

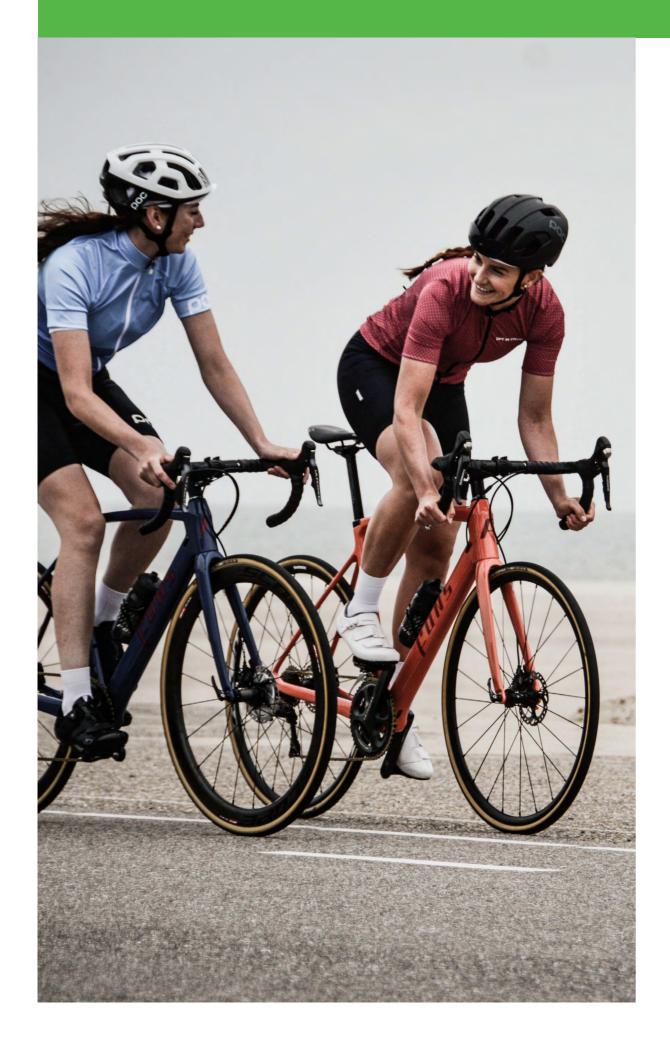








**Glasgow**life



# A Guide to Using the **Learning Through Cycling** Curriculum Resource

This resource has been written to assist education practitioners use the context of cycling to support teaching and learning.

# Content is not prescriptive nor exhaustive.

All features of this resource are designed to engage with the core principles of Curriculum for Excellence (CfE).

# For example, and amongst many other opportunities:

- Multi or interdisciplinary learning opportunities,
- Partnership opportunities,
- Opportunities to develop skills for learning, skills for life and skills for work,
- Opportunity to apply seven design principles of Curriculum for Excellence.

# Guide to pages 1 and 2

Maths and Numeracy

Health and Wellbeing

Curriculum areas are identified using colours used within Curriculum for Excellence documents.

Suggested learning opportunities are written within boxes (also using relevant curriculum colours) and are specifically matched to appropriate/possible CfE Experiences and Outcomes.

Learn how to commute safely.

A great opportunity for learners to identify what they already know/think they know and investigate/explore aspects of commuting less familiar to them e.g.

- How to dress for your commute
- How to be seen in the dark
- Laws and The Highway Code

MESP Physical Wellbeing; HWB -16a, -18a

Literacy

Explain how BMX riders successfully navigate a BMX track e.g. minimise risk when riding.

Writing; LIT -26a, -28a Listening and Talking; LIT -09a

Things to consider and potentially research:

- Focus and Concentration (where to look on the track)
- Braking
- Instinct
- Stand up vs Sit down (i.e. body as suspension)
- Pedalling vs Not pedalling

**Health & Wellbeing** 

Experiences and Outcomes in pink come under 'Responsibility of All Practitioners'.

Explore the world of e-bikes.

Craft, Design, Engineering and Graphics – TCH -05a, -07a

- Where are e-bikes most commonly seen/used?
   e.g. Delivery drivers Why might this be particularly useful in this job?
- What other common uses are there for e-bikes?
   e.g. Commuting investigate the benefits/uses
- How can e-bikes support accessibility to cycling?
- How are e-bikes used in competitive cycling?

**Social Studies** 

People, place and environment; SOC - 09a

Curriculum tabs attached link suggested learning opportunities to another existing suggested learning opportunity within the resource. Curriculum tabs attached containing
Experiences and Outcomes provide a
suggested close link, alternative or focus for
the learning opportunity.

under 'Responsibility of All Practitioners'.

