NOTES FOR THE TEACHER:

This is a suggested slide deck to go with our lesson plan 'Redesigning Plastics'.

It has two sections:

1) **exploring how plastics are currently produced and designed, its benefits and the challenges that this poses.**
2) **supporting students in their own process of rethinking and redesigning.**

Please adapt them to your context and needs and let us know how it goes.

On the final page of the accompanying lesson plan, you will find links to further information and contacts.

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Redesigning Plastics - PART 1

The New Plastics Economy

MAVA FONDATION POUR LA NATURE

SUN Institute Environment & Sustainability Initiated by Deutsche Post Foundation

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You are joining students in over 100 countries in the

WORLD'S LARGEST LESSON

Don't forget to add your lesson moment to the interactive world map – and help write the story of the World's Largest Lesson!
http://worldslargestlesson.globalgoals.org/map

WORLD'S LARGEST LESSON

With the

ELLEN MACARTHUR FOUNDATION

This lesson inspires creative problem solving towards 5 of the

THE GLOBAL GOALS
For Sustainable Development

2 ZERO HUNGER

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

NPEC

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WHAT IS MADE OF PLASTIC?

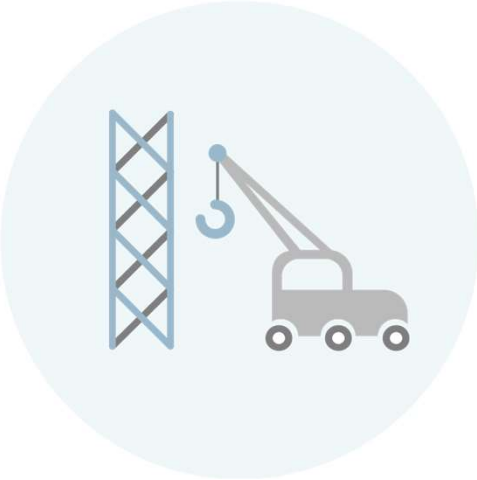
NPEC

Write down as many things as you can!

GO! - 1min

APPLICATIONS

Plastics are everywhere



From Football to Make-up

It's all plastic

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What is it good for?

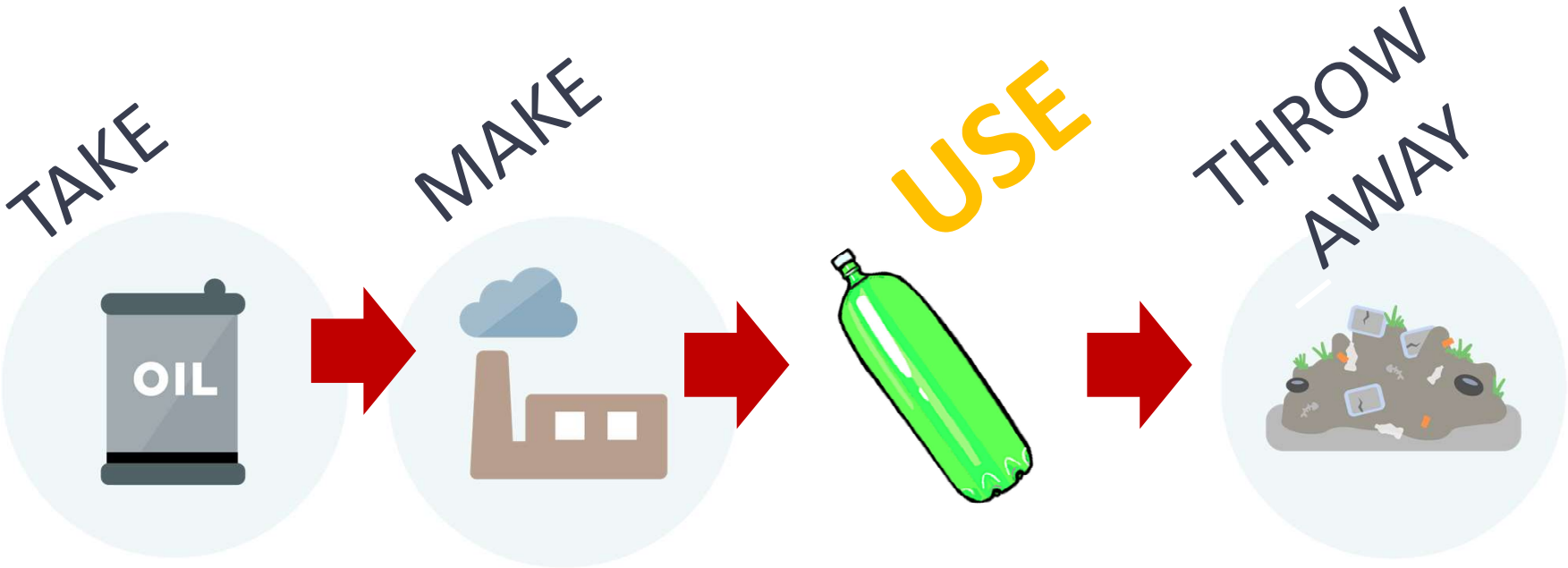
The Pros and Cons of plastics

On your post-it notes:

1) Write down all the good things about plastic
2) Write down all the bad things about plastic

HOW ARE PLASTICS PRODUCED?

