



INTRODUCTION TO CORNISH MINING

KS1 LEARNING MATERIALS



In 2006 UNESCO recognized the contribution that the Cornish Mining Industry has made to the development of the modern world by inscribing the landscape as a World Heritage Site. The Cornish Mining WHS is made up of 10 separate areas within Cornwall and West Devon, all former mineral mining districts during 1700 to 1914 - the industry's period of greatest international impact.

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Resource List

All resources listed throughout the document can be downloaded at:

www.tinyurl.com/MERemembers

Those below in bold are also provided in this document.

Enjoy the book -

- 1.0 The Man Engine Remembers.pdf**
- 1.1 Prompts and Questions.pdf** 8
- 1.2 Marshalls engine at Troon part of S Condurrow,
William Bennetts - c1900 © The Cornish
Studies Library.jpg**
- 1.3 West Wheal Owles, Botallack.jpg**
- 1.4 Underground at East Pool Mine, J.C. Burrow
- c.1893 © The Cornish Studies Library.jpg**
- 1.5 The Man Engine promo.mov**

Learn the chant -

- 2.0 The Man Engine Chant.pdf** 9
- 2.1 The Man Engine Chant.ppt**
- 2.2 The Man Engine Chant and Anthem.mp4**
- 2.3 Kernow sticker.jpg**
- 2.4 The Tinner bus.jpg**
- 2.5 Tinner cartoon - bus.jpg**
- 2.6. Tinner cartoon - surfing.jpg**
- 2.7 Tales from Porth.jpg**



1. ENJOY THE BOOK

Before you even begin, it is always worthwhile to remind everyone about being Good Listeners. For younger children this might be as simple as 'looking, listening, sitting still and quiet' or whatever your 'listening mantra' that you have already established in class.

The first time through, gather everyone as close to you as possible ('on the carpet') and share the physical book. Books are magical things. The way you produce the book, the way you handle it, the way you share your enjoyment of it: these all model our appreciation and engagement with books. Enjoy the pictures yourself and allow plenty of time for everyone else to enjoy them too. Be aware of questions and thoughts that arise for you. However, this first time through, keep questions and comments (outside of the written text) to a minimum. If you do add questions or comments, keep them rhetorical ('I wonder why...?') rather than being pulled in to any two-way conversations.

Repetition is good! The second (and subsequent) times you read the book through you might like to use the pdf version projected onto the whiteboard so that everyone can see the detail of the illustrations. This time, pause often and allow tangential conversations to develop. Be very conscious of the difference between open and closed questions. There is nothing wrong with closed questions, however open questions are far better for keeping the thought processes and the spirit of enquiry cooking. You might like to use [1.1 Prompts and Questions](#) to get your own thoughts started.

Plan a couple of key questions where you will use Listening Partners to encourage everyone to participate and then collect in contributions from a wide range of people.

2. LEARN THE CHANT

Which language was Great Granny using when she whispered to Billy?

Does anyone know any other words in the Cornish language?

These might include place-names, personal and family names etc

Has anyone seen a Kernow sticker on a car?
[2.3 Kernow Sticker.jpg](#)

Has anyone been on board the 'Tinner' bus?
[2.4 The Tinner Bus.jpg](#)

There are Cornish language phrases on the back of every seat and cartoons on the coving.

[2.5 Tinner cartoon - bus.jpg](#)
[2.6. Tinner cartoon - surfing.jpg](#)

All the phrases can be seen and heard spoken at www.whatscornishfor.co.uk

Has anyone read the 'Tales from Porth' books?

The Tales from Porth series are designed to enable non-Cornish speaking teachers/parents to enjoy and to teach Cornish.

More information: info@goldentree.org.uk

Use [2.1 The Man Engine Chant.ppt](#) to teach the chant with English translation one-word-at-a-time. Or, just jump in the deep end and teach the whole thing from the audio track [2.2 The Man Engine Chant and Anthem.mp4](#) (NB this also includes singing the Anthem so you may wish to stop it before you get into that just yet!)

The Man Engine Chant has a 'Call and Response' format, so play around with different arrangements: solo-voice call and whole-class response or half the class call and other half response. Try it at a whisper, medium volume and then belt it out!

3. ENACT THE TRANSFORMATION

The Man Engine's "Transformation" from slumped position to full height is made up of a set of movements that younger children love to act out.

Begin by practicing each of the component movements in isolation: follow the suggested 'script' in **3.0 The Man Engine Transformation** without the text from the book. Embellish, repeat and add your own commentary as needed.

Play the Lament **3.1 Chamber to Grave** at the appropriate moment.

(The words and music are also provided for this song, should you wish to learn it, however it might be enough to have learned the Chant and the Anthem.)

Then, re-read the text from the book with minimal prompts for the class to follow the sequence of movements.

4. EXPLORE THE SONG

Teach the first verse and chorus using

4.0 The Man Engine Anthem.pdf

or **4.1 The Man Engine Chant and Anthem.mp4**

Unpack the meaning and explain any difficult words.

What do the words 'One and All' mean?

'One and All' is the motto for Cornwall - the words can be seen on our coat of arms, which also has a Cornish Miner supporting it

4.3 Cornish Coat of Arms

Do we really have all those types of metal "underneath our skin"?

