

# Water Rights Crisis

Severe droughts lead to water rationing across healthcare systems.

#### \* Action

If your object is in the RECOVER phase and needs water to clean or recycle, move down a spiral.



## Battery Scarcitu

Global lithium shortages hit. Rechargeable products are halted.

#### \* Action

If your object is in the MAKE phase and contains batteries, skip your next turn.



### Trade War: Rare Metals

Conflict over critical minerals disrupts electronics globally.

#### \* Action

If your object is in the RECOVER phase and includes electronics, move down a spiral.



## Antibiotic Resistance Wave

Superbugs force a total reset of infection control protocols.

#### \* Action

If your object is in the USE phase and cannot be sterilised, move down a spiral.



# Patent-Free Materials Revolution

Open-source material libraries explode. Local innovators thrive.



If your object is in the MAKE phase, move up a spiral.



# Shipping Routes Collapse

Global shipping lanes are blocked by climate and conflict.

# \* Action

If your object is in the MAKE phase and is imported, skip your next turn.



# Hospital Evacuation Protocols

Wildfires threaten NHS sites. Assets must move fast.

## \* Action

If your object is in the USE phase and is easy to transport, move up a spiral.

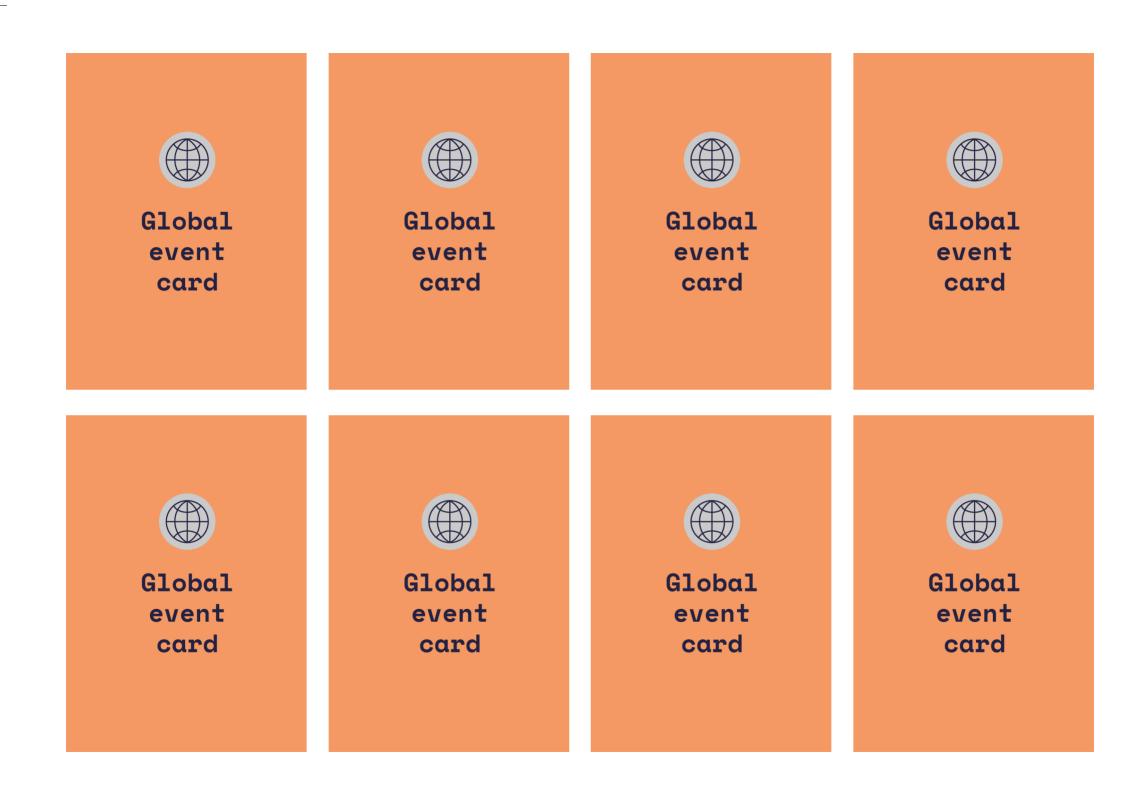


### Circular Procurement Mandate

Scotland enforces 90% circular procurement for NHS products.

## \* Action

If your object is in the MAKE phase and is not reuseable, move down a spiral.





