Suitable for 3-7 years

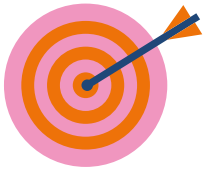
- [x] Solo
- [x] Pairs
- [ ] Groups

Moh's activity

Build a tower

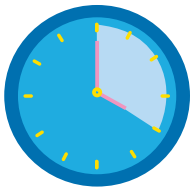
How to guide

Moh's activity
Build a tower



Aim

The aim of this activity is to investigate how the surfaces that we build on are important.



Timings

~15:00 minutes

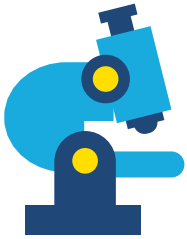
Materials and equipment

- Blocks for building (i.e. wooden balancing blocks)
- Sand
- Flour
- Water
- Trays for the sand and flour
- You might want to use the book **The Street Beneath My Feet** by Charlotte Guillain

Instructions:

1. Read The Street Beneath My Feet
2. Explain Geotechnical Engineers investigate the ground beneath us to check whether and how we can build in it and on it
3. Invite the children to build tall towers of building blocks on mixtures of sand and flour. See if adding water helps.

Discuss what happens. Compare the build with what happens if you build on a flat surface like a table top.



Background information

Geotechnical engineers investigate the types of soil and rock in a building site, determining the best way to build safely on the surface. Building on top of an uneven surface, or one that shifts, like the sand means the structure is less stable and this is particularly noticeable as we try to build taller. When you add water the tiny grains of sand are held together with 'water bridges' between each grain of sand, which can bond the sand together making a firm surface. Too much water and the bridge breaks and the water acts more like a lubricant. Too little water and the sand remains crumbly.

Prompt questions

- How tall a tower can you build?
- Why does it fall down?
- Does moving the sand make a difference?
- Does adding water help? How much do you think we need? What happens if you add a lot of water?

Extensions

Maybe try to build a tunnel through your flour and sand mixture?

Why not try our structures activity to explore different types of structures that engineers build?

If you enjoyed exploring under the ground why not find out more about what is under the sea and how engineers are investigating coral strength?