



Engineering Gold

On the Slopes

Timetable

Teacher: Lesson:

Group: SEN students:

Date: Support Staff:

Room:

Focus

The students will be involved in interpreting the Professor Styling results from the slopes. We would suggest you watch the Engineering Gold and Engineering Gold in the classroom programmes in preparation for running the activities.

Objectives

Students will:

- Develop their analysis and interpretation skills.

Outcomes

All students will be able to:

- Draw a simple graph and identify patterns in graphs

Most students will be able to:

- Interpret graphical data to evaluate the effectiveness of two lubricant methods.

Some students will be able to:

- Apply their interpretation of lubricant data to ski race data.

Resources

- worksheet *On the Slopes*
- graph paper
- computer (one per group) if required to produce graphs

Starter (5-15 mins)

Show the students the 'Engineering Gold' programme or the final section with Professor Styling carrying out his enquiry on the slopes.

Main (40 mins)

1. Give the students the worksheet and introduce the activities.
2. Facilitate the activity.

Plenary (10 mins)

Use peer review or class debrief to clarify answers to questions.



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1. If the self waxing ski would go faster than the traditional ski.
2.
 - a. The hot wax system worked well for the first 200 metres but after 200 metres (when the continuous flow ski kicked in) the continuous flow ski went faster than the hot wax ski. After 200 metres the continuous flow ski increased in speed every 100 metres. The hot wax ski decreased in speed every 100 metres.
 - b. The continuous flow ski goes faster than the hot wax ski over the full length of the course. The continuous flow ski increases in speed over the full length of the course, whereas the hot wax ski decreases in speed.
3.
 - a. A bar chart or line graph is acceptable here.
 - b. Snowflex.
 - c. Alpine snow.
 - d. The friction of the surface. There is greatest difference on those surfaces with greatest friction.
4.
 - a. 1.53
 - b. 25th.
 - c. 2.68
 - d, e. Accept any sensible answer with a reason. For example, yes Britain could win Gold because the waxing skis do increase speed by at least the time difference between first and 25th position. No, because the self waxing system takes too long to start working and so the other skiers will have built up too large a lead for the British skiers to catch up over a course of this length.

