkshire Grand Départ

		Activity	Resources
Le Départ	<p>Question and Answer session to set the scene</p> <p>What is a countdown? (builds anticipation for an event, ensures all set off at the same time)</p> <p>What made the London Countdown effective? (e.g. quirky, brought all the different aspects of London together, music made it fun)</p> <p>Show the class the Welcome to Yorkshire Countdown on the smartboard or ask them to find it on individual pcs</p> <p>www.yorkshire.com</p>	<p>Storyboard template</p> <p>Animation software eg Flash, or Moviemaker or Powerpoint</p> <p>Link to Olympics 60 second countdown - http://www.youtube.com/watch?v=AGbUk9sicg</p> <p>ICT suite</p> <p>Digital cameras</p> <p>Video cameras</p> <p>Scanner</p> <p>PC and Projector</p> <p>Internet connection</p>	
Étape 1	<p>Talk about different ideas for the Countdown</p> <p>How can you present numbers to make them look interesting and carry a message? (eg Channel 4; Paralympic 4)</p> <p>Where can you find numbers? (eg Street numbers, numberplates, bridges)</p> <p>Where could you play your countdown? (e.g. at the beginning of the race on a big screen, on the TV presentation of the race, on a website to get the TDF messages across)</p>		
Étape 2	<p>Plan and design the Storyboard</p> <p>Explain the importance of planning and how animators use storyboards to plan their work.</p>	<p>Storyboard template - page B37</p>	



	Activity	Resources
Étape 3	<p>Hand out storyboard templates or use electronic versions</p> <p>Explain how to use storyboards and what should be included e.g. how numbers can be created, timings, animation, transitions</p> <p>Give your students the challenge to use digital resources and images to create numbers for the Countdown that must have:</p> <p>a Tour de France theme (eg make a number out of bikes, or photograph numbers on the way to school, add messages within the numbers, - use your bike walk more.....)</p> <p>at least 2 numbers – (you could join them with others in the class to create a sixty second countdown)</p>	Software Peripherals ICT suite
Étape 4	<p>Create the Animation</p> <p>use the software you think would be most effective to create the countdown.</p> <p>add music /narration if feasible</p>	Software Peripherals ICT suite
Finish line	<p>Students present their animations to the class</p> <p>Discuss what makes an effective animation</p>	Projector and pc

Further links

Welcome to Yorkshire – le Grand Départ www.yorkshire.com
 Sustrans www.sustrans.org.uk

Curriculum links

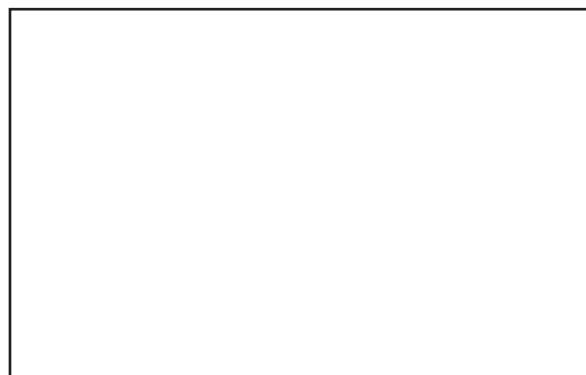
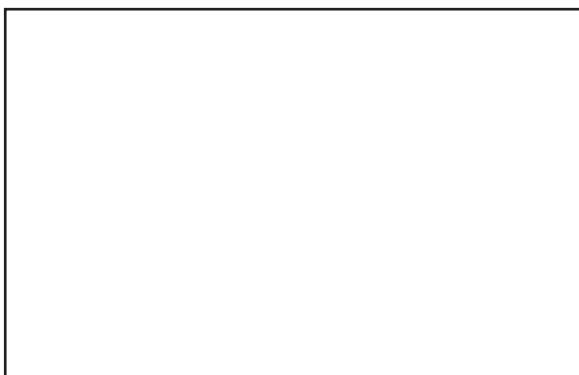
Literacy, Maths

Source of Activity: Sustrans



Work sheet Storyboard template

Planning the filming of the promotional film





Curriculum Spokes Literacy

The Tour de France is the perfect theme to enhance Literacy. There is so much information to draw from particularly as the countdown to Le Grand Départ is now well under way and the Yorkshire Region prepares for this great event.

