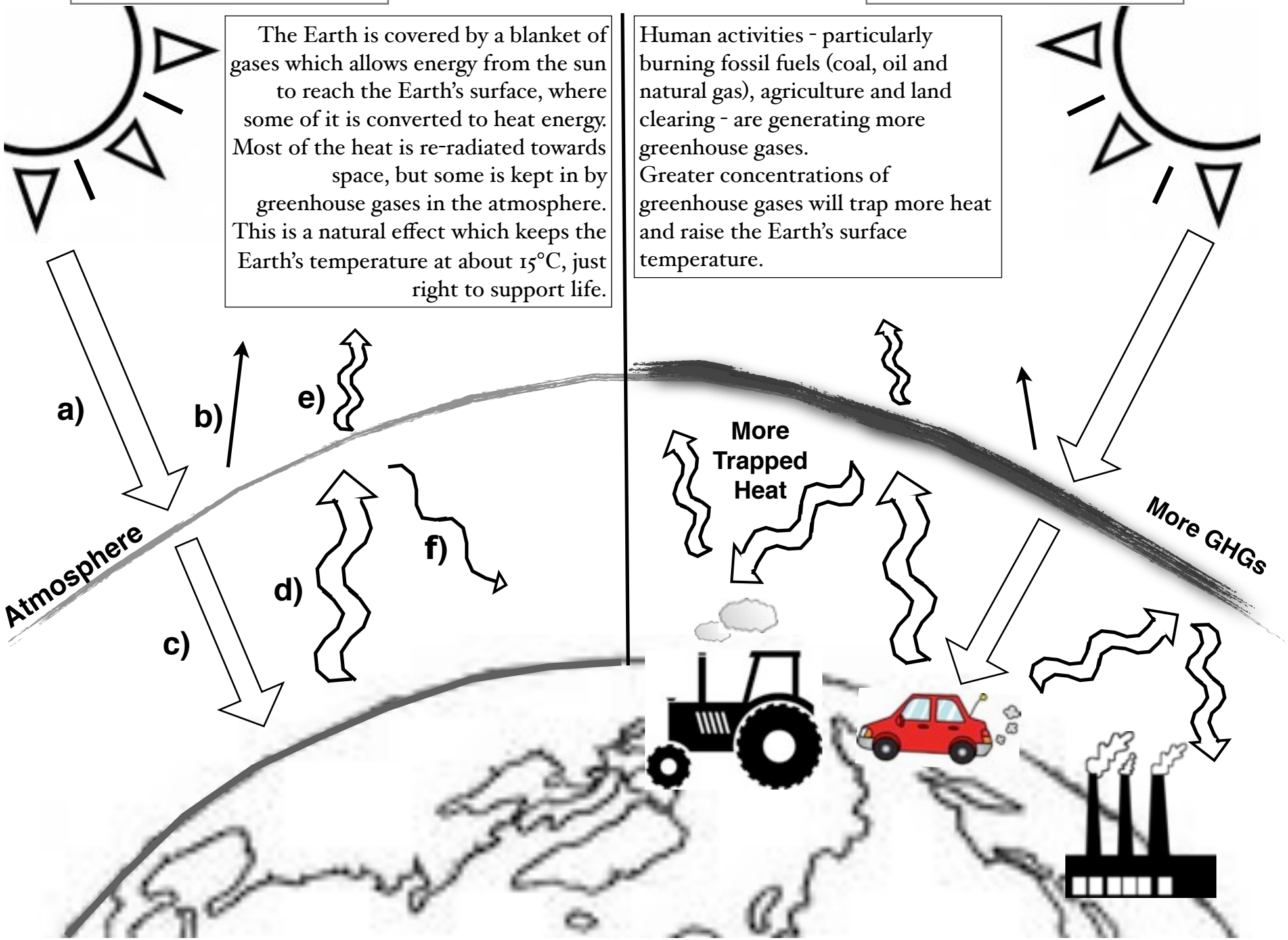
Colour Me!

NATURAL GREENHOUSE EFFECT

The Earth is covered by a blanket of gases which allows energy from the sun to reach the Earth's surface, where some of it is converted to heat energy. Most of the heat is re-radiated towards space, but some is kept in by greenhouse gases in the atmosphere. This is a natural effect which keeps the Earth's temperature at about 15°C, just right to support life.

ENHANCED GREENHOUSE EFFECT

Human activities - particularly burning fossil fuels (coal, oil and natural gas), agriculture and land clearing - are generating more greenhouse gases.
Greater concentrations of greenhouse gases will trap more heat and raise the Earth's surface temperature.



Colouring Instructions for Greenhouse Effect Diagram

Explanation (Read Before Colouring)	Colouring Instruction
1) The Earth is surrounded by a mixture of gases that make up the atmosphere and act as a blanket, warming the Earth.	1) Colour (BLUE) the line that represents the atmosphere .
2 a) As the Sun radiates energy onto the Earth, b)some of the energy is reflected back out into space before reaching the Earth, c)some of the energy passes through the atmosphere and reaches the Earth, and d)some is reflected by the Earth back to the atmosphere.	a) Colour (YELLOW) the arrow coming from the Sun to the Earth . b) Colour (YELLOW) the small arrow that reflects off the atmosphere . c) Colour (YELLOW) the arrow that reaches the Earth . d) Colour (ORANGE) the wavy arrow coming from the Earth.
3 a) Some of this energy goes through the atmosphere and back out to space, but b)some is absorbed by gases in the atmosphere and return to the Earth. The process of the Earth being warmed by the heat that is trapped in the atmosphere is called the “Greenhouse Effect” and the gases in the atmosphere that trap heat are called “Greenhouse Gases”. The Greenhouse Effect is a natural process and it is what makes it possible for life on Earth. Without greenhouse gases in the atmosphere, all of the heat from the sun would go back out into space and the Earth would be very cold!	e)Colour (ORANGE) the wavy arrow going to space. f) Colour (ORANGE) the wavy arrow pointing back to the Earth.
4) Over the last 200 years, burning fossil fuels to drive cars, produce electricity and grow and process food has produced greenhouse gases (GHGs). The amount of GHGs in the atmosphere has increased and so have the average temperatures on Earth. The added GHGs act as an additional blanket on Earth. This is called the Enhanced Greenhouse Effect. The three major greenhouse gases are carbon dioxide, methane, nitrous oxide.	6) Colour (RED) the thicker atmosphere. Colour the arrows, using the same colours as you did in the Natural Greenhouse Effect, follow the flow of the sun’s energy in the Enhanced Greenhouse Effect. Notice that more greenhouse gases in the atmosphere trap more heat.