Cornwall has an amazing number of underground minerals - maybe they get inside us through our vegetables and other food...!

Why 'hard rock'?

Most of Cornwall is made of granite that is a very hard type of rock - it takes a huge amount of work to tunnel through granite.

Who are the Cousin Jacks?

'Cousin Jacks' is the nickname for all the miners who went off around the world to mine in other countries. We know of more than 170 places in more than 44 different countries where they went - hence all those flags in the picture.

Teach the second verse of the song.

Explain that William Crago was a real person who really lived in Cornwall more than 150 years ago. (Maybe he was Billy Crago's great, great, great, grandpappy!) When he was older he wrote down a journal telling the story of his first day at work down the mines when he was just nine years old.

Read the extract from William Crago's Journal
4.4 My First Day in a Copper Mine (edited)

Explain that we do not have a photograph of William Crago. However, we have got a photograph of some young boys who working as Cornish Miners at about the same time. Display the photo. Talk through each of the items that William mentions in his journal – can you spot them in the picture?

There are several opportunities here, depending on your appetite(!):

- Collect appropriate clothing and dress volunteers as a 19th Century miner
- Find appropriate objects to feel the weight of everything William had to carry
- Crawl through your own 'mine' made from tables draped in black cloths etc
- Set up a step-ladder or ladder against a wall to experience climbing up and down (forcing children to climb up and down for two hours whilst being sprayed with cold water is probably a little beyond today's notions of acceptable educational experiences...!)

Extension Activities:

Each of the further verses offers opportunities for extension activities.

For each of the 5 historical characters there is:

- A summary of their story
- A portrait
- A short film (in Cornish)

5. CREATE YOUR OWN VERSION

Divide your class whiteboard into three sections. What are they called? Beginning, Middle and Ending of course!

Ask everyone to close their eyes and imagine the Beginning of the story, to see the picture in their head. Collect ideas from different people about what should go into this picture. Model drawing this picture on the whiteboard, adding, changing, tweaking as suggestions come in.

Next, ask everyone to visualize the Ending of the story. This time, in pairs with small whiteboards, ask one listener to draw whatever it is their partner describes to them. Once again collect in ideas, but this time from people's drawn contributions.

Finally, discuss what is missing in order to move the story from the Beginning to the Ending. Ask everyone to visualize the Middle, then, swapping roles, get pairs to draw and contribute to your whiteboard version.

Model using the class storyboard to tell the story. Improvise your way through, making sure that you mention each item in each picture before moving on. Include any target vocabulary (and add key words to the picture if appropriate). Ask a plucky volunteer to come out and demonstrate 'Story Tag' with you: passing the story back and forth between you. Get the whole class to play story tag in pairs. Perhaps there will be someone brave enough to re-tell the whole story to the class.

Use 'Safety of the Herd' to collect in suggestions for a single sentence for the Beginning. Then model through shared writing, using phonics and re-reading to write a sentence for the first picture.

Use exactly the same sequence of listening partners using whiteboards but this time to have a go at writing sentences (rather than drawing pictures)

Collect in contributions until you have written one sentence for each of the three pictures.

Allow everyone to create (and 'publish') their own version of 'The Man Engine Remembers'.

1.1 PROMPTS AND QUESTIONS

What can you notice about the buildings in this little town?

What things are similar to or different from the place where you live/go to school?

Who might have been singing?

What was the song?

Later, everyone will get the chance to listen to and to learn the Man Engine songs

What 'busy things' might people be doing?

Where might they be going?

Use the picture to do some 'people-watching': make up little snippets of story to explain all the characters daily lives and relationships.

What things do you walk past every day without really noticing?

Can you close your eyes and, in your mind, retrace your journey to school?

Can you describe this journey to a Listening Partner?

What do you think Grandpa might have meant by 'Treasures from under the earth'?

What clues to Cornish Mining are in the pictures of the book?

For instance, engine houses, mine headgear, Grandpa's shovel, Great Granny's bal-maid ornament

Are there any clues to Cornish Mining on your journey to school/to be seen from the school?

Pictures 1.2 and 1.3 show engine houses; in use one hundred years ago and ruinous nowadays

Do we know any older people who could tell us about the old days of Cornish Mining?

Perhaps later we could invite an older person in to school to tell us about that? Picture 1.4 shows miners at work underground over a hundred years ago

What are all those flags in the picture?

Can anyone recognize any of them?

They represent the many, many countries where we know that Cornish miners went, leaving Cornwall and working in mines in other countries all around the world

What do you think the Man Engine remembered?

What do you think the Man Engine was hoping for?

Is the Man Engine actually 'real'?

Has anyone seen him 'live'?

What can you remember about what you saw/what you felt?

*There is a short clip of the real Man Engine which you can watch: **1.5 The Man Engine Promo.mov***

How tall is the real Man Engine?

Is he taller than this room/the roof/that tree...?

He is 11.2m. Use metre sticks: lay out 11 (plus a 24cm ruler) on the playground/classroom/hall floor. Then get children to lie down head-to-toe to make the same height. If there is a child in the class who is 1.12m tall, then the Man Engine is exactly ten of them standing on top of each other!