# Guide to pages 1 and 2

These disciplines and categories relate to those identified by Scottish Cycling; https://www.britishcycling.org.uk/scotland.

A fifth category focusing on Developing Young Workforce has been added to this resource to highlight potential Careers in Cycling.



Dirt BMX, Cyclo-Cross, Mountain Biking



Track
Track Cycling,
Cycle Speedway



Road & Time Trial, Sportive, Commuting



**Let's Ride** Sustainability



Careers in Cycling

Each cycling discipline often requires a unique blend of abilities and skills.

Explore personal skills and abilities which can be challenged and developed in various disciplines of cycling.

### For example:

- What is Cyclo-cross?
- How accessible is this form of cycle sport?
- What sort of challenge can you expect?
- What personal qualities may you require?

**MESP Social Wellbeing HWB-10a** 

Small coloured corner tabs relate the suggested learning opportunity to a specific discipline/category of cycling.

Suggested learning opportunities are not exclusive to the identified cycling discipline/category.

Explain how BMX riders successfully navigate a BMX track e.g. minimise risk when riding.

Writing; LIT -26a, -28a Listening and Talking; LIT -09a

Things to consider and potentially research:

- Focus and Concentration (where to look on the track)
- Braking
- Instinct
- Stand up vs Sit down (i.e. body as suspension)
- Pedalling vs Not pedalling

**Health & Wellbeing** 

Could be adapted to suit the needs and/or interests of learners, potential expertise/ specialism of practitioner/ partners or further opportunities to learn about a specific discipline/category of cycling.

Explain how track cyclists successfully navigate a velodrome track e.g. minimise risk when riding.

Writing; LIT -26a, -28a Listening and Talking; LIT -09a

Things to consider and potentially research:

- Positioning on track
- Body position on bike
- Speed
- Team tactics vs Individual tactics

Health & Wellbeing

Guide to pages 3 and 4 See heading at top of pages for information on suggested use.

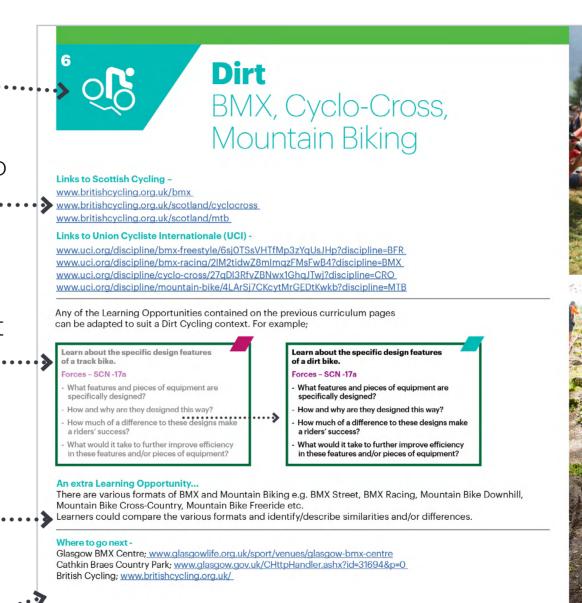
# Guide to pages 5-8

Puts the spotlight on specific disciplines/categories of cycling.

To support with content and material; links to web pages of cycling governing bodies.

Examples of how a suggested learning opportunity could be adapted to learn about another discipline/category of cycling. .........

To potentially extend and/or further consolidate/reinforce the learning; an extra suggested learning opportunity. .....



# Learning Through Cycling Curriculum Learning Opportunities





















### Dirt

BMX. Cyclo-Cross. **Mountain Biking** 

### Learn how to commute safely.

A great opportunity for learners to identify what they already know/think they know and investigate/explore aspects of commuting less familiar to them e.g.

- How to dress for your commute
- How to be seen in the dark
- Laws and The Highway Code

MESP Physical Wellbeing; HWB -16a, -18a

Literacy

The nutritional and fitness needs of a track cyclist will be different to another type of rider.

Learn what type of foods would best support various formats of track cycling e.g. which food types are commonly used for endurance vs short and fast?

Physical Activity and Health - HWB -28a **Nutrition - HWB -32a** 

**Technologies** Food and Textile - TCH -04c

**Explore the uses and impact** 

### Music EXA -18a

Downhill BMX has been described as 'explosive' as well as 'building tension and excitement'

Which music genre and/or examples of music tracks would best accompany Downhill BMX footage and/or advertise the sport/a race?