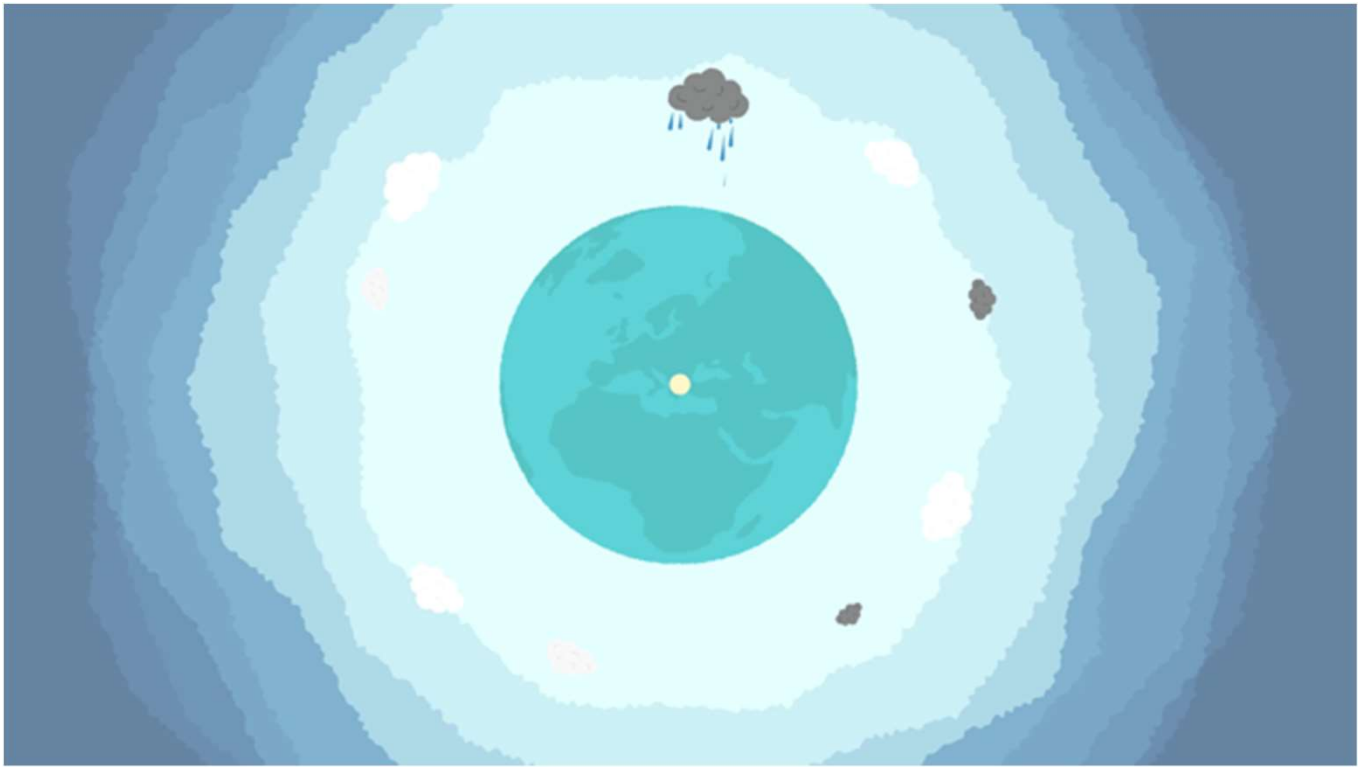
A linear system



CIRCULAR ECONOMY

Learning from natural systems

NPEC



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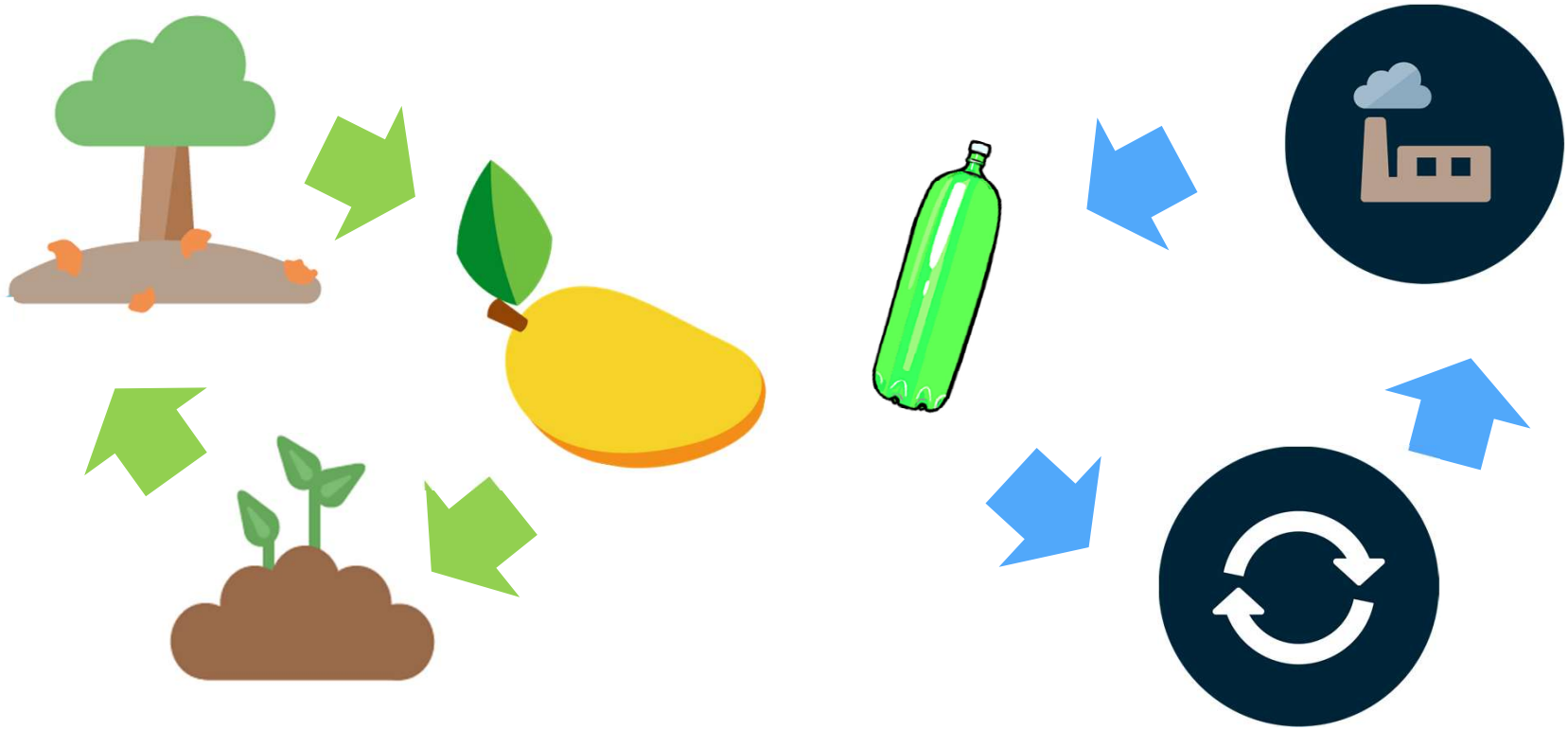
Quick re-cap: What do you understand from the video?