2.0 THE MAN ENGINE CHANT

Kober! Arghans!

Yn Pub Karrek?

Kober! Arghans!

An Gwella Sten?

Sten! Sten! Sten!

Yn Pub Men!

Sten! Sten! Sten!

Yn Kernow!

3.0 THE MAN ENGINE TRANSFORMATION

SUGGESTED 'SCRIPT'	TEXT FROM THE BOOK
You kneel down, curled up, with your eyes closed. What is it like to forget everything, to have nothing going through your mind, to just exist without thinking?	He was quiet. He was cold. He was still.
Play the Man Engine Lament You hear someone singing. Listen to the song. What pictures appear in your mind? Watch the pictures come and go.	Until someone, somewhere, started singing.
What is the very quietest hiss of breath you can make? What is the very smallest movement you can make?	The words of the song brought back a memory. There was a hiss of steam. There was a clanking noise. There was a movement.
Your eyes stay closed. Slowly you lift your head a little. Imagine the sun warming your face.	Slowly, he began to lift his head. The sun warmed his face.
The singing stops. You sink back down again. Switch off your mind again. This time, years and years are going to go past.	But then the singing stopped. He was quiet again. He was cold. He was still. It seemed like he had just always been there.
	Busy people hurried past in their busy lives. No one noticed. No one cared. No one remembered.
	Billy Crago asked Mum, "What's that big thing there?" "Umm, something to do with Mining, I don't know," said Mum, "Come on, we'll be late."
	Billy asked Grandpa. "He was called the Man Engine. We got treasure from under the earth, but everyone's forgotten the old mining days."
	Billy asked Great Granny. "Life was tough and pay was poor. Everyone got too old, or went off round the world, or died." Great Granny leaned forward and whispered some special words.
You hear someone saying your special words but nothing happens.	Billy stood in front of the Man Engine and tried out Great Granny's words, quietly. "Kober, Arghans, Sten, Sten Sten" Nothing happened.

SUGGESTED 'SCRIPT'	TEXT FROM THE BOOK
You hear the special words again. This time you feel the breath coming in and out of your chest. You begin to feel the breath is spreading through all of your body, arms and legs.	Billy fetched various kids from round about. They tried the words all together. "Kober, Arghans, Sten, Sten Sten Yn pub karek, in pub men." See? Was that a movement inside the Man Engine's chest? Was he breathing?
You hear the special words for the third time. Your eyes stay closed but your head lifts up. Slowly you raise your head up until you are kneeling upright.	Everyone went and got their Mums, their Dads, their Uncles and Aunties, Grandmas, Grandpas, Great Grannies and Great Grandpappies.
	Everyone chanted. "Kober, Arghans, Sten, Sten Sten Yn pub karek in pub men Kober, Arghans, Sten, Sten Sten An gwella sten - yn Kernow!" There was a hiss of steam. There was a clanking noise. There was a movement.
You open your eyes.	The Man Engine opened his eyes.
One shoulder opens out. Your arm unfolds. You look at your hand and slowly move your fingers. The other shoulder opens out. Your other arm unfolds. You look at your other hand and slowly move your fingers. What memories begin to come back?	The Man Engine looked at his hands. The Man Engine remembered. Everyone remembered.
You hear the special words repeated again. You look upwards towards the sky. Slowly, you rise higher and higher. You become the tallest thing around. You look out over the wide, wide landscape. What can you see from up there?	Everyone kept on chanting and the Man Engine rose up. "Kober, Arghans, Sten, Sten Sten Yn pub karek in pub men Kober, Arghans, Sten, Sten Sten An gwella sten - yn Kernow!" Higher and higher and still higher. The Man Engine was the tallest, the biggest and the most amazing thing that Billy Crago had ever seen.
You look down at all the little people running around, dancing and singing. What are the stories that everyone is telling each other?	Everyone swapped their stories. Stories about people who worked underground to win Earth Treasures.
You listen to the people singing. You listen to the words of the song. You move your feet in time as everybody sings. What do you hope for?	Now, the Man Engine remembers. Now, we can all remember. "Copper, Silver, Lead and Tin Can't you feel em 'neath yer skin? One and All we've always been Hard rock Cornish Miners"



3.2 CHAMBER TO THE GRAVE

Traditional Cornish/Hawker adapted by J.Carey

*Sing from the chamber to the grave
I hear the dying miner say
A sound of melody I crave
Upon my burial day*

*Sing sweetly as you travel on
And keep the funeral slow
The angels sing where I am gone
And you shall sing below*

*Then bear me gently to the grave
And as you pass along
Remember t'was my wish to have
A pleasant funeral song.*

3.3

CHAMBER TO THE GRAVE

Traditional Cornish/Hawker adapted by J.Carey

Music and arrangement: Jim Carey

Sop
1. Sing from the cham_ ber to the grave___ I hear the dy - ing mi - ner say

Alto
1. Sing from the cham_ ber to the grave___ I hear the dy - ing mi - ner say

Tenor
1. Sing from the cham_ ber to the grave___ I hear the dy - ing mi - ner say

