

## Videos for Memorial Park 2

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Each day of the field trip, the LEARNZ Team shoot, edit and upload curriculum-rich videos which help students to feel right up close to the action.

For help and more information about LEARNZ videos, go to [Help with Videos](#) [1] in the [LEARNZ Support](#) [2] section.

### Tuesday 13 May 2014

#### 1. Progress on the Underpass ([43Mb mp4 file](#) [3]) or [watch on Vimeo](#) [4].

Meet with Structures Project Engineer, Cole Meiring, to get the lowdown on progress made with the underpass since the first field trip in November.

1. Why do you have to sign a form before entering the construction site?
2. What two things have had to be moved for construction to begin?
3. List three of the main parts of the underpass that have been put in place since last November.

Next step learning: Have a look at some videos from the first Memorial Park field trip to get more of an idea of the progress that has been made on the underpass since last November.

#### 2. Temporary Structures for a Permanent Tunnel ([48Mb mp4 file](#) [5]) or [watch on Vimeo](#) [6].

Meet Site Engineer Russell Scoones to see what sort of temporary structures have to be built on site before the concrete is poured.

1. How long does it take for 40 metres of scaffolding to be set up for the pouring of a roof slab?
2. How long does it take for the concrete to be hard enough to support itself before the scaffolding can be taken away?
3. What is between the scaffolding and the concrete roof slab?

Next step learning: Create a labelled diagram to show how formworks are used to create a mould which concrete is then poured into to make the tunnel walls.

#### 3. A Strong and Resilient Tunnel ([51Mb mp4 file](#) [7]) or [watch on Vimeo](#) [8].

Join Cole Meiring as he describes in more detail how the tunnel is being built so that it is strong enough to withstand a 1 in 2,500 year earthquake.

1. Why is the steel reinforcing coming out through the top of the wall panels?

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2. What are the two main components that make up the roof?
3. What are the two forces that concrete and steel are there to withstand in an earthquake?

Next step learning: Find out what other materials are used in construction for the purpose of providing strength.

### **4. Concrete - a Technological Product** ([69Mb mp4 file](#) [9]) or [watch on Vimeo](#) [10].

The construction of the Memorial Park underpass is an ideal opportunity to put the technology curriculum into a real-life context. Join Cole and Andrew as they focus on concrete as a technological product.

1. What are the three key ingredients of concrete?
2. What makes concrete a good material to use in a construction project like this?
3. What do the subjective versus objective aspects of concrete mean?

Next step learning: Do a similar analysis of another “technological product” used in construction.

### **5. Anchoring the Underpass** ([61 Mb mp4 file](#) [11]) or [watch on Vimeo](#) [12].

Meet Geotechnical Engineer, Sam Glue. Sam explains why piles are such an important part of making the Memorial Park underpass strong and resilient.

1. What can happen to the silt, sand and gravel during an earthquake?
2. How do the piles help keep the underpass structure in place?
3. How were the piles changed after testing showed the straight shaft would not hold the underpass structure in place during an earthquake?

Next step learning: Find out what other measures are put in place for buildings and so on to help them withstand large earthquakes.

### **6. Memorial Park Project - an example of Technological Practice** ([95Mb mp4 file](#) [13]) or [watch on Vimeo](#) [14].

Cole Meiring gives an overview of the Memorial Park and underpass project as it relates to technological practice.

1. What are the four main parts of this project?
2. What is another name Cole uses for the progress table he refers to in the

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video?

3. What happens in a “peer review” for evaluating certain parts of a project like this?

Next step learning: Do a similar analysis of “technological practice” for a different project.

### Wednesday 14 May 2014

#### 1. The Home of Compassion Crèche ([47Mb mp4 file](#) [15])

Listen as Mathew Tonks gives a rundown of the reasons why this historic building is being preserved and included as part of the Memorial Park.

1. When was the The Home of Compassion Crèche built?
2. What is a crèche?
3. Why have some parts of the crèche been put in storage?

Next step learning: Find out about historic buildings near you that have been preserved.

#### 2. Preparing to Move The Home of Compassion Crèche ([35Mb mp4 file](#) [16])

Meet Site Engineer Htut Win and hear about how the team are planning to move the crèche in one piece to its new home.

1. What is used to cover the brick walls for the move?
2. Where are the wooden joists?
3. What is the next part of this job to be done?

Next step learning: Find out about techniques used in building that give strength to a structure.

#### 3. Moving The Home of Compassion Crèche ([39Mb mp4 file](#) [17])

Htut Win describes the process of moving the Home of Compassion Crèche.

1. What material is on top of the “runway” beams?
2. What have surveyors checked and made sure about on the runway beams?
3. What are the blocks made of that have contact with the stainless steel (that covers the top of the runway)?

Next step learning: Watch the [Home of Compassion Crèche relocation video](#) [18] (on youtube) from structural engineers Dunning Thornton, Wellington. The video

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shows how the crèche will be shifted to the back of its current site, lifted 3m and then moved sideways to its new home.

### 4. Management of Stormwater and Groundwater ([39Mb mp4 file](#) [19])

Meet Michelle Knapstein and hear how groundwater and stormwater is managed around the underpass.

1. What could groundwater do to the underpass walls if it wasn't drained away?
2. What does the gravel do?
3. What are the manholes connected to?

Next step learning: Do some investigations on stormwater and groundwater management in the town that you live.