Activity Ideas:



My First Bicycle

Write a story 'My First Bicycle' and illustrate it with drawings and/or photographs. Alternatively produce your story in the style of a cartoon using words and pictures.



The Tour de France Yorkshire Grand Depart local Guide Produce a 'Local Guide to the Tour de France'.

Work in groups to produce a guide for a particular audience using text and illustrations. Invite a representative from the local Tourist Information Centre to listen to presentations from the students.



Newspaper Article

Write a newspaper article about the Tour de France and the Grand Départ in Yorkshire or about a local cycling hero. Invite a local journalist to come and talk to your students about writing articles and a photographer to advise about taking photographs.



Tour de France poem

Write a poem on the theme of the Tour de France. Add sound effects and music to turn it into a song!



A Day in the Life – Diary entry

Imagine that you are riding in the Tour de France. Write a diary entry about a day on the road. Use ICT to research one of the cyclists from 2013 or any other year you wish.



Winning the Tour de France

Imagine what it must be like to win the Tour de France after 3 weeks of intense, gruelling cycling with fierce competition from your fellow riders. Work with a partner to research footage or newspaper articles about past winners to find out how they felt. Put yourself into cycling shoes and write a short paragraph about how you would feel either crossing the finish line at the Champs Elysées or standing on the winners podium.



A Tour de France Guide for 'Les petits enfants'

Work in a group to produce a 'Tour de France' guide for younger children with illustrations and photos.



Tour de France Stories and Poems

Produce a book of Tour de France stories and poems. Promote and sell the book at appropriate events and book weeks.



My Tour de France Dream Team

Who would you have in your Tour de France team? Think up a name and choose your nine riders – past or present.

Resources and Links

For links with local businesses and organisations contact your local Business and Education Partnership (EBP or BEP)

For inspiration and advice contact :

- Your local Library
- Welcome to Yorkshire
- Your local Tourism Information Centre eg: Visit York
- A local poet
- An illustrator
- A local publisher
- Your local newspaper and photographer

Curriculum Links:

ICT, Enterprise, French, Art, Design



Curriculum Spokes Maths

The Tour de France is practically a mathematical activity in itself and can provide material to enhance a variety of mathematical concepts.

Activity Ideas: KS2



Number:

Tour de France Maths Puzzle

Work out the answers to the maths questions by searching for the correct clues and using addition, subtraction, multiplication and division skills.

Find the numerical answers vertically on the grid and using yellow or green pencils colour in the squares to create a picture of a Tour de France jersey.

Curriculum Links:

Literacy, French



Work sheet **Tour de France number search**

Find the answers to these questions in the Numbersearch.
All answers read downwards (vertically). Colour in the answer squares when you find them. The first one has been done for you.

Example: The height in centimetres of the tallest ever rider (198)

1. Number of calories burnt per rider per day
2. Year the first Tour was held
3. The age of the oldest ever winner + age of the youngest ever winner
4. Number of riders in each team x number of weeks the race lasts
5. Number of teams that take part x number of days the race lasts
6. Height of tallest rider – age of youngest winner
7. Highest average speed – number of teams that take part
8. Number of Eddy Merckx stage wins + number of riders in each team
9. Year the first Tour was held – number of teams that take part
10. Number of calories burnt per day – average total length of race
11. Height of tallest rider + highest average speed
12. Eddy Merckx's number of stage wins + Year the Tour was first held
13. Average length of race x number of rest days
14. Age of youngest winner x number of rest days
15. Height of tallest rider + age of oldest rider
16. Number of calories burnt ÷ race length in weeks
17. Average total length of race – stages that Eddy Merckx has won
18. Youngest ever riders age + number of riders per team
19. Race length in weeks x highest average speed
20. Highest average speed + length of race in days
21. Number of calories burnt ÷ number of teams that take part
22. Age of oldest rider – number of days the race lasts for
23. Number of riders per team x number of teams that take part
24. Average length of race ÷ number of weeks race lasts for
25. Number of Eddy Merckx stage wins + age of oldest winner

