Name & Surname: _____ Class: _____ Date: _____

Push or Pull?

Which poles are facing?

About 45 minutes Level ★★★☆☆

Task A

/6

The magnets did not work. Find two reasons why.

Problem	Reasons for the problem
A student holds north to north. The magnets push apart.	1. _____ 2. _____
A student holds south to south. The magnets will not stick.	1. _____ 2. _____
A student wants a push. The magnets pull with north to south.	1. _____ 2. _____

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Magnet Mystery

Sort clues to explain a push in a box.

Key words

attract: pull together

repel: push apart

pole: end of a magnet

north pole: one end of a magnet

south pole: the other end of a magnet

magnetic field: invisible push-pull area

Task B

/3

Read all clues. Keep the ones about poles.

Why did two bar magnets push apart in the box?

Cut out the cards.

When a student turned one magnet round they snapped together.	Both north ends were coloured red.	The box also held an apple for lunch.
The box is plastic and is not attracted to a magnet.	The box held two bar magnets.	The magnets were close enough to feel the force.
Opposite poles attract and pull together.	Same poles repel and push apart.	The two red north ends faced each other.

Your answer, using the clues:

.....

.....

.....

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Test in Order

Test poles step by step and tick them off.

Task C

Example done for you

/5

Put the pole test in the right order.

- [ ] Turn one magnet round and test again.
- [1] Look at each magnet and find north and south.
- [ ] Bring the other magnet slowly closer with poles facing.
- [ ] Write if they attract or repel.
- [ ] Hold one magnet still on the table.
- [ ] Watch if the magnets pull together or push apart.

Task D

Do each step slowly. Tick for safety.

Pick up two bar magnets	☐
 Look at both magnet ends	☐
Hold magnets with hands	☐
Feel push with hands	☐
 Put magnets down on table	☐

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Fact or Opinion?

Decide what can be checked and fix mistakes.

Task E

/5

Tick fact or opinion. Use evidence to decide and explain one choice.

Statement	Fact	Opinion
North facing south makes magnets attract.		
North facing north makes magnets repel.		
Testing poles is the most fun science ever.		
Red north ends look nicer than blue south ends.		

How can you tell that one of them is an opinion?

.....

.....

Task F

/4

Find 4 mistakes about poles and fix them.

Two north poles attract each other. Same poles never push. Magnets must tuch to work. The force is weakest at the poles.

There are 4 mistakes.

Mistake	Correction

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Show What You Know

Predict pull or push and order magnet history.

Task G

/3

Answer from what you know about poles.

1. North faces south. Will they **attract** or repel? Why?
   They will... because...
2. South faces south. What happens? How do you **know**?
   They will... because...
3. Two magnets push apart. How can you make them **pull**?
   I would turn...

Task H

/2

Put magnet uses in time order.

A Sailors use magnet compasses to find north

B You predict attract or repel from poles facing

Ancient times	●	People find lodestone rock that pulls iron
About 1100s	●	☐ _____
Today	●	Fridge doors use magnets to keep shut
This lesson	●	☐ _____

How did I do?

Circle a face for each line.

I can name the north pole and south pole.	☹	😐	☺
I can predict attract or repel from poles facing.	☹	😐	☺
I can test poles in a fair order.	☹	😐	☺

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Answer sheet: Push or Pull?

Task A

1. A student holds north to north. The magnets push apart: The same poles are facing each other. North facing north pushes apart.
2. A student holds south to south. The magnets will not stick: The same poles are facing each other. South facing south pushes apart.
3. A student wants a push. The magnets pull with north to south: Different poles are facing each other. North facing south pulls together.

Task B

The magnets repelled because north faced north. Same poles push apart.
Red herring: The box also held an apple for lunch.

Task C

1. Look at each magnet and find north and south. 2. Hold one magnet still on the table. 3. Bring the other magnet slowly closer with poles facing. 4. Watch if the magnets pull together or push apart. 5. Write if they attract or repel. 6. Turn one magnet round and test again.

Task D

Answers will vary.

Task E

1. Fact
2. Fact
3. Opinion
4. Opinion

Task F

1. attract → repel
2. never push → push apart
3. must tuch → do not need to touch
4. weakest → strongest

Task G

1. They will attract because opposite poles pull together.
2. They will repel because same poles push apart.
3. Turn one magnet round so north faces south.

Task H

A: About 1100s – Sailors use magnet compasses to find north
B: This lesson – You predict attract or repel from poles facing

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