Music often plays an important role in athletes'

- might athletes' listen to before races?
- e.g. focus, relax, get 'fired-up' etc.
- Find and highlight examples of athletes explaining the role of music in their preparation.

### Track

Track Cycling, Cycle Speedway

# $O_{\boldsymbol{\zeta}}$

# Road

Road & Time Trial, Sportive, Commuting



# Let's Ride

Sustainability



### **DYW**

Careers in Cycling

Each cycling discipline often requires a unique blend of abilities and skills.

Explore personal skills and abilities which can be challenged and developed in various disciplines of cycling.

### For example:

- What is Cyclo-cross?
- How accessible is this form of cycle sport?
- What sort of challenge can you expect?
- What personal qualities may you require?

**Health and** 

Wellbeing

**Expressive** 

Arts

**MESP Social Wellbeing HWB-10a** 

**Explain how BMX riders successfully navigate** a BMX track e.g. minimise risk when riding.

Writing; LIT -26a, -28a Listening and Talking: LIT -09a

Things to consider and potentially research:

- Focus and Concentration (where to look on the track)
- Braking
- Instinct
- Stand up vs Sit down (i.e. body as suspension)
- Pedalling vs Not pedalling

**Health & Wellbeing** 

**Instructions - How to travel safely.** 

Write/Promote/Campaign to share tips and advice on travelling safely e.g.

- How to dress for your commute
- How to be seen in the dark
- Laws and The Highway Code

Listening and Talking; LIT -01a, -06a, -08a, -09a Writing; LIT -20a, -24a, -26a, -28a, -29a, ENG -27a

**Health & Wellbeing** 

Literacy

Social **Studies** 

Persuasive - Why should more people take up cycling?

Writing; LIT -25a, -26a, -27a, -29a Listening and Talking; LIT -06a, -09a

**Social Studies** 

People, place and environment; SOC -08a, -09a

**Technologies** 

**Technical Developments in Society and Business;** TCH -06a, -07a

of music in cycling.

for spectators.

preparations for races.

- Which genres and/or examples of music tracks
- How might these examples help athletes?

Explore the use of colour, design and imagery in cycling.

Art and Design; EXA -04a

## Safety

- Which colours are best for visibility?
- Explore why certain colours may be used in product design.

**Events/Competition** 

Colours play an important role in representing athletes e.g. an athlete in the Tour de France wears a famous yellow jersey.

- What is the significance and history of this coloured jersey?
- What other coloured jerseys are used in cycling?

**Social Studies** 

**Technologies** 

Craft, Design, Engineering and Graphics - TCH -11a

Cyclists often travel to many parts of the world to compete or simply explore.

One of the most famous sporting events in the world is Le Tour De France.

Learn about this event and other cycling 'tours' or learn about some popular cycling destinations people visit.

People, place and environment - SOC -14a

**Expressive Arts** 

Modern Languages

Listening and talking; MLAN -06b

Map out existing cycle routes/ facilities around the country.

People, place and environment - SOC -13a, -14a

**Explore the environmental advantages and** disadvantages of Mountain Biking.

People, place and environment - SOC -08a, -08b

# 2 Examples of suggested learning opportunities within STEM.

### Explore the world of e-bikes.

Craft, Design, Engineering and Graphics – TCH -05a. -07a

- Where are e-bikes most commonly seen/used?
   e.g. Delivery drivers Why might this be particularly useful in this job?
- What other common uses are there for e-bikes?
   e.g. Commuting investigate the benefits/uses
- How can e-bikes support accessibility to cycling?
- How are e-bikes used in competitive cycling?

**Social Studies** 

People, place and environment; SOC - 09a

# Explore, consider and label aspects of a Mountain Bike.

Craft, Design, Engineering and Graphics – TCH -09a, -10a, -11a, -12a

Learners can begin to use language such as:

- types of material
- measurements required
- systems included (e.g. gear systems)
- levels of grip/friction required
- meaning of ergonomics etc.

### Literacy

Writing; LIT -24a, -28a

### **Maths and Numeracy**

Measurement; MNU -11a

Angle, symmetry and transformation; MTH - 17d

### Science

Forces; SCN -08a

# Design/construct a Bike for a specific discipline of cycling.

Craft, Design, Engineering and Graphics – TCH -09a, -10a, -11a, -12a

A great opportunity for learners to explore similarities and contrasting design features.

