

Optical Levels and Tripods

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Measuring & Inspection



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An optical level is a telescope on a tripod that establishes exact height differences over distance, used to set foundations, drains, courts and landscaping to level. With a staff it measures elevation changes accurately across a whole site.

Key Features

- Magnification 20-32x
- Automatic compensation levels
- Precision staffs with graduations
- Heavy tripods with adjustable legs
- Horizontal circle readings

Typical Uses in the Workshop

- Set level datum points for foundations
- Measure site falls for drainage
- Establish court and track levels
- Teach surveying and levelling

Safe Operation

1. Set the tripod and rough-level the instrument
2. Fine-level the bubble
3. Sight the staff and read the graduations
4. Record the reading against the datum
5. Move the instrument for long shots

SAFETY NOTES

- Protect the instrument from rain and dust
- Keep the tripod out of walkways
- Never look at the sun through the level
- Secure the instrument to the tripod
- Store with the caps on

Maintenance & Consumables

- Clean the lenses with care
- Check the tripod legs and locks
- Test the compensator before use
- Store in the case with desiccant
- Have the instrument serviced yearly

Specification & Buying Notes

A 24-28x automatic level with a staff and a sturdy tripod covers school surveying. Match the tripod height to the users. Add a staff bubble for accurate vertical readings.