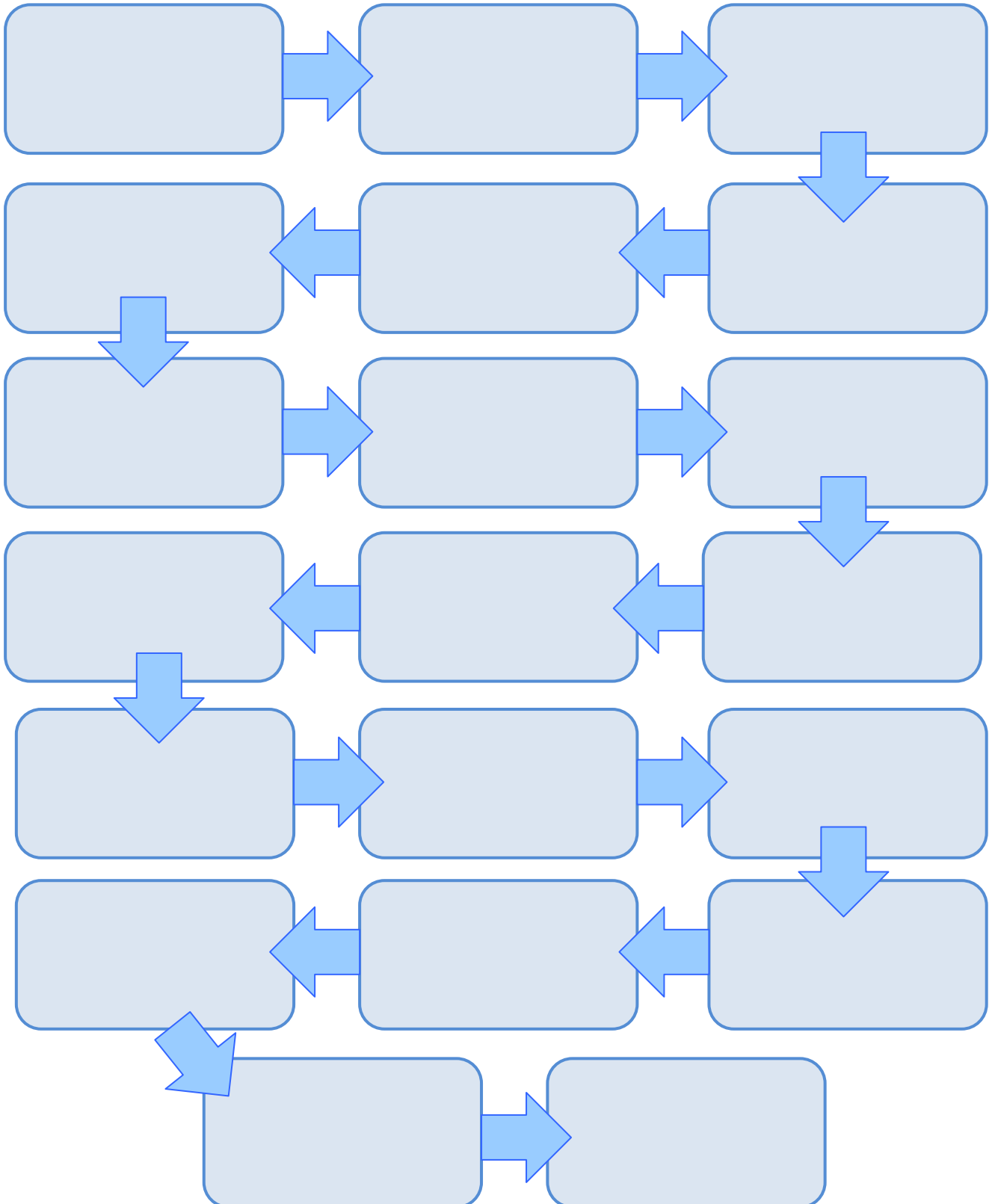Simplify the algebraic indices to find the next card in the sequence. Use the grid below to record the correct sequence of letters.

When you have finished, find the correct starting point in the chain to reveal a hidden message.

y^2	$4y^2$
N	**R**
Simplify: $(y^5)^3$	**Simplify:** $15y^5 \div 5y^2$
$4y^4$	$6y^7$
T	**E**
Simplify: $y^3 \times y^2$	**Simplify:** $4y^5 \div 2y^2$
y^{11}	y^{-3}
I	**N**
Simplify: $y^{-1} \div y^{-3}$	**Simplify:** $y^8 \div y^5$
y^{15}	$2y^3$
T	**A**
Simplify: $2y^5 \times 3y^2$	**Simplify:** $(y^2)^7$

y^{14}	y^5
M	**H**
Simplify: $6y^3 \div 3y^3$	**Simplify:** $y^6 \times y^3$
y^9	$3y^3$
E	**K**
Simplify: $y^4 \div y^4$	**Simplify:** $(2y^2)^2$
y^{-1}	2
S	**W**
Simplify: $y^{-1} \times y^{-2}$	**Simplify:** $y^{-2} \times y^{-2} \times y^{-1}$
y^4	y^{-5}
E	**O**
Simplify: $y^{-1} \times y^2$	**Simplify:** $8y^3 \div 2y$

y^3	y
O	**I**
Simplify: $(y^3)^2$	**Simplify:** $y^2 \div y^3$

y^6	I
I	**R**
Simplify: $y^2 \times y^9$	**Simplify:** $y^2 \times y^2$

Teaching notes

This activity gives practice multiplying and dividing algebraic indices. The secret message element means that the answers can be quickly checked by the students themselves.

The activity is designed to be completed in pairs or small groups and can be used in two ways:

Give each group a set of the cards (20 in total). The students arrange them into a continuous loop to find the hidden message. The cards are not given in order so the students can cut them out themselves.

or

Print the cards onto A3 paper, cut out and stick around the room, corridor or playground. Give each group a copy of the answer grid and send to a starting card (try to give each group a different starting card or stagger the start times to avoid groups simply following each other!). Pupils solve the given problem and move around the room to find the next card in the sequence.

Answer

THERE IS NO I IN TEAMWORK.