# Categorise different types of bikes.

Technological Developments in Society and Business - TCH -05a, -07a

Learners become familiar with various types and uses of bikes by sorting images i.e.

- this is a Mountain Bike best suited for off-road
- this a Road Bike which could be used for travelling to work etc.

Learners begin to look at older images to begin recognising and identifying how technology has developed.

### **Social Studies**

People, past events and societies - SOC -04a

# Conduct a traffic survey in your area.

Data and analysis - MNU -20b

- How many bikes have passed?
- Is there a particular time of day that's busiest for bikes? (This could imply commuting to/from work is a factor)
- A small number of bikes could prompt debate and conversation of why.
- Is there suitable infrastructure in your area? Mapping opportunities
- Do people need to be convinced to cycle more?

### Literacy

Listening and Talking; LIT -02a

### **Maths and Numeracy**

Data and analysis - MNU -20a

## **Social Studies**

People, place and environment; SOC -08a, -09a

# Learn about the specific design features of a track bike.

Forces - SCN -17a

- What features and pieces of equipment are specifically designed?
- How and why are they designed this way?
- How much of a difference to these designs make a riders' success?
- What would it take to further improve efficiency in these features and/or pieces of equipment?

### Maths and Numeracy

Mathematics- - its impact on the world, past, present and future; MTH – 12a
Angle, symmetry and transformation; MTH -17a
Data and analysis – MNU -20b

## **Technologies**

Science

# Maths and Numeracy

# Explore the impact of Maths and Numeracy on the world of cycling.

Mathematics - its impact on the world, past, present and future; MTH -12a

Simply, conduct a 'treasure hunt' around the world of cycling. Where can you find elements of Maths and Numeracy?

How do various aspects of Maths and Numeracy play a role in cycling? e.g.

- Angles
- Width
- Depth
- Equations
- Weight
- Money etc.

Which aspects make a difference to efficiency and functionality?

**Technologies** 

# Learn about the most common injuries associated with certain cycling disciplines.

Body systems and cells - SCN -12a

 Using a facility such as a BMX track has some specific and very technical challenges and therefore there's an element of risk to be assessed. What are some of the typical injuries that can occur when risks are taken?

### **Health and Wellbeing**

MESP Physical Wellbeing - HWB -15a

# Learn about the connection between cycling and energy.

**Energy sources and sustainability - SCN -04a** 

- What is power measured in?
- How is a bike propelled forward?
- Is there a specific name for this type of energy?
- What device(s) can measure power on a bike?
- How can measuring power output be used to support our fitness or the success of a competitive cyclist?

**Technologies** 

Digital Literacy; -01a

# **Maths and Numeracy**

Data and analysis - MNU -20a

# Investigate height, length, curvature, angles and speeds involved in the best BMX jumps.

Time; MNU -10a, -10b, -10c Measurement: MNU -11b

Angle, symmetry and transformation; MTH -17a, -17b Expressions and Equations; MTH -15a

- What links these above elements together is a successful jump?
- Is there a formula to achieving the optimum jump?
- Compare the speed of a BMX bike in competition to Usain Bolt, a cheetah, a car going past the school etc?
- Draw or use practical materials to 'build' angles of slopes and jumps involved in BMX.

3 Examples of suggested learning opportunities grouped under core curricular areas and themes/topics.

# **Maths and Numeracy**

Investigate the role of timing in sport cycling.

Time; MNU -10b, -10c

Estimation and Rounding; MNU - 01a

Which units of time are most appropriate for each discipline of cycling?

Using results from an event, learners could place riders in order by time e.g. pupils begin to use minutes, seconds, hundredths/thousandths of a second when exploring Track cycling timings.

Learners could categorise riders into cycling disciplines by recorded race times e.g. hours, minutes and seconds would be a time trial road race, minutes and seconds would be a mountain bike race.

Using the distances of tracks/cycle courses, learners estimate and then measure the time taken.

How long would it take a rider to complete a BMX race compared to a track race? (attend a sport cycle event or watch footage to measure time)

How long would it take to safely cycle to school compared to walking?

# **Health and Wellbeing**

## **Health and Safety of Cycling**

Physical Wellbeing; HWB -15a, -16a, -17a, -18a

The essentials of riding a bike:

- How do we learn to ride a bike?
- What equipment should be worn when riding a bike?
- What training/learning is essential for riding a bike on the road and in traffic?
- How do we make sure our bikes are safe and roadworthy?

Learning about the essential training required when learning to ride and use facilities across the various disciplines of cycling. Learn about various features and functions of bikes.

