

# ANSWERS

# **REVERSIBLE AND IRREVERSIBLE CHANGES**

- **1.** REVERSIBLE. Victor's mum will need to filter the water/sugar solution, then cause the water to evaporate.
- 2. REVERSIBLE. Just like, Victor's mum, Edgar will need to use a filter, then cause the water to evaporate.
- 3. REVERSIBLE. It will be tricky, and some of the coffee granules will be lost, but Mr. Ryzkuski should be able to reclaim some of the granules by leaving the coffee and water solution and letting the granules drop to the bottom and settle as sediment.
- **4.** REVERSIBLE. Just like's Mr. R's granules, Toshiaka would find that eventually, the flour would settle as a sediment.
- IRREVERSIBLE. Though Victor might think otherwise (well he did bring his dog back to life!), it is impossible to turn a cooked egg back into a runny egg. The cooking of the egg has changed its chemical make-up and it cannot be changed back.
- 6. IRREVERSIBLE. Burning things changes their state permanently, once burnt, they can't be changed back into their original state.



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# KITCHEN SCIENCE

Flax seeds contain a soluble fibre – this means that when they are boiled, the fibres dissolve and expand to form a jelly like substance.

# THE CONDITIONS NEEDED FOR LIFE

To survive, we need for our hearts and brains to pump blood around our bodies; we also need food, water and shelter.

To live and be happy, we need exercise, love and affection, support from our friends and family, communication and stimulus.

### **BALANCED AND UNBALANCED FORCES**

When Persephone is lying still, the forces are balanced. She is not moving. As she is resting on the ground, her weight acts as a downward pull. The ground that she's resting on has another force pushing upwards. The downward and upward forces are equal and she doesn't move or fall over.

When forces on an object are not balanced, like when the she gets a shock from Sparky, she changes direction and falls over!





### LIFE FORMS

#### Nutrition

Shelley would eat bugs and leaves. Shelley the monster would eat people and trees!

#### Movement

Shelley would move very slowly. Shelley the monster can walk on two legs and move quicker, its weight would crush everything it steps on!

#### Growth

Shelley would take a long time to grow – about a year from being a baby to 'adult' size.

Shelley the monster grew instantaneously when Toshiaki used science on him.

#### Habitat

Shelley likes to live in warm, sheltered places. Shelley the monster will have to find a very big box and blanket to live in!

### CIRCUIT STORYBOARD

There should only be metal objects placed in the circuit, as metals are generally good conductors of electricity. Plastic and rubber are insulators of electricity – meaning that electricity will not pass through them.

The pineapple with its skin on will not conduct electricity, but its flesh can because the juice is acidic. For more information, see these tutorials on <u>how to make a fruit-powered battery</u>.





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