### 5. The Use of Geographic Information System (GIS) ([58Mb mp4 file](#) [20])

Katherine Heays explains how GIS is used for creating stormwater and drainwater systems around the underpass.

1. How does Katherine describe what GIS does?
2. What do land contours tell Katherine?
3. What is a catchment?

Next step learning: Investigate more about the use of GIS.

## Thursday 15 May 2014

### 1. A Career in the Construction Industry ([72Mb mp4](#) [21])

You are inside the public viewing room next to the construction site. Civil engineer Katherine Heays shares her thoughts on what it is like working in the construction industry.

1. Who was an early influence in Katherine's interest in science?
2. What did a seventh form teacher suggest to Katherine as a university subject she would be good at?
3. What is the advice Katherine gives?

Next step learning: Have a look at Futureintech - [www.futureintech.org.nz](http://www.futureintech.org.nz) [22]. This site shares the career experiences of New Zealand's technologists, engineers and scientists to help you decide if a job like theirs is right for you.

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### 2. The Memorial Park Alliance Team ([68Mb mp4 file](#) [23])

Meet Construction Manager Steve Croft. Steve gives you an overview of how all the teams within the Memorial Park Alliance are organised.

1. How many main groups are there in the Memorial Park Alliance Team that is based in the office?
2. What are the names of these groups (teams)?
3. Approximately how many workers on site does each construction manager have working under them?

Next step learning: Find out about opportunities for promotion within certain areas of the construction industry. The website Futureintech - [www.futureintech.org.nz](http://www.futureintech.org.nz) [22] might be a good place to start.

### 3. Mount Cook School Memorial Park Special Interest Group ([68Mb mp4 file](#) [24])

A group of students share with you the sorts of activities they have been involved in during the construction of the Memorial Park underpass.

1. How many students are in this group?
2. What were the names the students chose to go on the cranes?
3. What was the name of the construction activity students were involved in described by Fletcher?

Next step learning: Check out the NZTA website and see what roading projects are happening near your school and see what learning opportunities might be available on the construction site.

### 4. Mount Cook School and Memorial Park ([60Mb mp4 file](#) [25])

Meet the principal of Mount Cook School, Sandra McCallum. Sandra talks about the school's involvement with the project since the idea first came about.

1. How far away from the school was State Highway 1 originally planned to be shifted?
2. What has been a key part of building and maintaining a good relationship between Memorial Park Alliance and Mount Cook School?
3. Sandy said that the Minister (for Culture and Heritage) describes the students as being like the 'what' of the park?

Next step learning: Draw up a list showing the positive, negative and interesting

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aspects of having a public park right next door to your school.

### 5. Field trip Summary ([41Mb mp4 file](#) [26])

Share Andrew's thoughts as he re-caps your Memorial Park 2 field trip.

Next steps:

1. Check out some parts of the Memorial Park 2 web site that you haven't had the chance to yet.
2. Email Andrew [andrew.penny@core-ed.org](mailto:andrew.penny@core-ed.org) [27] and let him know how you have been using the website - he would love to see some examples of your work!
3. Summarise an audioconference you listened to and email it to Andrew to be displayed on the website.
4. Help your teacher complete the field trip evaluation and send it in by Friday 6 June for a chance to win the field trip prize.

**Source URL:** <http://www.learnz.org.nz/memorialpark142/videos>

### Links

- [1] <http://www.learnz.org.nz/support/videos>
- [2] <http://www.learnz.org.nz/support>
- [3] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d01-01-progress-on-the-underpass.mp4>
- [4] <http://vimeo.com/95219265>
- [5] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d01-02-temporary-structures-for-a-permanent-tunnel.mp4>
- [6] <http://vimeo.com/95219839>
- [7] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d01-03-a-strong-and-resilient-tunnel.mp4>
- [8] <http://vimeo.com/95220295>
- [9] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d01-04-concrete-a-technological-product.mp4>
- [10] <http://vimeo.com/95220567>
- [11] [http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d01-05-anchoring-the-underpass\\_0.mp4](http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d01-05-anchoring-the-underpass_0.mp4)
- [12] <http://vimeo.com/95220898>
- [13] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d01-06-memorial-park-an-example-of-technological-practice.mp4>
- [14] <http://vimeo.com/95221159>
- [15] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d02-01-the-home-of-compassion-creche.mp4>
- [16] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d02-02-the-home-of-compassion-creche.mp4>

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- 4/mp142-d02-02-preparing-to-move-the-home-of-compassion-creche.mp4  
[17] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d02-03-moving-the-home-of-compassion-creche.mp4>  
[18] [https://www.youtube.com/watch?v=RJSjqk45z\\_o](https://www.youtube.com/watch?v=RJSjqk45z_o)  
[19] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d02-04-management-of-storm-and-ground-water.mp4>  
[20] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d02-05-the-use-of-geographic-information-system.mp4>  
[21] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d03-01-a-career-in-the-construction-industry.mp4>  
[22] <http://www.futureintech.org.nz>  
[23] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d03-02-the-memorial-park-alliance-team.mp4>  
[24] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d03-03-the-mount-cook-school-memorial-park-special-interest-student-group.mp4>  
[25] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d03-04-mount-cook-school-and-memorial-park.mp4>  
[26] <http://www.learnz.org.nz/sites/learnz.org.nz/files/Field%20trips/memorialpark134/mp142-d03-05-field-trip-summary.mp4>  
[27] <mailto:andrew.penny@core-ed.org>