(Potential opportunity to label a real bike and appreciate the importance of certain elements and functions)

Identify/highlight/display similar skills and personal qualities.

Compare and contrast safety rules and accident preventions e.g.

Why is a BMX helmet different to a road cycling helmet and a track helmet etc?

Highlight the essential features of safety equipment used.

# Literacy

### **Listening and Talking**

Select, listen to and increase enjoyment/ enthusiasm for texts on the subject of cycling e.g.

- Podcasts
- Interviews
- Social media clips
- Race footage
- Websites etc.

Enjoyment and choice; Lit -01a
Finding and using information; Lit -04a, -05a, -06a
Understanding, analysing and evaluating;
Lit -07a, -08a

Debate/discuss a cycling topic e.g.

- Who is the best competitive cyclist of all time?
- What's the best way to get more people cycling?
- Who has the most important role in supporting recreational cycling?
- Can anyone ride a bike?
- What's the most challenging cycling discipline?
- Who has the most important role in supporting competitive cyclists?

Enjoyment and choice; Lit -01a
Tools for talking and listening; Lit -02a, ENG -03a
Finding and using information; Lit -04a, -05a, -06a
Understanding, analysing and evaluating;
Lit -07a, -08a

Talk/present about your favourite cycling discipline.

Enjoyment and choice; Lit -01a
Tools for talking and listening; Lit -02a, ENG -03a
Finding and using information; Lit -06a
Creating texts; LIT -09a, -10a

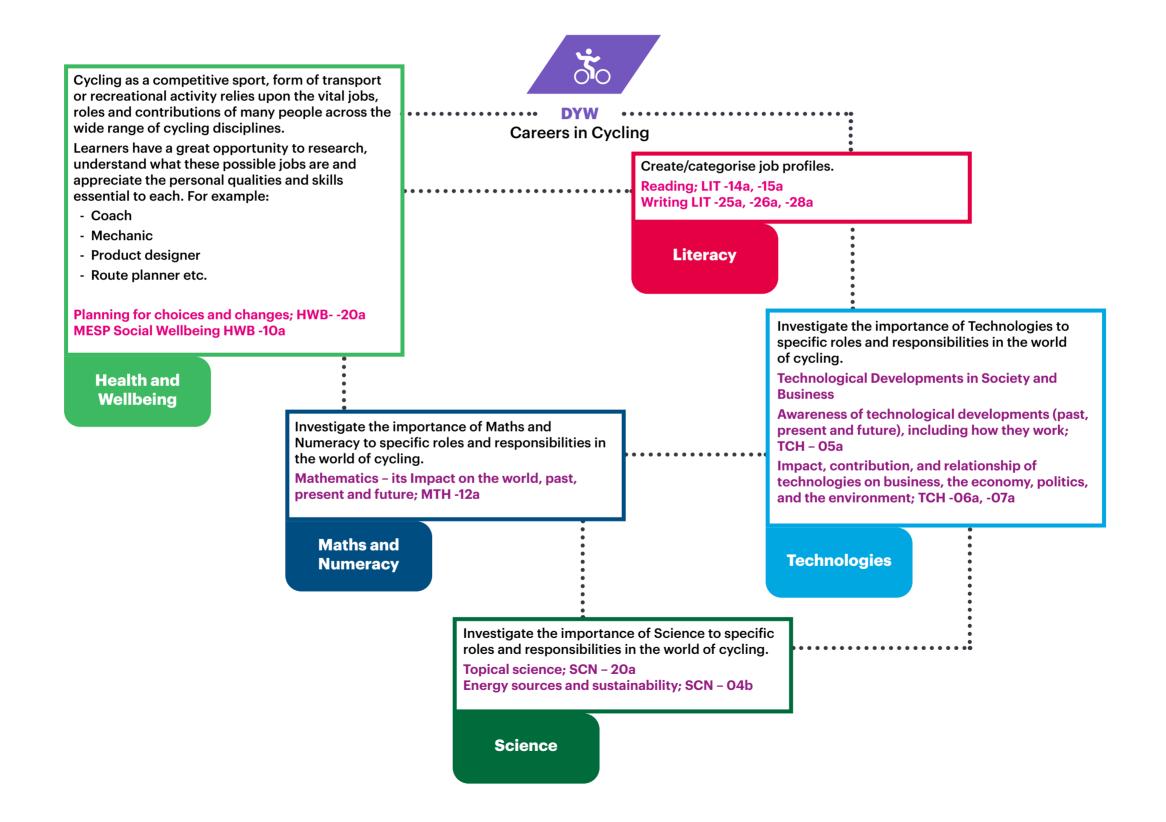
Interview someone from the world of cycling e.g.