Bass
1. Sing from the cham_ ber to the grave___ I hear the dy - ing mi - ner say

8
a sound of me - lo - dy I - crave___ up - on my bu - ri - al day___

a sound of me - lo - dy I - crave___ up - on my bu - ri - al day___

a sound of me - lo - dy I - crave___ up - on my bu - ri - al day___

a sound of me - lo - dy I - crave___ up - on my bu - ri - al day___

15
2. Sing swee - tly as you___ tra - vel on___ and keep the fu - ne - ral slow___

2. Sing swee - tly as you___ tra - vel on___ and keep the fu - ne - ral slow___

2. Sing swee - tly as you___ tra - vel on___ and keep the fu - ne - ral slow___

2. Sing swee - tly as you___ tra - vel on___ and keep the fu - ne - ral slow___

22
The Angels sing where I am gone___ and you shall sing___ be - low___

The Angels sing where I am gone___ and you shall sing___ be - low___

The Angels sing where I am gone___ and you shall sing___ be - low___

The Angels sing where I am gone___ and you shall sing___ be - low___

29
3. Then bear me gen - tly to the grave___ and as you pass___ a - long___

3. Then bear me gen - tly to the grave___ and as you pass___ a - long___

3. Then bear me gen - tly to the grave___ and as you pass___ a - long___

3. Then bear me gen - tly to the grave___ and as you pass___ a - long___

36
re - mem - ber t'was my wish to_ have___ a plea - sant fune - ral song___ *quieter* mmmm

re - mem - ber t'was my wish to_ have___ a plea - sant fune - ral song___ *quieter* mmmm

re - mem - ber t'was my wish to_ have___ a plea - sant fune - ral song___ *quieter* mmmm

re - mem - ber t'was my wish to_ have___ a plea - sant fune - ral song___ *quieter* mmmm

4.0 THE MAN ENGINE ANTHEM

(‘Hard Rock Cornish Miners’)

*Copper, silver, lead and tin
Can’t you feel em ‘neath yer skin?
One and All we’ve always been
- hard rock Cornish miners.*

Chorus:

**Cousin Jacks both great and small
Raise your voice, sing One and All
Round this world we send our call
‘Health to the Cornish Miner!’**

*Deep and dark down Caradon Mine
William Crago’s aged just nine
8 hours work then 2 hours climb
- hard rock Cornish miner.*

*Alfie Crowle he made his name
in Mexico’s first football game
Gave our pasties’ worldwide fame
- hard rock Cornish miner.*

*Clung to life when three men died
Telfer Mitchell bikes with pride
One foot dancing one foot tied
- hard rock Cornish miner.*

*Our Jane Harvey’s a Foundry maid
White Hart Hayle’s her cast-iron trade
Deals get done and money gets made
- hard rock Cornish miner.*

*Londonchurchtown from Penzance
Humphry Davy leads the dance
Invented more than Safety Lamps
- hard rock Cornish miner.*

*Copper, silver, lead and tin
Can’t you feel em ‘neath yer skin?
One and All we’ve always been
- hard rock Cornish miners.*

4.2

HARD ROCK CORNISH MINERS

Music: Merv Davey
 Adapted Neil Davey / Will Coleman
 Arranged: Neil Davey
 Lyrics: Will Coleman

Verse

Soprano
 Cop-per, sil-ver, lead and tin Can't you feel 'em 'neath yer skin?
 Alto
 Tenor
 Cop-per, sil-ver, lead and tin Can't you feel 'em 'neath yer skin?
 Bass

S.
 One and All we've al-ways been Hard rock Corn-ish min-ers
 A.
 Hard rock Corn-ish min-ers
 T.
 One and All we've al-ways been Hard rock Corn-ish min-ers
 B.

Chorus

S.
 Cous-in Jacks both great and small raise your voice sing One and All
 A.
 Great - and small One and
 T.
 Cous-in Jacks both great and small raise your voice sing One and All
 B.
 Great and small and small One and

2

16

S.
 Round this world we send our call 'Health to the Corn-ish Min-er
 A.
 all and all Here's a 'Health to the Corn-ish Min-er
 T.
 Round this world we send our call 'Health to the Corn-ish Min-er
 B.
 all One and all Here's a Health to the Corn-ish Min-er

Chorus:

Cousin Jacks both great and small
Raise your voice, sing One and All
Round this world we send our call
'Health to the Cornish Miner!'

*Copper, silver, lead and tin
 Can't you feel em 'neath yer skin?
 One and All we've always been
 -hard rock Cornish miners.*

*Deep and dark down Caradon Mine
 William Crago's aged just nine
 8 hours work then 2 hours climb
 -hard rock Cornish miner.*

*Alfie Crowle he made his name
 in Mexico's first football game
 Gave our pasties' worldwide fame
 -hard rock Cornish miner.*

*Clung to life when three men died
 Telfer Mitchell bikes with pride
 One foot dancing one foot tied
 -hard rock Cornish miner.*

*Our Jane Harvey's a Foundry maid
 White Hart Hayle's her cast-iron trade
 Deals get done and money gets made
 -hard rock Cornish miner.*

*Londonchurchtown from Penzance
 Humphry Davy leads the dance
 Invented more than Safety Lamps
 -hard rock Cornish miner.*

*Copper, silver, lead and tin
 Can't you feel em 'neath yer skin?
 One and All we've always been
 -hard rock Cornish miners.*

4.4 MY FIRST DAY IN A COPPER MINE IN CORNWALL

by William H. Crago, South Caradon Copper Mine, near Liskeard, Cornwall
[abridged and edited version]

At the very early age of nine years my Father told me one evening that on the following Monday morning I was to go with him to the mine to start work as a miner. All weekend my dear Mother was busily employed in getting together my outfit, which consisted of a Canvass jacket and trousers, a Flannel shirt and pants, boots (without any socks) and a hard hat.