Work sheet**Tour de France
number search**

The youngest ever winner was Henri Cornet aged 19

The oldest ever winner was Lambot aged 36

Eddy Mercx has won the most amount of stages with 34

There are normally 20 teams that take part

The highest average speed for a stage was 41 km/h

The race lasts for 3 weeks (21 days)

The first Tour was held in 1903

Each team has 9 riders

Each rider burns on average 6000 calories per day whilst riding

During the race there are 2 rest days when they do not ride

The average total length of the race is 3600km

2	1	8	4	7	9	6	4	4	2	6	0	5	1
9	6	3	5	6	2	7	8	5	2	3	2	4	0
6	5	3	1	2	4	7	2	5	3	1	9	7	9
7	4	1	2	3	0	2	7	2	4	9	6	6	9
1	8	9	0	8	0	0	3	1	2	3	0	5	1
0	2	0	0	1	1	0	5	1	3	7	0	1	3
9	8	3	4	7	8	3	6	8	9	6	0	5	9
4	5	2	5	9	0	0	6	8	2	1	2	3	7
7	8	9	6	1	4	0	1	3	0	0	9	4	1
6	2	7	3	9	2	4	2	7	0	9	4	7	6
5	9	4	1	8	0	3	3	0	0	4	8	1	9
6	2	9	0	2	7	1	2	1	9	3	3	6	6



Answers

Tour de France number search

1. Number of calories burnt per rider per day (6000)
2. Year the first Tour was held (1903)
3. The age of the oldest ever winner + age of the youngest ever winner ($36+19=55$)
4. Number of riders in each team x number of weeks the race lasts ($9\times 3=27$)
5. Number of teams that take part x number of days the race lasts ($20\times 21=420$)
6. Height of tallest rider – age of youngest winner ($198-19=179$)
7. Highest average speed – number of teams that take part ($41-20=21$)
8. Number of Eddy Merckx stage wins + number of riders in each team ($34+9=43$)
9. Year the first Tour was held – number of teams that take part ($1903-20=1883$)
10. Number of calories burnt per day – average total length of race ($6000-3600=2400$)
11. Height of tallest rider + highest average speed ($198+41=239$)
12. Eddy Merckx's number of stage wins + Year the Tour was first held ($34+1903=1937$)
13. Average length of race x number of rest days ($3600\times 2=7200$)
14. Age of youngest winner x number of rest days ($19\times 2=38$)
15. Height of tallest rider + age of oldest rider ($198+36=234$)
16. Number of calories burnt ÷ race length in weeks ($6000\div 3=2000$)
17. Average total length of race – stages that Eddy Merckx has won ($3600-34=3566$)
18. Youngest ever riders age + number of riders per team ($19+9=28$)
19. Race length in weeks x highest average speed ($3\times 41=123$)
20. Highest average speed + length of race in days ($41+21=62$)
21. Number of calories burnt ÷ number of teams that take part ($6000\div 20=300$)
22. Age of oldest rider – number of days the race lasts for ($36-21=15$)
23. Number of riders per team x number of teams that take part ($9\times 20=180$)
24. Average length of race ÷ number of weeks race lasts for ($3600\div 3=1200$)
25. Number of Eddy Merckx stage wins + age of oldest winner ($34+36=70$)



Activity ideas: KS3

Questions for reasoning and problem solving

- 1. A mountain bike has 3 gears on the chain wheel and 7 gears on the rear hub.**

The number of teeth on each wheel are:

Chain wheel: 28, 38, 48

Rear hub: 13, 15, 17, 19, 22, 24, 28



Each of the three gears on the chain wheel can be used with any of the 7 gears on the back wheel.