- Competitive cyclist
- Coach
- Competition official
- Recreational cyclist
- Cycling commuter
- Someone who works at a cycling facility

Enjoyment and choice; Lit -01a Tools for talking and listening; Lit -02a, ENG -03a Finding and using information; Lit -04a, -05a, -06a Creating texts; LIT -09a, -10a



Examples of suggested learning opportunities, with experiences and outcomes, bundled under a theme (in this example - **Developing Young Workforce**) and linked across the curriculum.



# Road

# Road & Time Trial, Sportive, Commuting

# **Links to Scottish Cycling -**

www.britishcycling.org.uk/scotland/road www.britishcycling.org.uk/sportives www.britishcycling.org.uk/commuting

# Links to Union Cycliste Internationale (UCI) -

www.uci.org/discipline/road/6TBisDD8902tud440iv1Cu?discipline=ROA

Any of the Learning Opportunities contained on the previous curriculum pages can be adapted to suit a Road Cycling context. For example;

Each cycling discipline often requires a unique blend of abilities and skills.

Explore personal skills and abilities which can be challenged and developed in various disciplines of cycling.

# For example:

- What is Cyclo-cross?
- How accessible is this form of cycle sport?
- What sort of challenge can you expect?
- What personal qualities may you require?

**MESP Social Wellbeing HWB -10a** 

Each cycling discipline often requires a unique blend of abilities and skills.

Explore personal skills and abilities which can be challenged and developed in various disciplines of cycling.

### For example:

- What is Road and Time Trial?
- How accessible is this form of cycle sport?
- What sort of challenge can you expect?
- What personal qualities may you require?

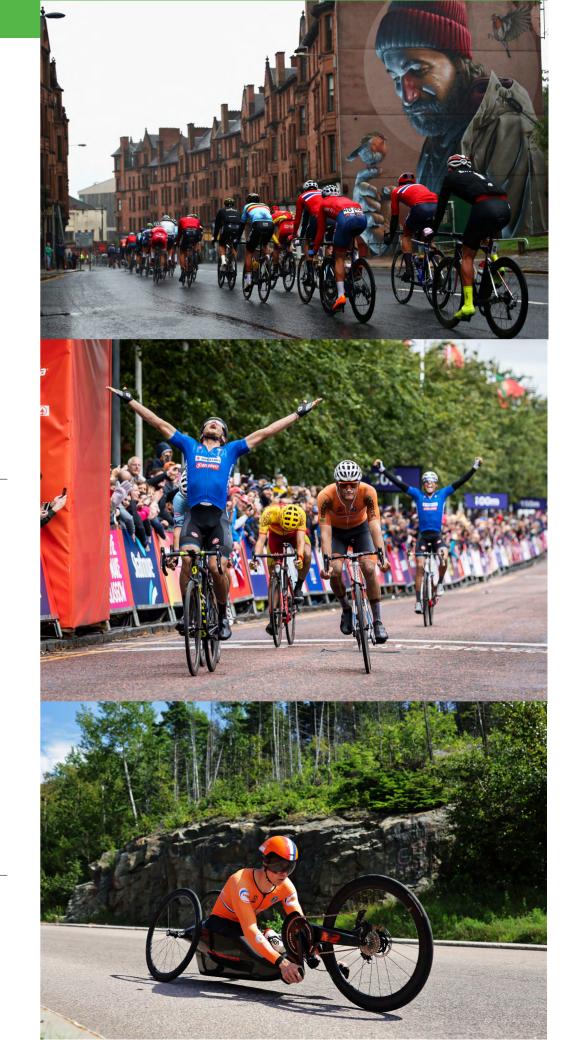
MESP Social Wellbeing HWB -10a

# **An extra Learning Opportunity...**

How easy or difficult might it be for a competitive cyclist to change discipline? Are there any examples of it being done?