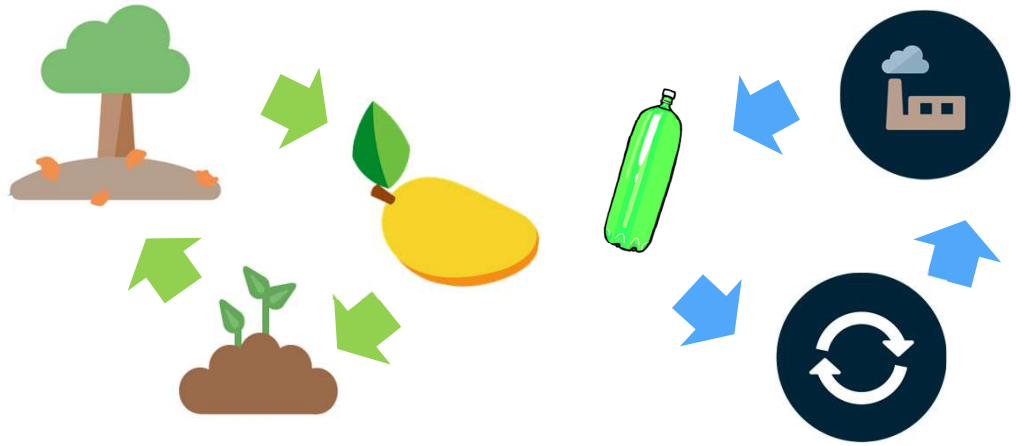
LEARNING FROM NATURE'S CYCLES



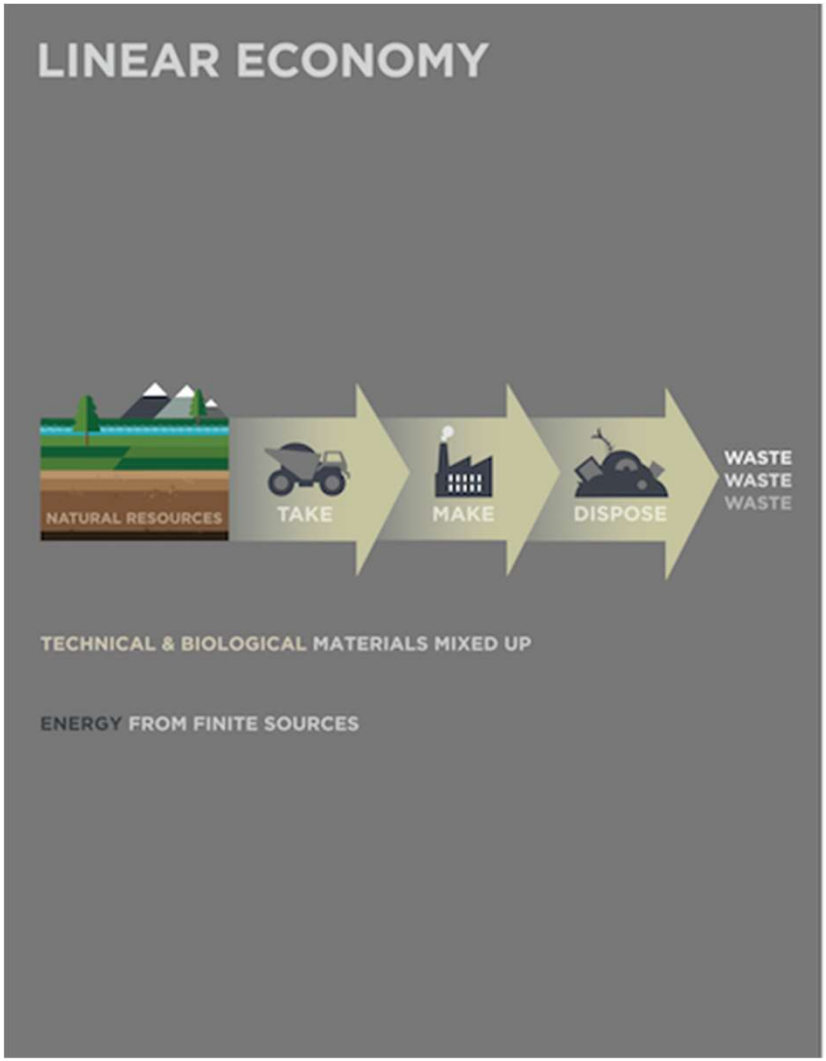
LEARNING FROM NATURE

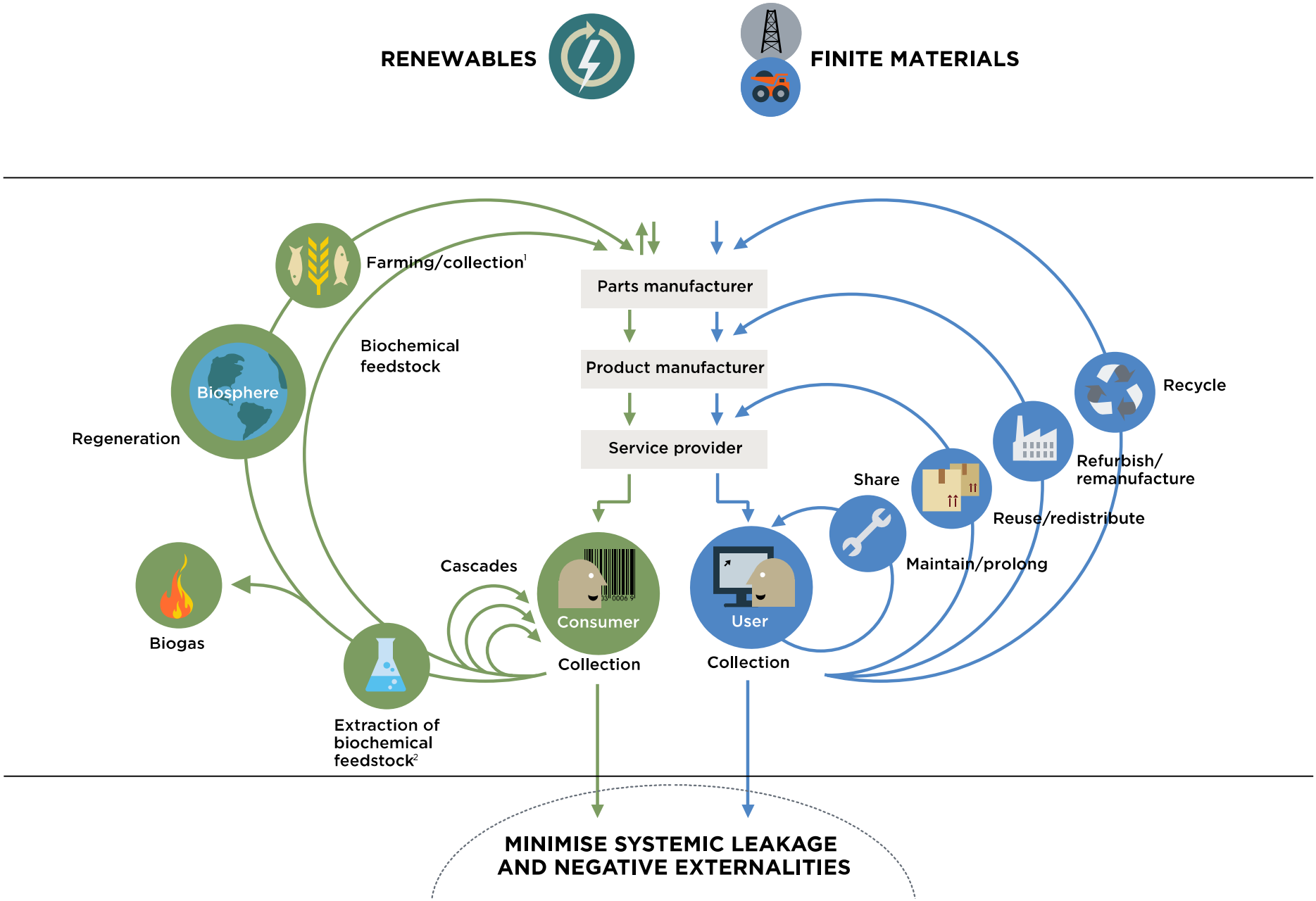
1) Keep materials in cycles

2) Nothing becomes ‘waste’

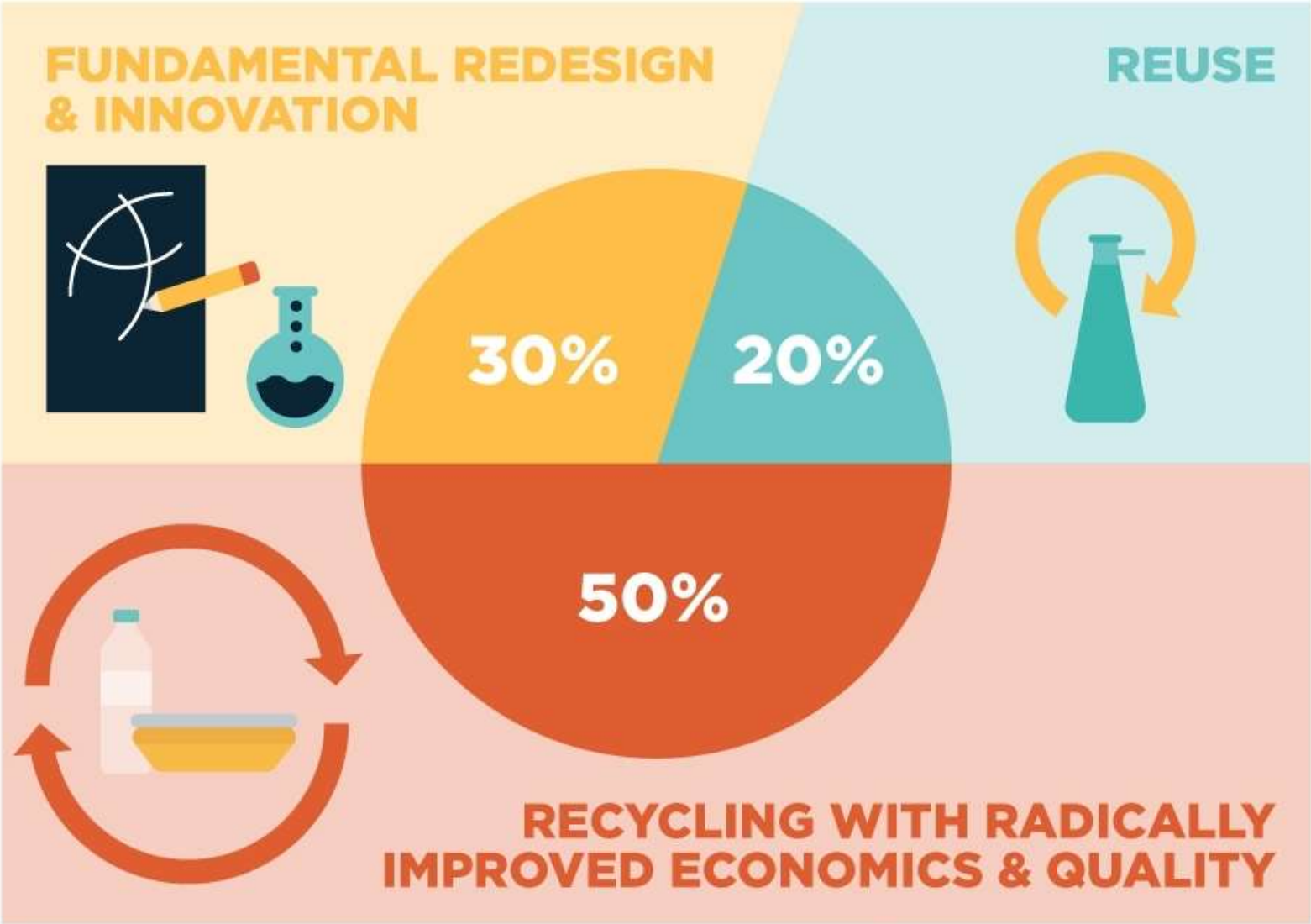


FROM LINEAR TO CIRCULAR




RENEWABLES
FINITE MATERIALS
Farming/collection[1]
Biochemical feedstock
Biosphere
Regeneration
Parts manufacturer
Product manufacturer
Service provider
Recycle
Refurbish/ remanufacture
Reuse/redistribute
Share
Maintain/prolong
Cascades
Consumer
User
Collection
Collection
Biogas
Extraction of biochemical feedstock[2]
MINIMISE SYSTEMIC LEAKAGE AND NEGATIVE EXTERNALITIES

Three strategies to transform the global plastic packaging market



World Economic Forum and Ellen MacArthur Foundation
The New Plastics Economy – Catalysing action
(2017, www.newplasticseconomy.org).

NEW PLASTICS ECONOMY

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An example combining this

A new way of doing business?

1) Keep materials in the loop

2) Nothing becomes 'waste'

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Redesigning Plastics - PART 2

The New Plastics Economy

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DESIGN CHALLENGE

Small groups, big change

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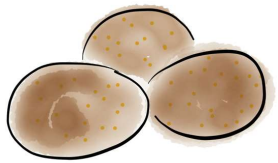
What process did they go through to get to you?

DESIGN CHALLENGE

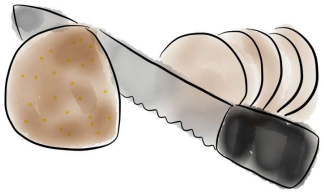
The potato journey

1



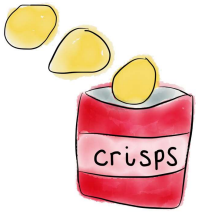
Potatoes were grown, then harvested

2



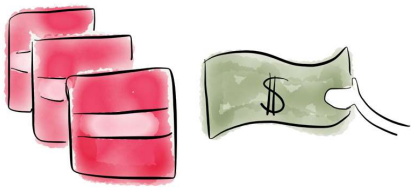
They were taken to a factory where they were baked, sliced and processed.