On the Monday morning at half past four a clock my Father called to say that it was time for me to get up. After breakfast we walked to the mine. From his locker my father took several pieces of steel ranging from one to two and a half feet in length (called drills or borers). He took a piece of rope about eight feet long and showed me how to carry these drills by slinging them across my shoulder. We then went to the store house and got a supply of gunpowder, fuse, candles, clay and paper. I had on my right arm about 5 pounds of black gunpowder in a copper can, on my left arm, a coil fuse to be used with the powder for blasting purposes, in my pockets, gads (smaller metal tools used for splitting rocks), and each of us had a fair sized potato pasty for our dinner.

We stepped into the ladder-way and went down about 20 feet to the first landing. Father then produced matches and lit my candle, some clay was wrapped around it and it was stuck to the front of my hard hat.

My Father said, *“when you are on the ladder, never look down, hold tight, your hands and your feet will find their way.”*

We continued what seemed to me our endless journey down into the blackness. It is not pleasant to have a small stream of water dropping on the back of your neck and running down your back and legs into your boots. My legs were aching, my back was stiff and sore, and my hands were numb with the continual clutching of the ladder rungs.

After about two hours climbing we reached the 1,600 feet landing stage, then, in order to enter the tunnel we had to cross the shaft on a very narrow plank. We walked along the tunnel, or level as we call it, and soon could see that men had been busy extracting the treasures of the earth. Great caverns were above and below us and our route was on narrow boards fixed crossways in these caverns.

We continued our journey for another half an hour and after crossing more narrow boards we arrived at a spot where several coats were lying about. Father, throwing off those heavy drills from his shoulder and putting down his keg of water pointed out to me a board on which I could sit. True, that seat was a hard plank of wood, but it was more comfortable to me than any couch or chair: we had climbed 1,600 feet and walked for more than a mile through the dark wet caverns.

I could now hear that we had arrived at the spot where miners were at work for I could hear the tick, tick of the picks and the thud, thud of the hammers. We had not been sitting there long before I heard a voice at no great distance from us shout out in ringing tones “Fire!”. Then it seemed to me that the rocks were split in two, falling with a tremendous crash all about us. From out of this noise and smoke came the figures of two men with faces as black as a chimney sweeps.

Each miner produced a potato and meat pasty. This is the favourite dinner with the Cornish Miner as it is very convenient to carry and very nutritious.

There was not much conversation during the time the pasties were disappearing.

When the time was up Father and I again taking up our loads went to our pitch, as we call it. This particular vein of copper was fairly rich and on its south side there was a narrow strip of what we call flukin which could be broken away with the picks, gads and moils but the granite at the North side of the lode was “glassy” and well do I remember how my arms ached from drilling holes into that rock. After a long day’s work, the men began to assemble at the place where we had had crib, some with heavy loads of blunt drills, some with empty powder cans, others with blunt picks, and all looking weary and tired from the exertions of the past six or seven hours. Yet, the hardest part of day’s work remained to be done: that is to climb up 1,600 feet to the surface. Somehow, after two hours of steady plodding we all safely arrived at the top to see the daylight and to breathe the pure air once more. I shall never forget the look of joy and thankfulness that lit up my Mother’s face as we arrived home.

4.7 FURTHER HISTORICAL MINING CHARACTERS

1. WILLIAM CRAGO'S STORY

Once upon a time there was a boy of 9 years old called William Crago, Billy to his mates. Billy lived at Tremar Coombe near Liskeard and his Dad was a miner.

One Monday at half past four in the morning, Billy's Dad shook him awake. Today was to be Billy's first day working at South Caradon Mine. Billy's Mum helped him pull on a flannel shirt, the canvas trousers and jacket she had made, a hard hat (or tull), and a pair of heavy boots (but no socks).

For two miles Billy and his Dad walked through the cold and dark until they got to the mine. Then they picked up all their gear from the store house; gunpowder and fuse wire for blasting, paper, candles and clay, a small wooden cask of drinking water and various metal tools such as drills, picks, gads and moils. Billy was loaded up with a canvas sling carrying all this heavy gear to keep his hands free for the climb down.

The first ladder went straight down for about 10m, then there was a landing and Billy's dad showed him how to fix his candle to his hat with a wad of clay. From there they climbed another 150m straight down. His dad kept saying "hold tight your hands, son". After this, the shaft continued but angled at a slope. Whilst this made it easier to hold on tight, there was now a constant stream of freezing water dripping from the roof and running down their backs. They climbed another 300m down with their

boots (no socks, remember) filling up with water. It took Billy and his father two full hours to climb down and they hadn't even started work yet!

