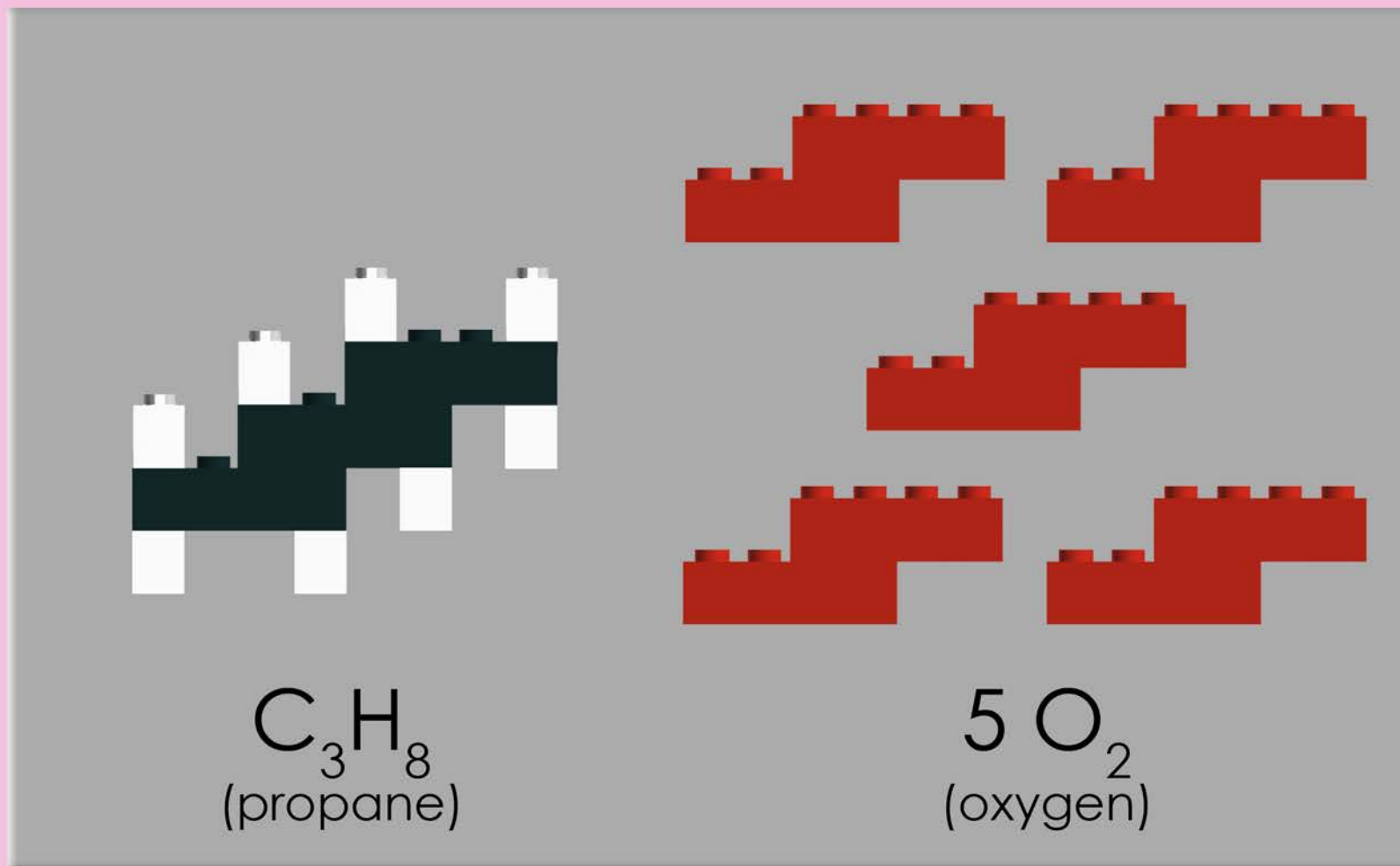


# Burning Fuel

## Complete Combustion

Combustion is a chemical reaction.

Build the fuel and oxygen molecules with LEGO® bricks. Place them on their pictures.



The image shows two sets of LEGO bricks on a grey background. On the left, a propane molecule (C<sub>3</sub>H<sub>8</sub>) is represented by three black bricks connected in a chain, with eight white bricks attached to the ends and joints. On the right, five oxygen molecules (5 O<sub>2</sub>) are represented by five pairs of red bricks connected together. Below the propane model is the chemical formula C<sub>3</sub>H<sub>8</sub> (propane). Below the oxygen models is the chemical formula 5 O<sub>2</sub> (oxygen). To the right of the oxygen models is a yellow starburst labeled 'spark' and a black arrow pointing right labeled '(TURN OVER)'.

$C_3H_8$   
(propane)

$5 O_2$   
(oxygen)

spark

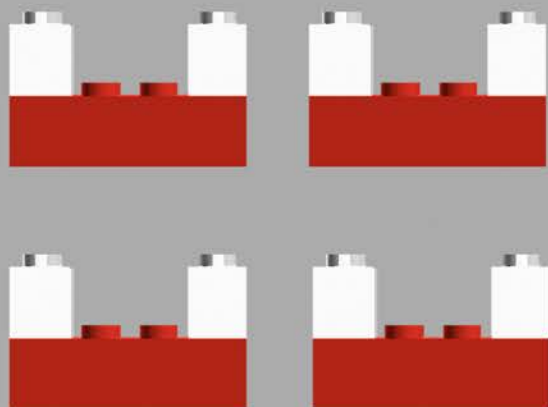
(TURN OVER)

# Burning Fuel

## Complete Combustion

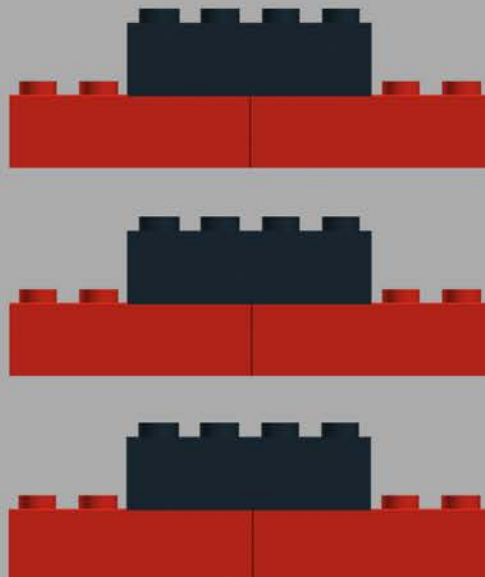
When there is plenty of oxygen available, fuel burns completely, producing only carbon dioxide and water. This reaction is called **complete combustion**.

- 1 Take apart the fuel and oxygen from Side 1. Make as many water molecules as you can with the same LEGO® bricks.



$H_2O$   
(water)

- 2 Make carbon dioxide molecules with the leftover bricks.



$CO_2$   
(carbon dioxide)

- 3 Combustion increases  $CO_2$  (carbon dioxide) in the air. Excess carbon dioxide contributes to climate change by keeping more heat in the atmosphere.