# Orbital Logistics Crisis

A satellite debris storm knocks out GPS. Global logistics collapse.

#### \* Action

If your object is in the MAINTAIN phase and can't easily be cleaned, move down a spiral.



# National Reuse Registry Launched

A digital platform connects NHS sites to share, exchange, and redeploy surplus or underused items.

#### \* Action

If your object is in the USE phase and is shareable, move up a spiral.



# Carbon Transparency Law

A new law requires carbon scores to be disclosed for all NHS products. High-carbon options are de-prioritised.



If your object is in the MAKE phase and includes unrecycled plastics, move down a spiral.



# AI Oversight Freeze

A major cyberattack pauses all smart medical devices.

### \* Action

If your object is in the MAINTAIN phase and relies on AI or sensors, move down a spiral.



# Planetary Overshoot Declared

Six planetary boundaries are breached. Emergency protocols reshape production.



If your object is in the **MAKE** phase and uses virgin materials, **move down a spiral.** 



# Personalised Fit Standardised

All wearable NHS equipment must now be adjustable to reduce waste and improve patient outcomes.

## \* Action

If your object is in the **USE** phase and is adjustable or custom-fit, move up a spiral.



# Right to Repair Act

Legislation grants NHS staff and partners the legal right and tools to repair all clinical equipment.

# \* Action

If your object is in the MAINTAIN phase and is modular or designed for repair, move up a spiral.

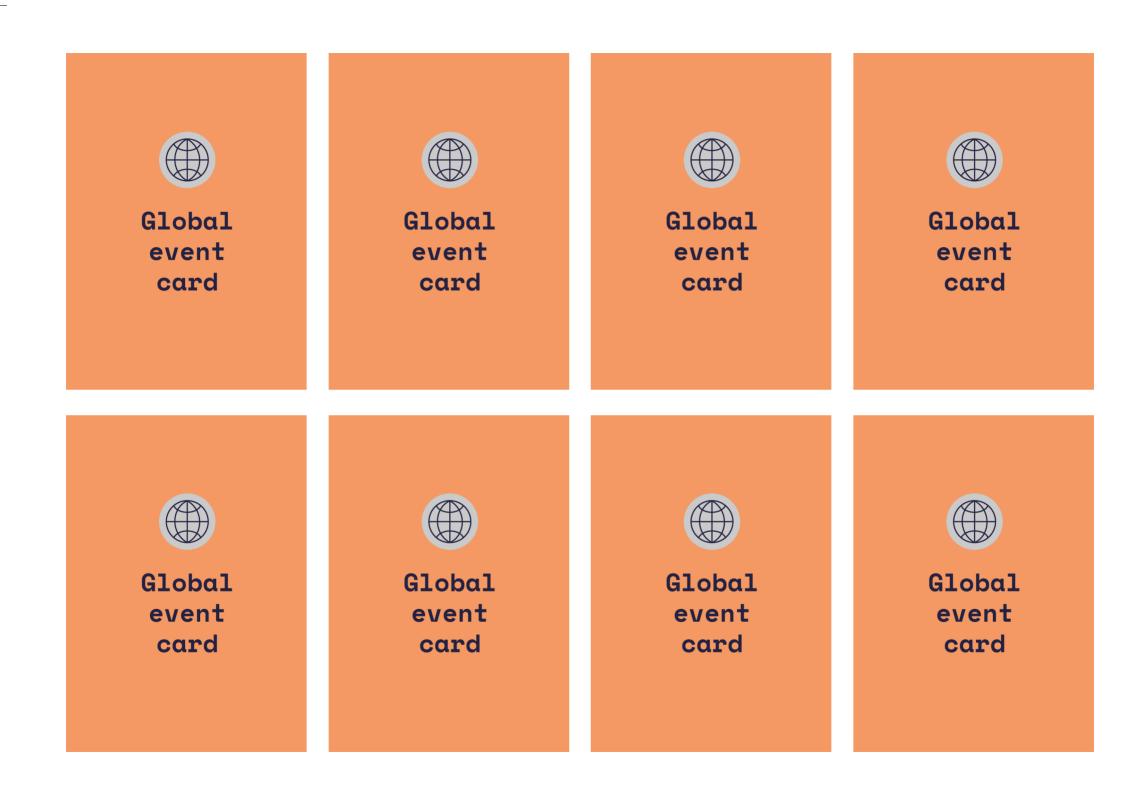


### Soil Collapse Crisis

Textile agriculture collapses as topsoil vanishes.