When they got to their level they had to walk across a narrow plank of wood with a drop down the mineshaft either side. The level was a tunnel about 6 feet high, 3 feet at the top and a little wider at the bottom. They walked on for half a mile and eventually arrived at a spot where coats and gear was piled up on the floor. Billy's dad put down the water barrel and the gear and showed Billy a plank for sitting on. It was only a bare plank but to poor exhausted Billy it was the most comfortable seat he had ever sat on.

Billy could hear the 'tick tick tick' of the picks all around. Suddenly, a voice shouted 'FIRE' and a huge explosion ripped through the tunnel. The noise was so loud, it seemed to Billy that the rocks were smashed apart and that they would all surely die.

From out of the smoke and the noise came two figures, dressed, like him, in miner's gear, their faces pitch black with soot and dirt. One was called Carlyon, and from the way he spoke, Billy could tell he was from down in the west of Cornwall. He looked at Billy and said, *'what's the matter sunny, art ee scared?'*

Billy says. *"Iss you?"*

"What are ee scared at 'un?"

Billy said, *"at that hole that went off, I thought the whole place was scat in pieces"*

They all laughed and a bunch more charges went off. Billy felt like he'd had enough of mining for one day.

During his many years as a miner, Billy saw lots of changes. The best of which, he said, was the invention of the man engine. This was a series of lifts which miners could stand on to get down to or up from the lower levels. It saved the miners from the exhausting and dangerous climbs on those long wooden ladders, but it wasn't without its risks. One time as Billy was riding the man engine, the engine jolted and Billy was thrown off, falling head first down the shaft. Lucky for Billy he crashed onto one of the support beams that ran across the shaft some 10 feet below. He was knocked out and his dad had to climb down to rescue him. Billy was badly cut and bruised, with a few broken ribs, but lucky to be alive.

We know a lot about Billy's life because many years later he wrote everything down in his journal. At the end of this journal Billy asks the reader to think of all the things that we couldn't have without the treasures that miners bring up to the surface.

"So," said Billy Crago, "every time you open a tin can, or boil a kettle, remember the miners who risk their lives to make your lives easier."

HWEDHEL WELLA KRUGOW	WILLIAM CRAGO'S STORY
Yn mil, eth kans, naw ha tri-ugens Wella o saw naw bloodh yn y gynsa dydh yn whel gans y das yn Bal Karadon Soth.	In 1869 William was just nine years old on his first day at work with his father in South Caradon Mine.
Euthik glyb y'n tewlder dien, y hwrussons i klambra dre skeulyow prenn rag dew our kyns hogen dalleth whel.	Streaming wet in the pitch darkness, they climbed down wooden ladders for two hours before they could even begin work.
Gorownys gans tardhow bodhara ha spenys dre lavuryans heb let, yth o Wella pur lowen pan dheuth prys krib.	Terrified by the deafening explosions and exhausted by the relentless labouring, William was very pleased when it was time to stop for crib.
Yn uskis, y tyskas Wella fatel aswon gwri gwyrdd rych yn kober o aga fewas.	William quickly learned how to recognise the rich green copper lode that was their prize.
Diwetha, y skrifas dydhlyver yn unn dheskrifa yn manylyon meur bewnans rag Den Bal Kernow yn nownsegves kansbledhen	Later he wrote a journal describing a nineteenth century Cornish Miners' life in great detail.

2. ALFIE CROWLE'S STORY

Once upon a time there was thirteen year-old boy kicking a tatty leather football under the hot, Mexican sun. He heard a shout, "Pass yer old man the ball, Alfie!" There was Alfie's Dad in the gear of a miner, just come back to the surface after a long day's work underground. They had a bit of a kick around.

"You're getting some good with that ball my boy, you'll be up and playing for the club before long."

His Dad picked up the ball - the leather was cracked, the stitches were coming apart.

"Look at my old lucky ball!" he said, "Did I ever tell you about the first game of football we played here in Mexico?"

Alfie had heard the story many times before, but he was happy to hear it again.

"I brought this ball from St Blazey, back in Cornwall. Just about everyone in St Blazey worked in Par and St Blazey Consols. My father was a copper miner. I was a tin miner. But the price of tin dropped and the mines were closing.

All across Cornwall, everyone was talking about gold in South Africa or copper in Australia but in St Blazey all the chat was about silver in Mexico, "Come to Mexico, where the sun always shines..."

So yer Mum and me, we packed up everything, said goodbye to our families and sailed out from Penzance. All we had with us was a bag of clothes, and this here ball.

When we arrived in Pachuca we were foreigners, didn't speak the language, though there was plenty of Cousin Jacks underground. At the end of the core, me and two Redruth boys was having a bit of a kickabout when up comes the Mexicans. They had never seen a football before. I saw one of the young lads nodding and smiling so I tapped the ball over to him. He kicks it back. Before long the whole of the Mexican core joined in.

From then on, at the end of every shift we would have a game. That was how the club was formed. All eleven players in the original Pachuca team were Cornish miners."

Alfie and his Dad started walking home.