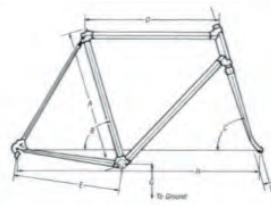
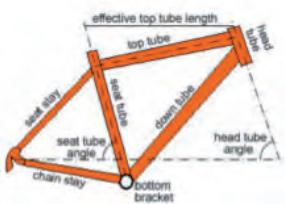
- How many gear combinations are there?
- The rider has selected 48 teeth on the chain wheel and 24 on the back axle.

How many times does the rear wheel turn each time the pedal makes one full revolution?

Which other gear combinations have the same effect?

- Which combination will be best for climbing a steep hill? Why?
- Which gear ratio is best for sprinting on a flat road?
- How could you place the different gear ratios in order?
- Why does a rider not change gears in this order?

- 2. Look at these diagrams of cycle frames. What shapes can you see?**



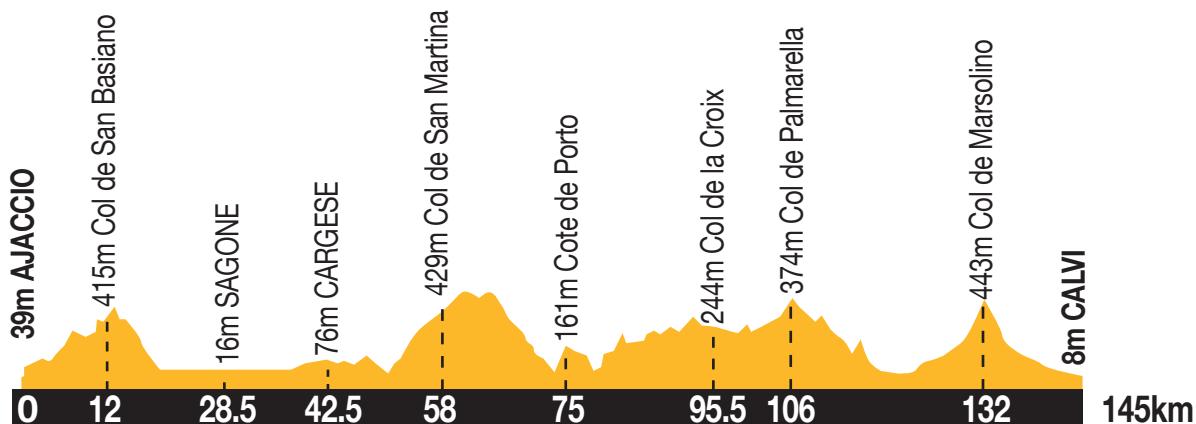
- What is the same and what is different about these frames?
- Design a system to accurately describe any frame of this type.
- Draw a frame and use your system to describe it to your partner. Can they draw it accurately using the information that you have provided?

- 3. Each team in the Tour de France has nine riders. In how many different orders could the members of a team cross the finishing line?**



Can the problem be simplified?
Would a table help?
Can you be systematic in your approach?
Can the problem be represented using a diagram?
Can you find a method that will work for any number of riders?

- 4.** Stage 3 of the 2013 Tour de France took place in Corsica. The 145km stage started in Ajaccio and ran over very hilly terrain to Calvi. This chart shows the height profile of the route.
[Source: <http://bikeraceinfo.com/tdf/tdf2013.html>]



