PHYSICS

TRACKER

Brief summary of activity:

In this puzzle the user has to judge the new position of a car by observing vectors indicating direction of movement.

Specific Curriculum Area:

Year 9 — Unit 9K: Speeding up, Section 1: a. How fast is it moving?

Assessment method:

Progress through levels could be recorded by the teacher. Pupil could sketch the estimated and true finishing position on a sheet of paper. The pupil could also use 'Print Screen' to save the answer and then cut and paste this into a word processing package as evidence.

Differentiation:

The more accurate the estimate, the more pupils the user receives. Therefore pupils who understand what to do will score more highly than those who are still learning how to use vectors to judge distance.

Learning objectives:

Children should learn: that speed can be determined by measuring distance travelled and time taken; the units in which speed is measured; to manipulate and apply the quantitative relationship linking distance, time and speed.

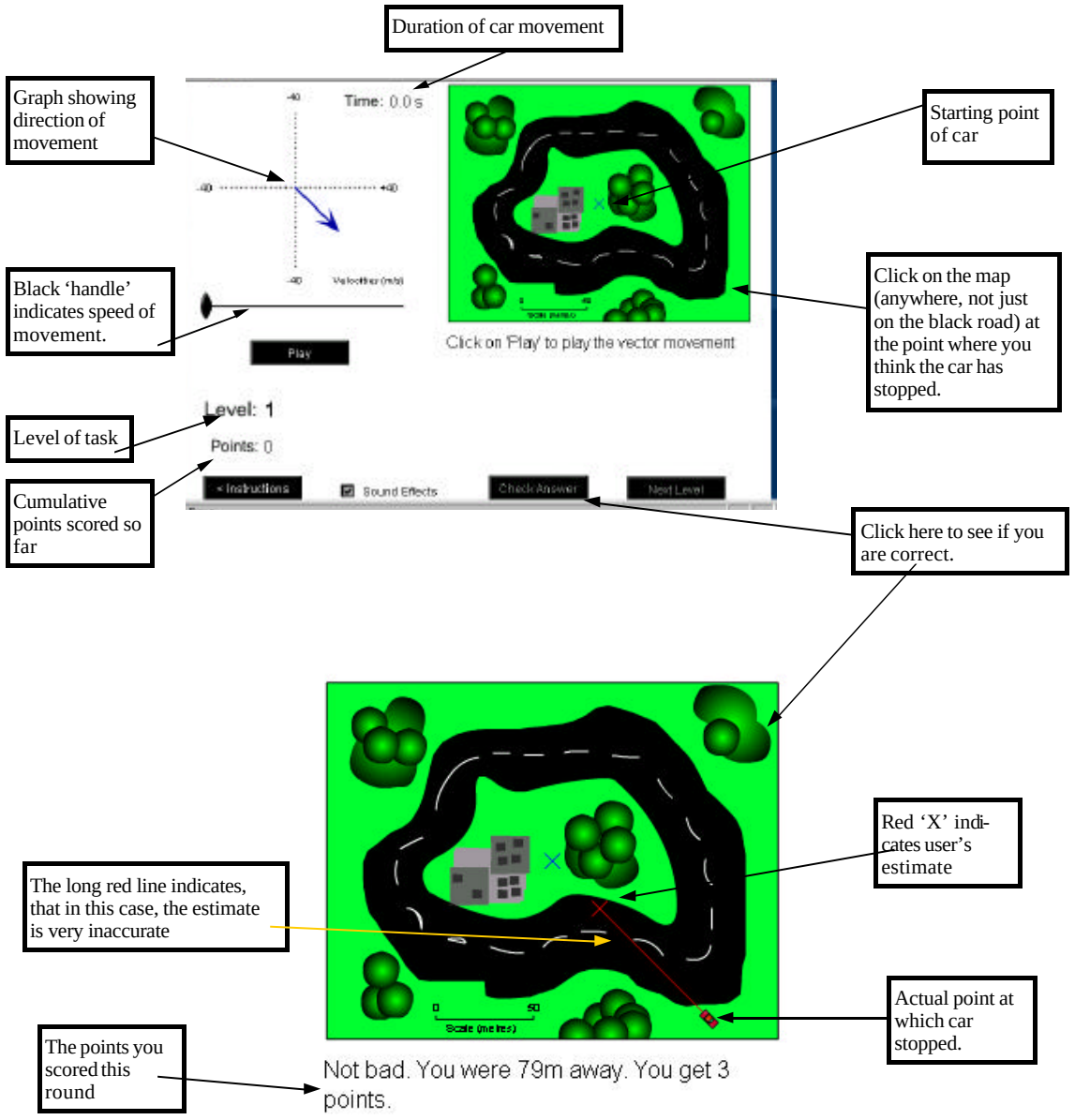
Use of Activity in a lesson:

This task could be set as a homework activity, assuming Internet access is possible. Alternatively, the teacher could demonstrate the task to the class (via an Interactive Whiteboard) and the pupils could then repeat the first level as shown by the teacher, thereafter trying levels on their own.

Hints and tips for teachers:

1. Tell pupils not to get frustrated if they do not succeed until having had many attempts—encourage trial and error.
2. They should try the task once and then try to beat their initial score in subsequent attempts.
3. Encourage pupils who are experiencing difficulty to work with a partner who could watch the vector and verbally instruct the user when the direction changes or movement stops.

URL:



Troubleshooting:

If pupils are not making accurate estimates, suggest that they run through the task once watching the vectors, in order to see how it works.

Other links:

http://www.standards.dfes.gov.uk/schemes2/secondary_science/sci09k/09kq1a