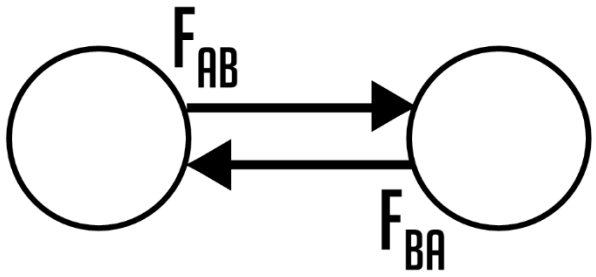
NEWTON'S 3RD LAW OF MOTION

ACTION-REACTION

FOR EVERY _____ THERE IS AN _____ AND _____

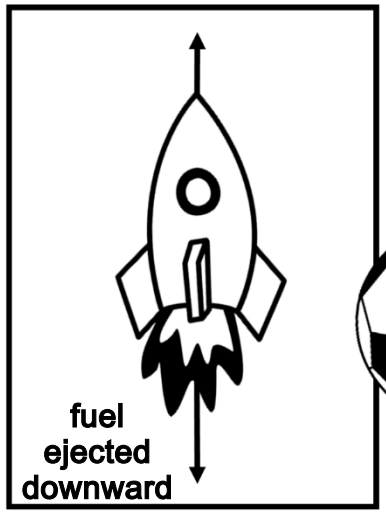
Forces are _____ in magnitude

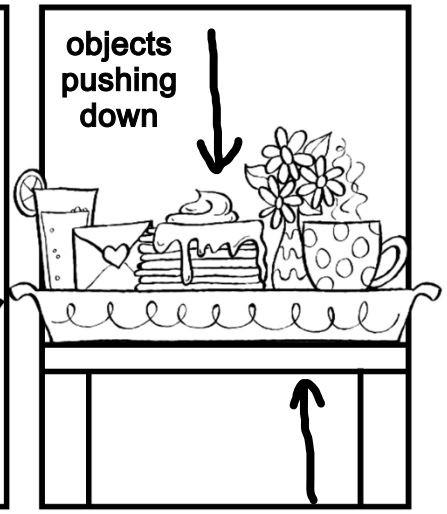
But act in _____ directions



IF _____ EXERTS A FORCE ON _____, THEN OBJECT B EXERTS A FORCE OF _____ _____ IN THE _____ OF OBJECT A.

$$\vec{F}_{AB} = -\vec{F}_{BA}$$





LAW OF ACTION & REACTION

IN EVERY _____, FORCES OCCUR IN _____: _____ & _____. THESE TWO FORCES ACT IN _____ WITH _____.

>> YOUR TURN <<

If you were wearing roller skates and pushed against a wall, what would happen? **Draw a diagram below:**

Checking for UNDERSTANDING

Name: Date:

NEWTON'S 3RD LAW OF MOTION

SPIN THE GEARS

Can you find the gears which won't turn?
Decide whether the following are true or false.

Newton's 3rd Law of Motion informs us that any action undertaken will result in an opposite and equal action.

a

True or False? Explain.

_____

_____

b

True or False? Explain.

_____

_____

Forces occur in pairs, **action** and **reaction**. When a moving ball collides (action) into a stationary one, both move (reaction).

The forces in an action/reaction pair are equal in magnitude, meaning they have different amounts of force.

c

True or False? Explain.

_____

_____

d

True or False? Explain.

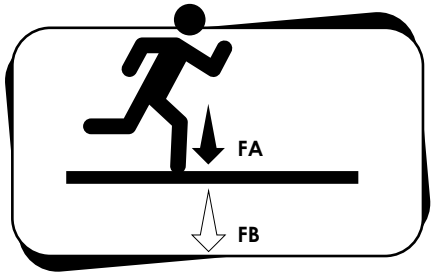
_____

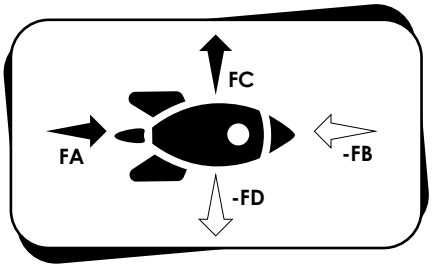
_____

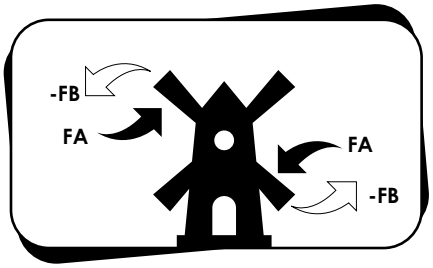
When rowing a boat, you are pushing the paddles forwards, so you move forwards.

KNOW BY SIGHT

Can you identify anomalies?
Cross out the following non-examples or incorrect ideas.







✓ because... _____ _____

✗ _____

✓ because... _____ _____

✗ _____

✓ because... _____ _____

✗ _____

PUZZLE IT OUT

Can you match each puzzle piece?
Connect the terms to the definitions. Watch out! One is missing!

Equal	A	1	A path or course showing tendency or facing.	
Opposite	B	2	A push or pull acted upon an object.	
Direction	C	3		
3rd Law	D	4	Being the same in quantity, size, degree or value	
Force	E	5	Contrary; in a complementary role; opposing	