- a) The winner of this stage was Simon Gerrans. He covered the 145km in 3hr 41min 24sec.
Calculate his average speed for the stage.
- b) Which part of this stage will have been slowest? Why do you think this?
- c) Where are the competitors likely to have been riding fastest?
- d) The chart is a graph of height plotted against distance travelled.
What would a graph of speed plotted against distance look like?
- 5.** For this question you need a copy of the data table: 'Tour de France winner's average speed, 1903 – 2012' (page B46). The table shows the winners' average speeds for all Tours from 1903 to 2013. Investigate how the average speed has changed over time.
- a) Write down a hypothesis.
- b) Plan how you will analyse the data to prove or disprove your hypothesis
- what calculations will you perform?
 - what charts or graphs will you draw?
- c) Analyse the data
- d) Interpret your results



Tour de France winner's average speed, 1903 – 2012

Source: http://stats.areppim.com/stats/stats_tourdefrance_vitesse.htm

Tour	Year	Speed	Tour	Year	Speed	Tour	Year	Speed
1	1903	25.7	34	1947	31.4	67	1980	35.1
2	1904	25.3	35	1948	33.4	68	1981	39.0
3	1905	27.1	36	1949	32.1	69	1982	38.1
4	1906	24.5	37	1950	32.8	70	1983	36.2
5	1907	28.5	38	1951	32.9	71	1984	35.9
6	1908	28.7	39	1952	32.2	72	1985	36.2
7	1909	28.7	40	1953	34.6	73	1986	37.0
8	1910	29.1	41	1954	33.2	74	1987	36.6
9	1911	27.3	42	1955	34.4	75	1988	38.9
10	1912	27.8	43	1956	36.3	76	1989	37.5
11	1913	26.7	44	1957	34.5	77	1990	38.6
12	1914	26.8	45	1958	36.9	78	1991	38.7
13	1919	24.1	46	1959	35.5	79	1992	39.5
14	1920	24.1	47	1960	37.2	80	1993	38.7
15	1921	24.7	48	1961	36.0	81	1994	38.4
16	1922	24.2	49	1962	37.3	82	1995	39.2
17	1923	24.2	50	1963	37.1	83	1996	39.2
18	1924	24.3	51	1964	35.4	84	1997	39.2
19	1925	24.8	52	1965	35.9	85	1998	40.0
20	1926	24.3	53	1966	36.8	86	1999	40.3
21	1927	27.2	54	1967	34.8	87	2000	39.6
22	1928	28.4	55	1968	33.6	88	2001	40.1
23	1929	28.3	56	1969	35.4	89	2002	39.9
24	1930	28.0	57	1970	35.6	90	2003	40.9
25	1931	28.7	58	1971	38.1	91	2004	40.6
26	1932	29.0	59	1972	35.5	92	2005	41.7
27	1933	29.8	60	1973	33.4	93	2006	40.8
28	1934	30.4	61	1974	35.2	94	2007	39.2
29	1935	40.5	62	1975	34.9	95	2008	40.5
30	1936	31.1	63	1976	34.5	96	2009	40.3
31	1937	31.8	64	1977	35.4	97	2010	39.6
32	1938	31.6	65	1978	36.1	98	2011	39.8
33	1939	32.0	66	1979	36.5	99	2012	39.8



Curriculum Spokes

Music

The Tour de France has developed a rich legacy of celebration, music and culture during the years. The exciting, exhilarating fast moving pace of the Race lends itself to musical exploration and composition. Also the 100 days Cultural Festival that will build up to the Crescendo of the Yorkshire Grand Départ provides a great opportunity for developing some musical and performing opportunities for your students!

Activity Ideas



Daisybell!

Working in groups ask the students to gather a collection of Bicycle related songs – ‘Daisy Daisy, give me your answer do!’, ‘Bicycle Race’ – Queen(1978), The Pushbike Song’, the Mixtures, 1971 ‘Nine Million Bicycles – Katie Melua (written by Mike Batt , 2005)

Learn your favourite songs and organise a Bicycle Songfest for your school and the community as part of the Cultural Festival



‘Bicycle Race’

Research some of the songs and anthems written to celebrate the Tour de France in years gone by and/or some of the modern day theme music to accompany the television coverage of the Race. Organise a Tour de France ‘Juke Box Jury’ type of activity with panels of students voting ‘Hit or ‘Miss’ on selected tunes. The panels comment on the song and why they arrived at their decision.



