Activity sheet 1

Think about where you might find electric motors at home and in an engineering workplace.

- List some examples of what equipment or appliances these motors might power, or arrange your ideas as two concept maps (one for the home and one for an engineering workplace).
- What type of electrical power supply are these motors most likely to be connected to?

Royal Academy of Engineering

2

Electrical machines

Activity sheet 2

Apply what you have learned about the characteristics of DC and AC motors to choose the best type of motor for each application.

Explain your reasoning.

Power tool

A cordless power tool motor needs to provide a wide range of speed and torque.

Choice:

Reason:

Forklift

A warehouse forklift truck needs very high starting torque for moving and lifting loads. It runs on a 48 V DC battery.

Choice:

Reason:

HVAC fan (heating, ventilation, air conditioning)

The extraction fans in a workshop will operate in a narrow speed range.

Choice:

Reason:

Clock

A factory wall clock needs a low-speed motor that runs off mains electricity.

Choice:

Reason:

Hoist

A high-load hoist needs a motor with very high power output.

Choice:

Reason:

Conveyor

A conveyor in a food processing plant must move at a consistent speed.

Choice:

Reason: