

Heat changes everything

Suggested online resources for Rail expansion student activity

| Web page | Notes for teachers |
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| Track basics http://www.railway-technical.com/archive/track-basics-v2.pdf | Useful information and diagrams for the structure of rail, especially the rail/sleeper/ballast section. |
| Jalopnik Watch the fascinating way railroad tracks are welded together https://jalopnik.com/watch-the-fascinating-way-railroad-tracks-are-welded-to-1786586635 | Great closeups of the joining process and the sleepers, anchors and ballast. Includes a short video. |
| American rail Rail maintenance machines https://www.american-rails.com/railroad-maintenance.html | Lists and describes some different rail maintenance machines, including pictures. |
| Queensland rail Current works rail grinding https://www.queenslandrail.com.au/inthecommunity/maintenance | Easier to read than the Wikipedia article below, and includes a short video of the grinder working at night. |
| Wikipedia - Railgrinder https://en.wikipedia.org/wiki/Railgrinder | Text-heavy and some more difficult reading/concepts. May need to guide students with this, or choose students who are confident readers. Particularly useful is the first paragraph subsection that explains the concept. |
| Wikipedia - Rail stressing https://en.wikipedia.org/wiki/Rail_stressing | Text-heavy and some more difficult reading/concepts. May need to guide students with this, or choose students who are confident readers. |
| Why rails buckle in Britain https://www.networkrail.co.uk/why-rails-buckle-in-britain/ | Easier reading than the Wikipedia article, though the temperatures/conditions discussed are different to Australian ones. Would be a good point of comparison in a discussion for a group using this information though. |