Music to Ride Bikes to

Using a selection of appropriate instruments, work in groups or a class to create and compose a piece of evocative music for the Yorkshire Grand Départ. The students could perform their composition to the rest of the school and the community as part of the Cultural Festival in your area.



Curriculum Spokes

PHSE

With so much emphasis on the dynamics of how the Tour de France cycle teams work together and support each other during the race, the theme provides good examples to enhance your PSHE curriculum

Activity Ideas:



Tour de France Team players

Acting in the role of officers on the Tour de France Board of Fair teams, the students are presented with case studies of members of a Tour de France team, Green Wheelies. Taking various aspects of the race into consideration they discuss together and decide if the cyclists are good team players or not. (see *PSHE Race plan and worksheets - pages B49-52*)



Lesson plan **Tour de France Team players**

Acting in the role of officers on the Tour de France Board of Fair teams, the students are presented with case studies of members of a Tour de France team, Green Wheelies. Taking various aspects of the race into consideration they discuss together and decide if the cyclists are good team players or not.

	Activity	Resources
Le Depart	<p>Tour de France Cycling teams Establish the students' existing knowledge of the Tour de France and how the teams operate Discuss team work and what makes a good/bad team player</p>	
Étape 1	<p>Team players Discuss with the class examples of good and bad team players in the Tour de France Tell the hypothetical story of Dan, who to be famous deliberately aims to be the slowest rider. This will affect his team's results, but he thinks that if the team has bad results this will raise their profile. Does this make him a good team player? Discuss with the class and agree on a verdict</p>	Image of Dan
Étape 2	<p>Tour de France Board of Fair Teams Working in groups the students are given the role of officers on the Tour de France Board of Fair teams. They study 6 different case studies of team players, discuss together and agree on their verdict - either good or bad team player.</p>	Case Study cards Officer verdict forms
Étape 3	<p>Team Player Good Conduct sheet The officers of the Tour de France Board of Fair teams are asked to create a Team Player Good Conduct Sheet and present to the class.</p>	Materials, ICT resources to design the sheet – as required
Finish line	<p>Qualities of a team player Bring the session to a close with a consensus as to what are the most important qualities of a team player</p>	



Lesson plan Tour de France Team players

Further links

Sustrans – www.sustrans.org.uk

Curriculum Links

Literacy, ICT

Dan





Work sheet Team player case studies

Green Wheelies Tour de France team

Rufus

In the Tour de France...

Sometimes some cyclists are so keen to do well that they cheat. Some take illegal drugs to make them cycle faster which is wrong and unfair to other cyclists.



Rufus has taken some illegal drugs. He thinks that if he goes faster, it is good for the team because it will get the team more points. But if race directors find out he will be banned from racing and people will think his whole team is a bad team.

Is he a good team player?

Eddie

In the Tour de France...

teams cycle in a bunch. The person at the back of the bunch is protected from the force of the wind at the front of the bunch. This means he can cycle more easily and get less tired, so at the end, he can use all his energy to go really fast and sprint to the finish line.



Eddie isn't the fastest cyclist in the team, but he thinks it is fair for him to have a turn at the back of the bunch, so he can save his energy and then try and finish first. But because he isn't very fast he probably won't win and his team probably won't get any points.

Is he a good team player?

Jonathon

In the Tour de France...

cyclists race in teams of 9. If a team has lots of very fast cyclists, they will win more points, finish the race more quickly and win more prizes.



Jonathon has been asked to join another team, and they say they will pay him a lot of money. This team is slow and need a fast cyclist like Jonathon to help them improve. But Jonathon has been with his team for 5 years. He decides to stay with his team.

Is he a good team player?

Alan

In the Tour de France...

the cyclists ride for very long distances, over high mountains and difficult roads. They have to be in very good physical health and be extremely fit to take part.