"When I was thirteen," said his Dad "I was already working as a miner. It'll be your turn before long."

"I dunno" said Alfie "I'd rather be playing football."

"Playing football!" his Dad laughed "You can't make a living doing that!"

But Alfie knew that over in England they now had professional players, people who got paid to play football all day long. Alfie kept quiet but he knew that a miner's life was not going to be for him.

Some years later Pachuca Athletic did indeed become Mexico's very first professional side and who was their coach and star player? None other than Alfred C Crowle, the miner's boy from St Blazey. Sorry to say his father never got to see it, having died young of lung disease like so many miner's did.

Football began to take off all over Mexico and Alfie was headhunted by Mexico's richest team, Necaxa. Alfie coached and played for the side. The last game he played, at the age of 43, was the cup final that Necaxa won 9-0! That score is still a record goal difference in Mexico today.

Even then Alfie carried on coaching and in 1935, he became the coach of the first ever Mexican national team, taking them to victory in the Central American and Caribbean Games.

Picture the first day of training, as Alfie walked out onto the field with a frayed old ball under one arm, the leather dark, the stitches split.

"Hey coach," laughs the striker, "we're not going to play with that are we?"

"No" says Alfie "... this here is my lucky ball."

HWEDHEL ALFI KROWLER	ALFIE CROWLE'S STORY
Tas Alfi o den bal sten dyworth Porth Lanndreth.	Alfie's father was a tin miner from St Blazey Gate.
Gans milyow tus val Gernow erel, yth omdhivroas an teylu rag whel y'n balyow arghans yn Pachuca - ow tri an kynsa peldros dhe Veghiko	Along with thousands of other Cornish miners the family emigrated to work the silver mines in Pachuca - taking the very first footballs to Mexico.
An kynsa para Pachuca o selys yn mil, naw kans, hag onan - oll an unnek gwarier o tus val a Gernow!	The first Pachuca team was founded in 1901 - all eleven players were Cornish miners!
Alfi a warias rag Pachuca hag yn mil, naw kans, pymthek war'n ugens a beshya ev dhe ledya an para kenedhlek Meghiko.,dh'aga hynsa gwayn yn kestrif pewas keswlasek; Gwariow Amerika Kres ha Karabian	Alfie played for Pachuca and in 1935 went on to lead the Mexico national team to their first international competition trophy win; the Central American and Caribbean Games
Alfi Crowle yw hwath remembrys avel onan a'n dus veur oll-dermyn yn peldros Meghikanek.	Alfie Crowle is still remembered as one of the all-time greats of Mexican football.

3. TELFER MITCHELL'S STORY

Once upon a time there was a boy from Roscroggan and his name was Telfer Mitchell. At 15 years old, Telfer did what any boy from Roscroggan would do; he got himself work at South Crofty Tin Mine. The Captain was called 'Capn Johnny Boo'- big man, big beard, big voice.

"Right, my bewdy boy," says the Capn to Telfer, "first day, first job - End Mucker!"

Deep, deep underground, once the blasting was done, Telfer had to make his way through the fug and the smeech into the end of the drive and shovel out the shattered rock. Hard work and long hours, but Telfer showed the right spirit and Cap'n Jonny Boo was impressed.

"Right my bewdy boy," says the Cap'n to Telfer, "how d'ee like to learn the job of Timberman?"

Telfer was good at that work too.

One day, in a party of 7 men, he was set to timber New Cooks Kitchen Shaft. They were working on a Soler, a wooden platform which was lowered down by four chains. Each chain was engineered to take 17 tons of weight – safe enough? When they were about half way down the shaft, the worst happened. A slab of rock peeled from the shaft wall above and fell, striking the corner of the soler. The chain snapped and all 7 men were tipped headfirst down the shaft.

Telfer woke up in Redruth Miner's Hospital. His leg was in a cast and his head was bandaged. The doctors told him that he was lucky to be alive. They had all fallen several hundred feet, ricocheting off the sides of the shaft. Three of Telfer's workmates had been killed. Telfer was told that his leg was mangled and that he would never walk again. Telfer set his mind to recover as best he could and within a few months he surprised the doctors by taking his first steps. But, Telfer's leg was so badly smashed that he could not bend it.

"Sorry, my bewdy boy," says the Capn to Telfer, "no work underground for a one-legged man!"

Telfer decided that if he couldn't go back to work underground he would find work above ground.

He got a job tin streaming at Tolgus Tin Mill in the valley from Redruth to Portreath. He learned to work with a vanning shovel, a long triangular shovel which, with the right knack, you could separate out tin from the gravel in the streams. He became such a good Tin Streamer that they said he could smell tin.

But, he still needed to find a way to get to work. He couldn't walk far and there was no bus, so Telfer took his bike. How do you ride a bike with only one good leg? Telfer would tie his good foot onto the bike pedal and leave the bad leg hanging out to the other side. He had two ways of stopping: either find a wall to lean against or just fall off!

One day on his way to work, he was flagged down by a policeman.

"I'm arresting you for being drunk-in-charge-of-a-bicycle!" said the constable.

"I reckon you'd be wobbly too with only one leg!" explained Telfer.

