

Scientific Writing: Linking cause and effect.

In science, you need to be able to connect “cause and effect” in two ways:

1. To emphasise the cause- when explaining why something happens.
2. To emphasise the effect - when describing what happens.

To connect cause and effect we can use connectives as in “*the speed of the car was constant because the forces were balanced.*”; or by using verbs as in “The balanced forces on the car leads to it travelling at a constant speed” .

Notice too, the importance of locating the action in both these sentences, without the object the car it is harder to understand what is happening and why.

Using connectives in different positions changes the emphasis.

because So as	Since Consequently Therefore	For this reason Because of this As a result
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Emphasising the cause.

Example.

Label the Cause, Effect and Connective

“The ball changed shape as a result of the forces applied to it.”

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Emphasising the effect

Example.

Label the Cause, Effect and Connective

“Since there was a force applied to the ball it changed shape.”

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Task 1. Complete these sentences

1. The sprinter accelerates _____ the resultant force was greater in her forward direction.
2. The shopping trolley was stationary _____ the resultant force was zero.
3. _____ the resultant force being greater in the backward direction the racing car slows down.

Task 2

Label these "E" if emphasise the effect or "C" if they emphasise the cause.

1. As parachute opened increasing the surface area the parachutist decelerated
2. The forces acting on the motorcycle were balanced, consequently it travelled at a constant speed.
3. The boat changed direction as the wind blew with a greater force from the east.
4. The lamp post buckled because of the unbalanced forces applied to it by the crashing car.
5. The friction acted in the opposite direction of movement, for this reason the snooker ball eventually stopped.

Task 3: Rewrite the above sentences to change their emphasis.

Task 4: Practice questions

1. Why did the train travel at a constant speed?
2. What would happen to the speed of a car with a greater resultant force in its forward direction.
3. A book sat on a table is pushed with a force of 50 N to the right. Its frictional force acting in the opposite direction is 30 N. What happens and why?
4. A tent peg is hit with a hammer with a force of 100N, the ground pushes back with a force of 100N. What happens and why?