# \* Action

If your object is in the MAKE phase and contains cotton or linen, move down a spiral.





Scissors



Scrubs



Medical Clipboard



Patient ID Tag



Crocs



Walker



Constructed from
stainless steel, often
with plastic-coated
handles. Though durable,
they are frequently
used only once due to
sterilisation protocols.
After use, many are
treated as contaminated
and disposed of in
sharps containers for
incineration.



Made from polyestercotton blends, scrubs
are issued to staff
daily and laundered at
high temperatures. They
experience heavy use and
frequent washing, leading
to rapid wear. Once damaged
or heavily stained, they
are typically discarded
and incinerated with
clinical waste.



Typically made from rigid plastic or laminated board, clipboards are used for handling patient notes and charts. They see daily use in wards and clinics. Damaged or defaced boards are discarded and often sent to landfill or general waste streams.



Made from thin plastic with printed adhesive labels. Issued to every admitted patient and worn throughout their stay. Tags are removed at discharge and disposed of as general or clinical waste, depending on hospital protocol.



Manufactured from EVA
(ethylene-vinyl acetate)
foam. Worn by clinical
staff for comfort and
slip-resistance during
long shifts. Used
repeatedly but discarded
once worn or contaminated.
Typically binned as
general or clinical waste
without material recovery.



Built from aluminium frames
with rubber grips and
plastic fittings. Walkers
are used by patients for
mobility support, often
during short hospital
stays. Once no longer
needed, they are stored
indefinitely, returned to
suppliers, or discarded
due to wear or hygiene
concerns.



### Closed Loop

How might your object be collected and turned into something new—by being cleaned, reused, or recycled?



Action

If most players like your innovation idea move up one spiral.



# Product as a Service

How might your object be leased or shared instead of owned—so someone else is responsible for looking after it?



Action

If most players like your innovation idea move up one spiral.



#### Pack Less, Ship Smarter

How might your object arrive with less waste-by using reusable packaging or being made closer to where it's needed?



Action

If most players like your innovation idea move up one spiral.



## Shared Systems

How might your object be shared across departments or hospitals—so it is used more and wasted less?

#### \*

Action

If most players like your innovation idea move up one spiral.



### Decentralised Repair

How might your object be fixed locally—at the hospital or clinic without needing to be sent away?



Action

If most players like your innovation idea move up one spiral.



### Biological Loops

How might your object break down safely into nature at the end of your life—like compostable dressings or wrappers?



Action

If most players like your innovation idea move up one spiral.



### Circular Data

How might your object report back how well it's doing—on waste, reuse, or emissions?



Action

If most players like your innovation idea move up one spiral.



# Disassembly by Design

How might your object be taken apart easily—so parts can be reused or recycled?

#### \*

Action

If most players like your innovation idea move up one spiral.









Circular Innovation



Circular Innovation



Circular Innovation



Circular Innovation



Circular Innovation



# Product Life Extension

How might your object stay useful for longer by being easy to repair, refurbish, or remanufacture?



If most players like your innovation idea move up one spiral.



## User-Led Adaptation

How might NHS staff
easily change, fix, or
upgrade your object—
without needing expert
help?

#### ← Action

If most players like your innovation idea move up one spiral.



# Design for Decontamination

How might your object be easier to clean or sterilise—so it doesn't need to be thrown away?

Action

If most players like your innovation idea move up one spiral.



### Material Substitution

How might your object swap its current materials for greener, safer, or recycled ones?

Action

If most players like your innovation idea move up one spiral.



# Smart Material Choices

How might your object's materials help the planet-by being recycled, recyclable, or biodegradable?

\* Action

If most players like your innovation idea move up one spiral.



# Modularity

How might your object be built in parts that can be swapped or upgraded instead of throwing you away?

Action

If most players like your innovation idea move up one spiral.



# Embedded Intelligence

How might your object track its own use or wear—so the system knows when to repair or replace it?

¥ Action

If most players like your innovation idea move up one spiral.



# On-Demand Production

How might your object only be made when it's actually needed—cutting down waste and storage?

Action

If most players like your innovation idea move up one spiral.









Circular Innovation



Circular Innovation



Circular Innovation



Circular Innovation



Circular Innovation



Use Phase

# Blocked in Transit

The object is stuck between wards due to poor signage.



Action

Skip your next turn.



Use Phase

# Incorrect

The object was used improperly and requires a check-up.



Action

Move forward to the next MAINTAIN space.



Use Phase

#### Sterilisation Error

The object fails a sterilisation cycle and is quarantined.



Action

Move forward to the next MAINTAIN space.



Use Phase

# Dropped and Damaged

The object has been dropped and damaged. It will need to be repaired.



Action

Move down one spiral and around to the next MAINTAIN space.



Use Phase

#### Portability Praised

Users love the ease of moving this object across departments.



Action

Swap your object with another player's object.



Use Phase

#### Positive Patient Outcome

The object directly contributed to faster patient recovery.



Action

Move back two spaces.



Use Phase

# Exceeded Life Expectancy

The object has lasted longer than predicted with no issues.



Action

Move one spiral up.



Use Phase

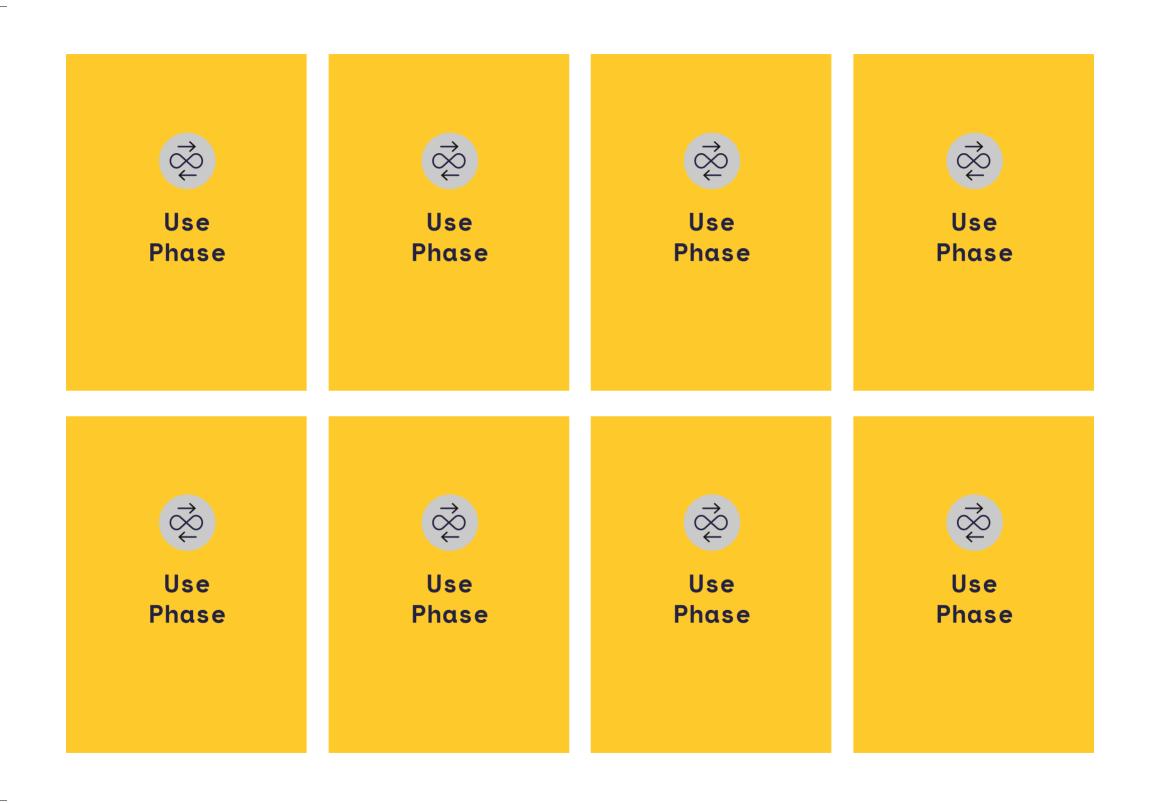
### Feedback from Staff

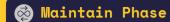
Staff find your object intuitive and effective.



Action

Move one spiral up.



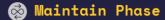


#### Maintenance Error

Incorrect servicing caused new faults.

Action

Move down a spiral.

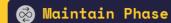


#### Quick Fix

A small fault is spotted early and resolved.

Action

Move back three spaces.



### Spare Part Backlog

You're waiting on a key part for repair.

Action

Skip your next turn.

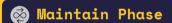


## Routine Maintenance Success

The object was serviced with no issues.

Action

Move one spiral up.

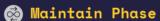


### Documentation Missing

You can't find repair guidelines.

Action

Skip your next turn.



#### Expert **Onsite**

A new technician reduces downtime.

Action

Move back two spaces.



# Maintain Phase

## Maintenance Deferred

There's a backlog of urgent repairs.

Action

Move down a spiral.



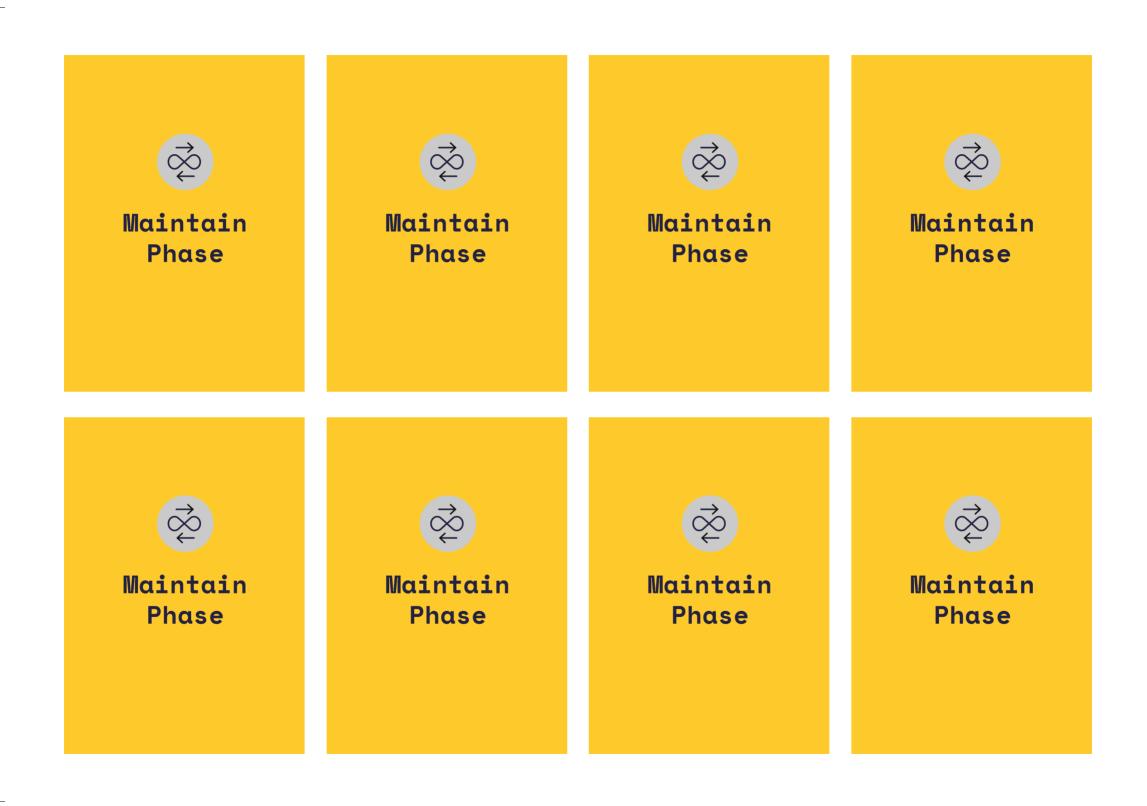
# 🚳 Maintain Phase

## Staff-Led Upgrade

Your staff adapt and improve the object.

Action

Move to the previous MAKE space.





# Recover Phase

#### Recycling Stream Overloaded

The local recycling facility is overwhelmed.



Action

Skip your next turn.



# Recover Phase

### Fully Reclaimed

Every component of the object is reclaimed successfully.



Action

Move up to the top spiral.



# Recover Phase

## Part Beyond Salvage

A key part cannot be reused or replaced.



Action

Move forward three spaces.



# Recover Phase

#### Repair Café Launched

The hospital sets up a repair café onsite.



Action

Roll the dice and move back that many spaces.



# Recover Phase

## Innovation in Disassembly

An easy-disassembly feature cuts recovery time.



Action

Move up one spiral.



# Recover Phase

### **Energy-Intensive** Recovery

The recovery process consumes excessive energy.



Action

Take another turn.



# Recover Phase

## Creative Repurposing

Your object is repurposed for a different use in the hospital.



Action

Move back to any USE space.



# Recover Phase

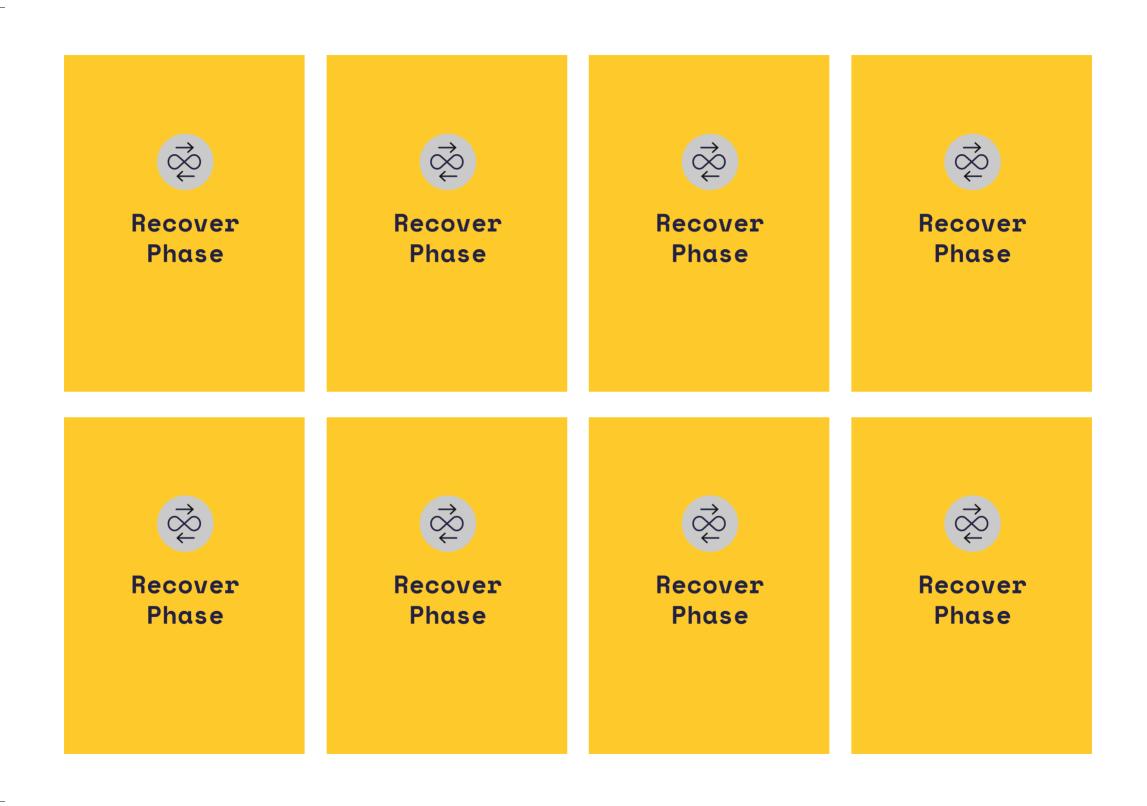
### Material Traceability

Clear labelling allows fast and clean separation of materials.



Action

Move back four spaces.





## Make Phase

# Supply Chain Delay

A critical material shipment is delayed due to extreme weather.



Action

Skip your next turn.



## Make Phase

### Batch Contamination

A production batch is contaminated and discarded.



Action

Move forward one space.



# Make Phase

# Local Sourcing Win

You've switched to a locally sourced material, speeding up production.



Action

Move back five spaces.



## Make Phase

## Mislabelled Components

Mislabelling leads to assembly errors.



Action

Move forward one space.



# Make Phase

# Tooling Upgrade

You gain access to new equipment that reduces waste during manufacturing.



Action

Move back three spaces.



## Make Phase

# Unexpected Design Flaw

Your prototype fails safety tests and must be redesigned.



Action

Move down a spiral.



# Make Phase

### Biodegradable Breakthrough

You discover a compostable material that meets NHS standards.



Action

Move back five spaces.



# Make Phase

#### Modular Design Chosen

The design team selects a modular approach that extends life.

\*

Action

Move back three spaces.

