Activity AP4.5 Driving on mud

To do

First read this:

How does a car get moving?

To make a car move, the engine has to make the wheels turn. This causes a forward force on the car. To understand how, think first about a car trying to start on ice. If the ice is very slippery, the wheel will just spin. The car will not move at all. The spinning wheel produces no forward force on the car. Now imagine a car on a muddy track. The rally car below is throwing up a shower of mud as it tries to get going.

You can see that there is an interaction between the wheel and the ground. The wheel is causing a backwards force on the ground surface. This makes the mud fly backwards. Mud, however, moves when the force is quite small. The other force of the interaction pair is the forward force on the car. It is equal in size. So it is also small – and not big enough to get the car moving.

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To answer

1 Underline the words which tell you the first step in making the car move.

2 Cross out three sentences which tell you what happens on ice.

3 Find the sentence telling you about the first interaction force on the car. In **red**:

- draw a ring around its direction
- draw a ring around one of the things it pushes on

4 Find the other force of the interaction pair. In **blue**:

- draw a ring around its direction
- draw a ring around the thing it pushes on

5 Draw a wavy line in **red** under the words that tell you what happens to the mud.

6 Draw a wavy line in **blue** under the words that tell you what happens to the car.

7 Draw a flowchart explaining what happens when you try to drive a car on mud. Use the information you have marked to help you.

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