Alan has had a foot injury. It is painful and means he can't cycle as fast as he usually would. If he races he will go more slowly and will hurt his foot more. He shouldn't be allowed to race, but he doesn't tell the team because he doesn't want to let them down.

Is he a good team player?

Lawrence

In the Tour de France...

teams cycle in a bunch. The person at the back of the bunch is protected from the force of the wind at the front of the bunch. This means he can cycle more easily and get less tired, so at the end, he can use all his energy to go really fast and sprint to the finish line.



Lawrence knows he is the fastest cyclist in his team. He asks his team if he can stay at the back of the bunch, save his energy and then sprint at the end so he can finish first before the other teams, get a prize for himself and more points for his team.

Is he a good team player?

Max

In the Tour de France...

sometimes parts of the bikes break. Special bike mechanics follow the riders to fix their bikes if they break, or give them new bikes to ride.



Max is the fastest cyclist in the team, but his bike breaks. The mechanics don't have any more new bikes to give him, so the slowest member of the team drops out and gives Max his bike so he can carry on and hopefully win and get the team some points.

Is the slowest member a good team player?



Work sheet Officer verdict form

Tour de France Board of Fair Teams

Officer verdict sheet

Is Rufus a good team player?

Yes

No

Is Jonathon is a good team player?

Yes

No

Is Lawrence a good team player?

Yes

No

Is Eddie a good team player?

Yes

No

Is Alan a good team player?

Yes

No

**Is the slowest member
a good team player?**

Yes

No



Curriculum Spokes

Science & PE

The Tour de France as a theme covers a variety of Scientific aspects - Science is very important to the smooth running of the Race from the aerodynamics of 'drafting' to the physical fitness of the cyclists. Some activities can also be used in PE.

Activity Ideas



Fit to Ride

You have been selected for a Tour de France Team, but you will only be able to ride if you improve your fitness. Investigate the ways in which a cyclist needs to be fit. Work in small groups to devise an exercise programme. Try it out with your class. This activity also links directly with the PE curriculum



Beat the Mountain climbs!

The mountain climbs of the Tour de France are notoriously gruelling. Investigate how such strenuous exercise affects the rider's heart rate and how the heart works during exercise.



Muscle Power for Champion Cyclists

Investigate what muscles do. Find out what parts of the body and muscles are important for cycling. Ask a cyclist to come in with his/her bike and demonstrate the muscle power used. Work together in small groups to design a Champion Cyclist, label the muscles and present to the rest of the group. (see worksheets)



Food on the Move

Racing cyclists have to continually stoke up with food to replenish their energy levels. Investigate the daily diet of a cyclist on the Tour de France. Devise your own daily meal planner for a typical day and compare it with that of the Tour de France cyclist.



The Science of Cycling - Drafting Dynamics

Your cycling team has a good chance of supporting your lead rider to win a stage by 'Drafting' which is all about aerodynamics (to find out how this works watch the animation - <http://www.boneshakermag.com/le-tour-explained/>) Work out and draw a plan with your team that shows where you will all be positioned. Try out your drafting plan on bikes.



The Science of Cycling – Streamlined kit

The cyclists' kit plays an important part in helping them ride speedily and comfortably. Investigate the design and materials used in the helmet, kit and shoes. Design your own team kit , label and explain the material used – eg material that allows the skin to breathe and stretches to allow movement.

Curriculum Links:

PE, Design Technology



Work sheet Muscle Power for Champion Cyclists

Investigation

Prediction	We predict our Champion Cyclist will use these muscles:
Equipment	We will need this equipment:
Test	We will test our prediction by:
Fair Test	We will make it a fair test by:



Work sheet Muscle Power for Champion Cyclists

Results

Name of Team: _____

We found out that our prediction was _____

Champion Cyclists use these muscles most _____

The Design for our Champion Cyclist

Label the parts of the body with the most hardworking muscles