But, as he got older, he decided it would be better to get to work with a dunkey and shay. He trained his dunkey very well: Telfer would stop for a drink or two at the pub on the way home, then climb into the back of the shay and fall asleep - the dunkey knew the way to get his master safely home.

As an old man Telfer remembered all the miners he had worked with over the years – nearly all of them had been killed in accidents or died in their forties of 'phthisis', lung disease caused by breathing all that fug and smeech. But Telfer was still working above ground at Tolgus Tin until he was 80 years old. Entertaining the visitors and the pub customers with his tall tales and his wisdom from a life of Cornish Mining,

"That fall down South Crofty Shaft - saved my life!" said Telfer Mitchell.

HWEDHEL TELFER MITCHELL	TELFER MITCHELL'S STORY
Tri a gesobewesyon Telfer a veu ledhyas yn mil, naw kans, peshwar war'n ugens pan gudhas soler, hag i owth oberi warnodho, yn shafta Kroftti Dyghow.	Three of Telfer's workmates were killed in 1924 when the platform they were working on collapsed in South Crofty shaft.
Telfer o shyndys yn trog, mes y turyas ev ha kavos whel orth Melin Sten Talgos.	Telfer was badly injured, but he survived and found work at Tolgus Tin Mill.
Kynth esa saw unn arr dha dhodho, yth eth Telfer dhe whel der dhiwros pub journa oll dre gelmi y drooz da dhe'n troosla ha gasa y arr gabm dhe gregi rydh.	Although he only had one useful leg, Telfer bicycled to work every day by tying his good foot to the pedal and letting his gammy leg hang free.
Yth esa dhodho diw fordh dhe stoppia; kavos fos dhe boosa er bynn ... po kudha dhe'n leur.	He had two methods of stopping; find a wall to lean against or just fall over.
Telfer a besyas dhe wonez (ha hwedhla) bys dhe'n mil, naw kans, peshwar-ugensow.	Telfer carried on working (and telling tall tales) until the 1980s.

4. JANE HARVEY'S STORY

HWEDHEL JENNA HARVI	JANE HARVEY'S STORY
Jenna Harvi o arlodhes Ostel Karow Gwynn yn Heyl.	Jane Harvey was landlady of the White Hart Hotel in Hayle.
Omma, y hwrug hi ostya visityans prennoryon Deudhva a vri - bos sur myns meur rag kesteudha, kastya ha kenwerth o oll kevys yn salow.	Here she hosted the visits of important Foundry customers - making sure that massive deals for smelting, casting and trade were all safely clinched.
Hi a oberas yndella rag unnek bledhen ha maga teylu bras fleghe ha'y worti, Hykka Trevudhek, ow mos dhe Amerika Dyghow.	She held the fort for eleven years and raised a huge brood of children whilst her husband, Richard Trevithick, popped over to South America.
Ena, gans y dhehwelyans digwaytys, Jenna a'n skoodhyas dre lies bledhen moy a dhismygans hanowedhyans.	Then on his unexpected return, Jane supported him through many more years of invention and innovation.
Jenna a vewas bys dhe hwetek ha peswar-ugens ha peshya penn-teylu dhe les rag an meurra teudhva y'n bys: Harvis a Heyl.	Jane lived to 96 and remained an important family figurehead for the foremost foundry in the world: Harveys of Hayle.

5. HUMPHRY DAVY'S STORY

HWEDHEL HUMFRA DAVI	HUMPHRY DAVY'S STORY
Hag ev maw, Humfra a verkyas kesknians yntra kober hag horn yn-dann dhowr war yettow-liv orth Heyl.	While still a boy, Humphry had noticed the corrosion between the underwater copper and iron on the floodgates at Hayle.
Diwetha, yth awenas ev dhe ragresek an argerdh a elekofalsans ha bos an kynsa person dhe enysega hag aswon elvennow; sodiom, pottassium, kalghiom, magnesiom, boron, bariom, klorin hag iodine.	Later, this inspired him to pioneer the process of electrolysis and he became the first person to isolate and identify the elements sodium, potassium, calcium, magnesium, boron, barium, chlorine and iodine.
Avel Lewydh an Fondyans Riel, y hwrug ev an kynsa golow tredanek ha profya kynsa devnydh gass hwartha avel anesthetek.	As President of the Royal Institution he produced the first electric light and suggested the first use of laughing gas [N ₂ O] as an anesthetic.
Wosa lies droglam balweyth glow Davi o movys dhe nowedhya y Lugarn Salow Bal - kemmynro durya keyndir Balweyth kernewek a'n maw Pennsans	Following several coal-mining disasters Davey was moved to invent his famous Miners' Safety Lamp - the lasting legacy of the Penzance boy's Cornish Mining background.

THE MAN ENGINE 2016

To celebrate the 'tinth' anniversary of the CMWHS, Golden Tree Productions built the largest mechanical puppet ever constructed in Britain: a mechanical miner standing 11.2m tall. One hundred and fifty thousand people turned out to greet the Man Engine as he steamed the length of the Cornish Mining Landscape, unearthing a deep-rooted lode of pride and resilience running through the land.



Resources

All resources listed throughout the document can be downloaded at:

www.tinyurl.com/MERemembers