3



The crisps were baked then put into a bag

4

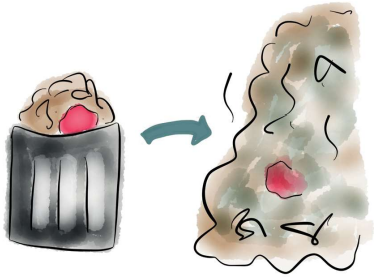


I bought them at the shop

5

Then I ate them

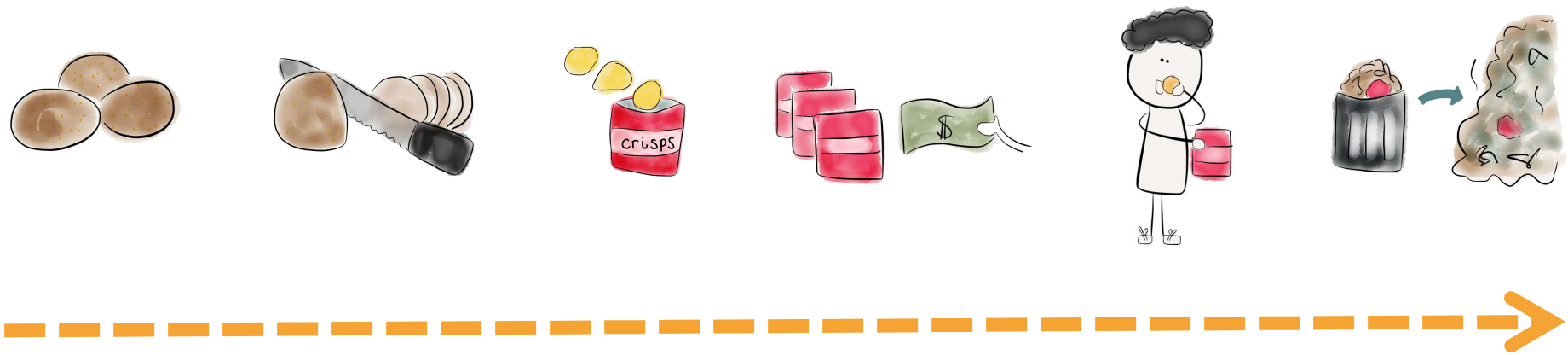
6



The packet will go to the dump

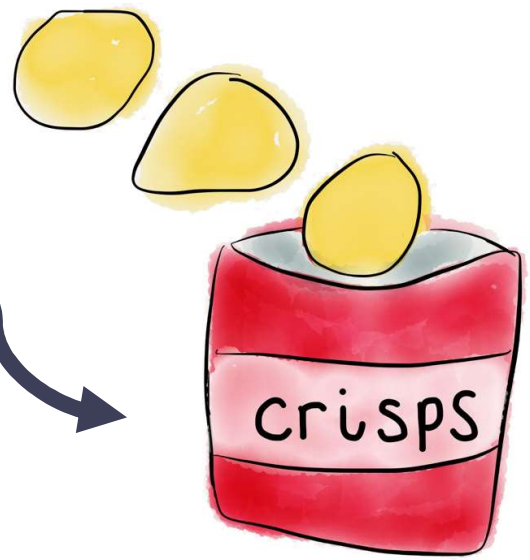
DESIGN CHALLENGE

The linear story



How might we re-design packaging?

Packaging



LET’S REDESIGN

Here’s an example from real life

DESIGN CHALLENGE

Let's use the item

2 Select someone in your group and let them use the item.

How do they use it? What do you notice?

DESIGN CHALLENGE

What's great about the packaging?

NPEC

3 Ask that person to choose one thing

…they like most about the packaging?

_____

…that could be better?

_____

DESIGN CHALLENGE

Create your own material features checklist

NPEC

4

Write a list of the things your packaging needs to do:

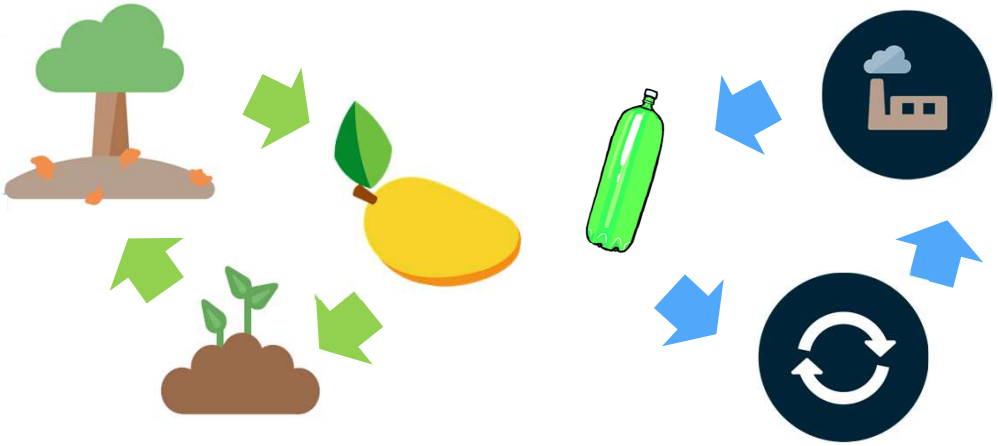
- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____

DESIGN CHALLENGE

Remember these principles?

1) Keep materials in cycles

2) Nothing becomes ‘waste’



DESIGN CHALLENGE

Let's work through the Design Game Sheet

NPEC

5 Write down your 'how might we' question in the following format.

"How might we design a _____ so that

_____

_____

and is fit for the circular economy?"

