Travelling Trucks

Approach: One to one *Level:* Year 4

Focus: Sort magnetic and non-magnetic objects based on prior experience and practical investigation and try to generalise.

Resources: Toy truck, magnet, bag of objects.

Questions/instructions:

Some of the things in this bag are attracted to the magnet. When they are put in the truck, the truck can be pulled along with the magnet.

1. First I want you to look at all the things in the bag and put them into two groups. In one group put the things you think will be attracted to the magnet. In the other group put the things you think will not be attracted to the magnet.

Give student the bag of objects. Allow time.

	Prediction	Observation	% responses y4
wood	*no*		98
iron bolt	*yes*		97
plastic	*no*		91
steel key	*yes*		97
aluminium key	*no*		9
rubber	*no*		92
steel wool	*yes*		47
aluminium foil	*no*		54
stone	*no*		89

Now you can try the things and see what happens.

2. Put each of the things in the back of the truck and see if the magnet can tow the truck along.

Give student the magnet. Allow time.

	Prediction	Observation	% responses y4
wood		*no*	99
iron bolt		*yes*	98
plastic		*no*	98
steel key		*yes*	97
aluminium key		*no*	95
rubber		*no*	99
steel wool		*yes*	94
aluminium foil		*no*	98
stone		*no*	98

3. Now I want you to think of one more thing that would be attracted to the magnet.

Tell me what it is and what it is made of.

Prompt: What kind of metal?

new magnetic object identified 76

4. Now I want you to think of one more thing that would not be attracted to the magnet. Tell me what it is and what it is made of.

new non-magnetic object identified 89

5. Some things attract to magnets and some things don't. I want you to try to tell me a rule which explains what kind of things are attracted to magnets.

not marked

Commentary:

Year 4 students were very successful in testing the objects. In their earlier predictions, the steel wool and the aluminium objects produced the least successful predictions.