# Where to go next -

Bikeability Scotland; <a href="https://www.cycling.scot/bikeability-scotland">www.cycling.scot/bikeability-scotland</a>
British Cycling; <a href="https://www.britishcycling.org.uk/">www.britishcycling.org.uk/</a>





# Dirt BMX, Cyclo-Cross, Mountain Biking

# **Links to Scottish Cycling -**

www.britishcycling.org.uk/bmx www.britishcycling.org.uk/scotland/cyclocross www.britishcycling.org.uk/scotland/mtb

# Links to Union Cycliste Internationale (UCI) -

www.uci.org/discipline/bmx-freestyle/6sj0TSsVHTfMp3zYqUsJHp?discipline=BFR www.uci.org/discipline/bmx-racing/2IM2tidwZ8mImqzFMsFwB4?discipline=BMX www.uci.org/discipline/cyclo-cross/27qDl3RfvZBNwx1GhqJTwj?discipline=CRO www.uci.org/discipline/mountain-bike/4LArSj7CKcytMrGEDtKwkb?discipline=MTB

Any of the Learning Opportunities contained on the previous curriculum pages can be adapted to suit a Dirt Cycling context. For example;

Learn about the specific design features of a track bike.

Forces - SCN -17a

- What features and pieces of equipment are specifically designed?
- How and why are they designed this way?
- How much of a difference to these designs make a riders' success?
- What would it take to further improve efficiency in these features and/or pieces of equipment?

Learn about the specific design features of a dirt bike.

Forces - SCN -17a

- What features and pieces of equipment are specifically designed?
- How and why are they designed this way?
- How much of a difference to these designs make a riders' success?
- What would it take to further improve efficiency in these features and/or pieces of equipment?

# An extra Learning Opportunity...

There are various formats of BMX and Mountain Biking e.g. BMX Street, BMX Racing, Mountain Bike Downhill, Mountain Bike Cross-Country, Mountain Bike Freeride etc.

Learners could compare the various formats and identify/describe similarities and/or differences.

# Where to go next -

Glasgow BMX Centre; <u>www.glasgowlife.org.uk/sport/venues/glasgow-bmx-centre</u> Cathkin Braes Country Park; <u>www.glasgow.gov.uk/CHttpHandler.ashx?id=31694&p=0</u> British Cycling; www.britishcycling.org.uk/





# Track Track Cycling, Cycle Speedway

# **Links to Scottish Cycling -**

www.britishcycling.org.uk/scotland/track www.britishcycling.org.uk/cyclespeedway

# Links to Union Cycliste Internationale (UCI) -

www.uci.org/discipline/track/5bBV0EMQvb3ZiTcXbKFLJz?discipline=PIS

Any of the Learning Opportunities contained on the previous curriculum pages can be adapted to suit a Track Cycling context. For example;

Explain how BMX riders successfully navigate a BMX track e.g. minimise risk when riding.

Writing; LIT -26a, -28a Listening and Talking; LIT -09a

Things to consider and potentially research:

- Focus and Concentration (where to look on the track)
- Braking
- Instinct
- Stand up vs Sit down (i.e. body as suspension)
- Pedalling vs Not pedalling

**Health & Wellbeing** 

Explain how Track Cyclists successfully navigate a Velodrome track e.g. minimise risk when riding.

Writing; LIT -26a, -28a Listening and Talking; LIT -09a

Things to consider and potentially research:

- Positioning on track
- Body position on bike
- Speed
- Team tactics vs Individual tactics

**Health & Wellbeing** 

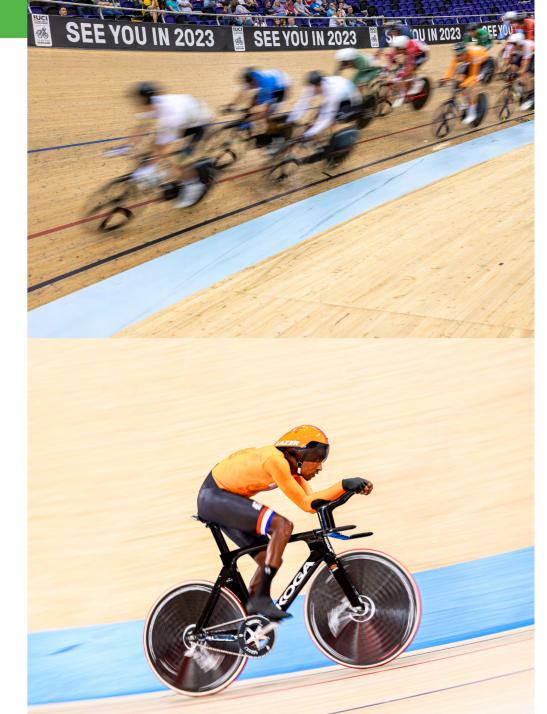
# **An extra Learning Opportunity...**

# Learn about Glasgow's velodrome;

- Who is it named after? (a great opportunity to learn about one of Scotland's most famous athletes and cyclist)
- Are there other velodromes in Scotland/UK? (can anyone use the velodrome?)
- Is Glasgow's velodrome one of the fastest and/or most technical?(a great opportunity to find out more about the steepness of Glasgow's velodrome and the significant title it holds)