DESIGN CHALLENGE

Let's work through the Design Game Sheet

NPEC

6 Use post-its and write or draw as many ideas as possible to answer your **'how might we…'** question from number 5.

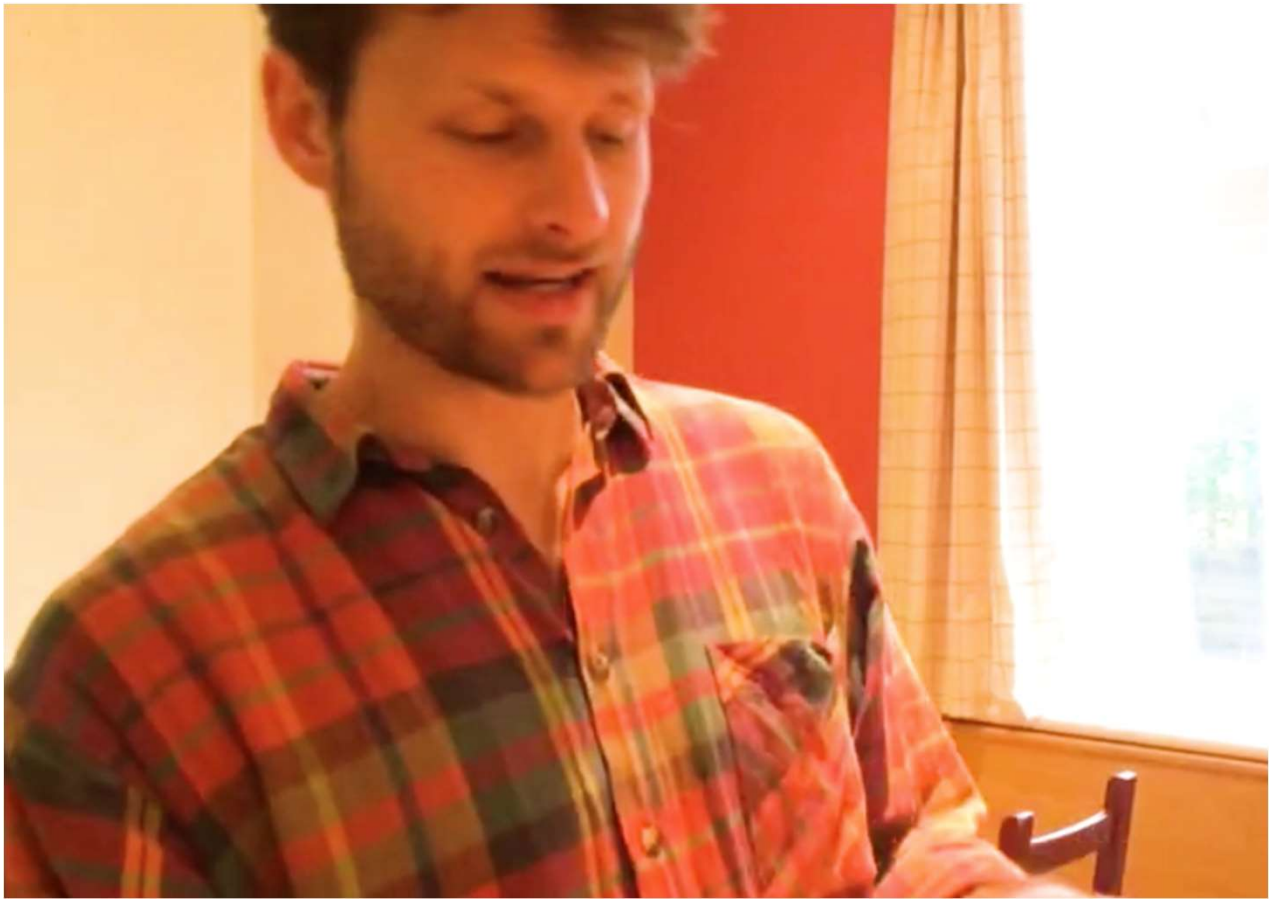
DESIGN CHALLENGE

Let's work through the Design Game Sheet

NPEC

7 Select one idea that you want to explore further and prototype.

SOME PROTOTYPING INSPIRATION



DESIGN CHALLENGE

Let's work through the Design Game Sheet

NPEC

8 Now, it is time to prototype! Create a prototype that communicates the key idea of your design.

DESIGN CHALLENGE

Let's work through the Design Game Sheet

NPEC

9 Share your idea! Prepare to present to the class:

1) What is great about your packaging?
2) Present your prototype

DESIGN CHALLENGE

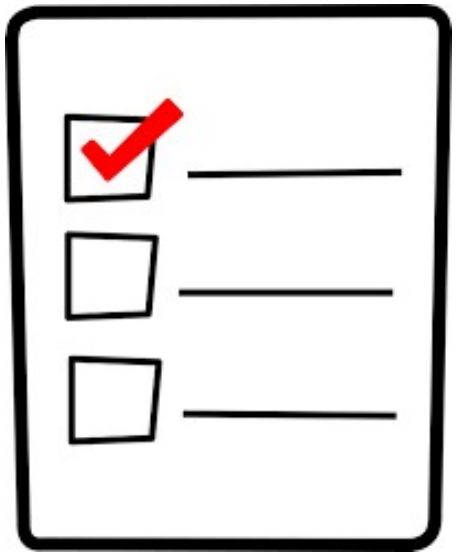
Let's work through the Design Game Sheet

NPEC

10 Congratulations, you are now a designer! What did you learn today?

What can be done to make the circular economy a reality for plastics?

Now that you have learned about plastics, list all the steps that can be taken to improve the plastics system…



WORLD'S LARGEST LESSON

Share your design with the world!
#WorldsLargestLesson

@TheWorldsLargestLesson
@EllenMacArthurFoundation

@TheWorldsLesson
@circulareconomy

@theworldslesson

Add your idea to the interactive world map –
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