

Waterview Connection Video Questions

Thursday 28 August

1. The Tunnel Boring Machine

Meet TBM Shift Engineer Rachel Kelpie to find out more about what a tunnel boring machine (TBM) is and how it operates.

1. How does the TBM work?
2. Why does the ground above the tunnel not collapse?
3. Do people on the ground above the tunnel notice the drilling?

Next step learning: Make a model of your own to show how a TBM works.

2. Getting to Alice

Sign in, get your re-breather unit on and travel down into the tunnel to meet Alice the TBM.

1. Why do you think it is important to sign in?
2. What do you think a re-breather is and how does it work?
3. Why do you think you can't drive all the way to Alice the TBM?

Next step learning: What do you think some of the hazards are of travelling in the tunnel during construction?

3. Meet Alice the Tunnel Boring Machine

Take a look around Alice the TBM to see how she works.

1. What pushes Alice forward?
2. How fast does Alice move?
3. At what height will the road through the tunnel end up?

Next step learning: Find out what other methods can be used to construct a tunnel other than using a TBM.

4. Working in the Tunnel

Talk to Shivani Siva and find out about who operates Alice the TBM and what types of skills they need.

1. How many people work on Alice the TBM?
2. When does Alice the TBM work?
3. What type of skills and training are needed to work in the tunnel?

Next step learning: Find out more about the types of jobs that are available on the Waterview Connection construction site.

5. Grout For The Tunnel Lining

Come and have a look at the concrete segments used to line the tunnel and the grout used behind these

1. Where are the concrete segments made?
2. Where is the grout injected and why?
3. How is the grout created?

Next step learning: Find out more about how different tunnels in New Zealand have been constructed.

6. Field Trip Summary

Take time at the end of the field trip to reflect on all that you have learned this week.

1. What was your favourite part of the field trip and why?
2. If you could interview one of the experts from the field trip who would it be and what would you ask them?
3. Help your teacher to complete the online [evaluation](#) for this field trip

Next step learning: Plan an inquiry into part of the field trip that sparked your curiosity.