# Where to go next -

Sir Chris Hoy Velodrome; <a href="www.glasgowlife.org.uk/sport/venues/emirates-arena/cycling">www.glasgowlife.org.uk/sport/venues/emirates-arena/cycling</a>
British Cycling; <a href="www.britishcycling.org.uk/">www.britishcycling.org.uk/</a>





Let's Ride
Sustainability

# **Links to Scottish Cycling -**

www.britishcycling.org.uk/scotland

Links to Union Cycliste Internationale (UCI) -

www.uci.org/cycling-for-all/15MkCohbZHMmHLfxp2Usue

Any of the Learning Opportunities contained on the previous curriculum pages can be adapted to suit a Sustainability context. For example;

Learn about the most common injuries associated with certain cycling disciplines.

Body systems and cells - SCN -12a

- Using a facility such as a BMX track has some specific and very technical challenges and therefore there's an element of risk to be assessed. What are some of the typical injuries that can occur when risks are taken?

Health and Wellbeing MESP Physical Wellbeing - HWB -15a Learn about the most common injuries associated with riding your bike.

Body systems and cells - SCN -12a

 Using your bike in various ways will have some specific and very technical challenges and therefore there's an element of risk to be assessed. What are some of the typical injuries that can occur when risks are taken?

**Health and Wellbeing** 

MESP Physical Wellbeing - HWB -15a

# An extra Learning Opportunity...

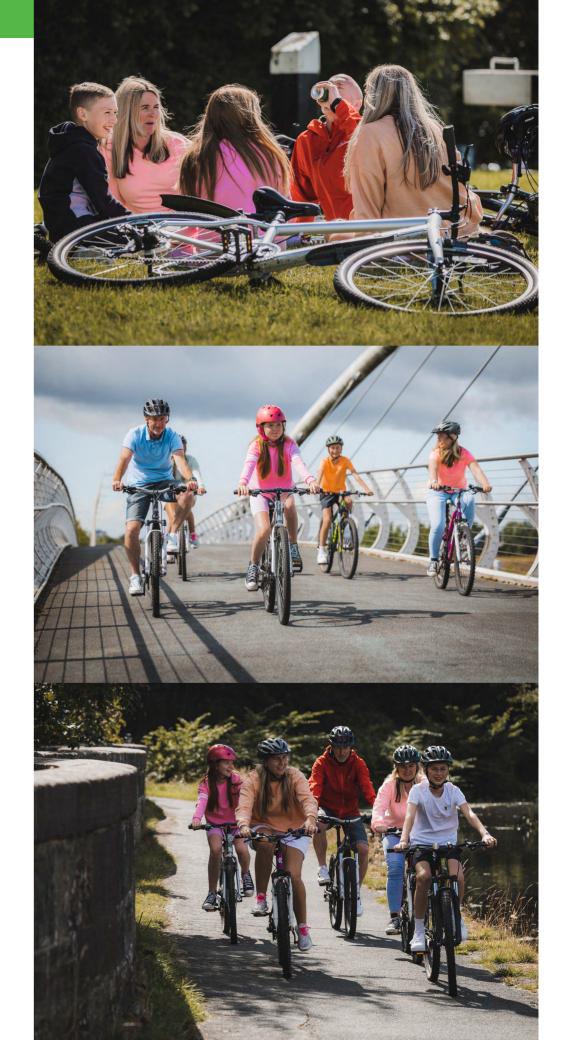
# **Get Ready to Ride;**

- Learn how to plan your journey and find out about opportunities to ride your bike
- Learn the practicalities of looking after your bike
- Learn about the importance of bike maintenance
- Work with cycling partners/organisations to take part in a bike maintenance workshop or club at your school/community

# Where to go next -

Glasgow Life; glasgowlife.sportsuite.co.uk/activity-finder Sustrans; www.sustrans.org.uk/about-us/our-work-in-scotland

Cycling UK; <a href="https://www.cyclinguk.org/scotland">www.cyclinguk.org/scotland</a>
British Cycling; <a href="https://www.britishcycling.org.uk/">www.britishcycling.org.uk/</a>



# **Glasgow Schools' Contact (only):**

PEPASS Glasgow

Email: pepass@education.glasgow.gov.uk

**Twitter:** @PEPASSGlasgow

For additional information, please visit www.britishcycling.org.uk/scotland

















