

# PRACTICAL ACTION SCHOOLS

Presenter name  
and/or date

**Practical  
ACTION**



Putting STEM into a  
**GLOBAL**  
**CONTEXT**



Teaching Resources

# LIGHT UP YOUR CHILDREN'S LEARNING

**Looking for engaging resources that will inspire  
your children?**

## FIND RESOURCES

Age



Category



Subject



Enter search terms here



## FIND RESOURCES

7-11



STEM Challenges



Subject



Enter search terms here



### Plastics challenge

Read the full story

SCIENCE STEM CHALLENGES

COMPETITIONS & AWARDS

### Beat the flood

Read the full story

STEM CHALLENGES COMPETITIONS & AWARDS

### Squashed tomato challenge

Read the full story

SCIENCE STEM CHALLENGES



(1 MB)

### Floating garden challenge - Home learning guide

A guide to help parents and carers run the Floating garden challenge with their children...

[Download](#) [File details](#)



(38 MB)

### Floating garden challenge - Teacher's guide

A guideline to support teachers to run the challenge with a group of pupils....

[Download](#) [File details](#)



(6 MB)

### Floating garden challenge - Pupil activity sheets

Worksheets that enable pupils to record their research, design ideas and evaluation activities....

[Download](#) [File details](#)



(8 MB)

### Floating garden challenge - PowerPoint

floating garden PPT

[Download](#) [File details](#)



(723 kB)

### Floating garden challenge - PowerPoint notes

Notes for teacher's to help make the most of the presentation to introduce and run the Floating garden challenge....

[Download](#) [File details](#)



(166 kB)

### Floating garden challenge - Certificates

Certificates awarded to pupils who've completed the Floating garden challenge....

[Download](#) [File details](#)



# SQUASHED TOMATO CHALLENGE

Home learning guide



[practicalaction.org/schools/squashed-tomato-challenge](https://practicalaction.org/schools/squashed-tomato-challenge)

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# REGREEN THE DESERT

Home learning guide



[practicalaction.org/schools/regreen-the-desert](https://practicalaction.org/schools/regreen-the-desert)

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What educators  
**SAY ABOUT US**





**Headteacher  
Maria Steganwaler**

“It’s stuff that’s going to delight and excite my teachers”

<http://bit.ly/2ZzgSkP>



**Primary Teacher  
Karyn Horan**

“Very good for pupils evaluating their work”

<http://bit.ly/2zha3KO>



**Teacher trainer  
Janine Delorenzo**

“I really endorse Practical Action and all their resources”

<http://bit.ly/31gZX75>



**STEM Coordinator  
Elaine Manton**

“We are using Stop the Spread for our KS3 assessment and SLA Awards”

<http://bit.ly/2KxB8ge>



**University outreach  
James Brown**

“We used the Squashed tomato challenge in many schools in North East”

<http://bit.ly/2T7XXlk>



**Head of Science  
Liz Painter**

“We use them (resources) in the curriculum and as whole day STEM activity as well”

<http://bit.ly/2OWOt7B>

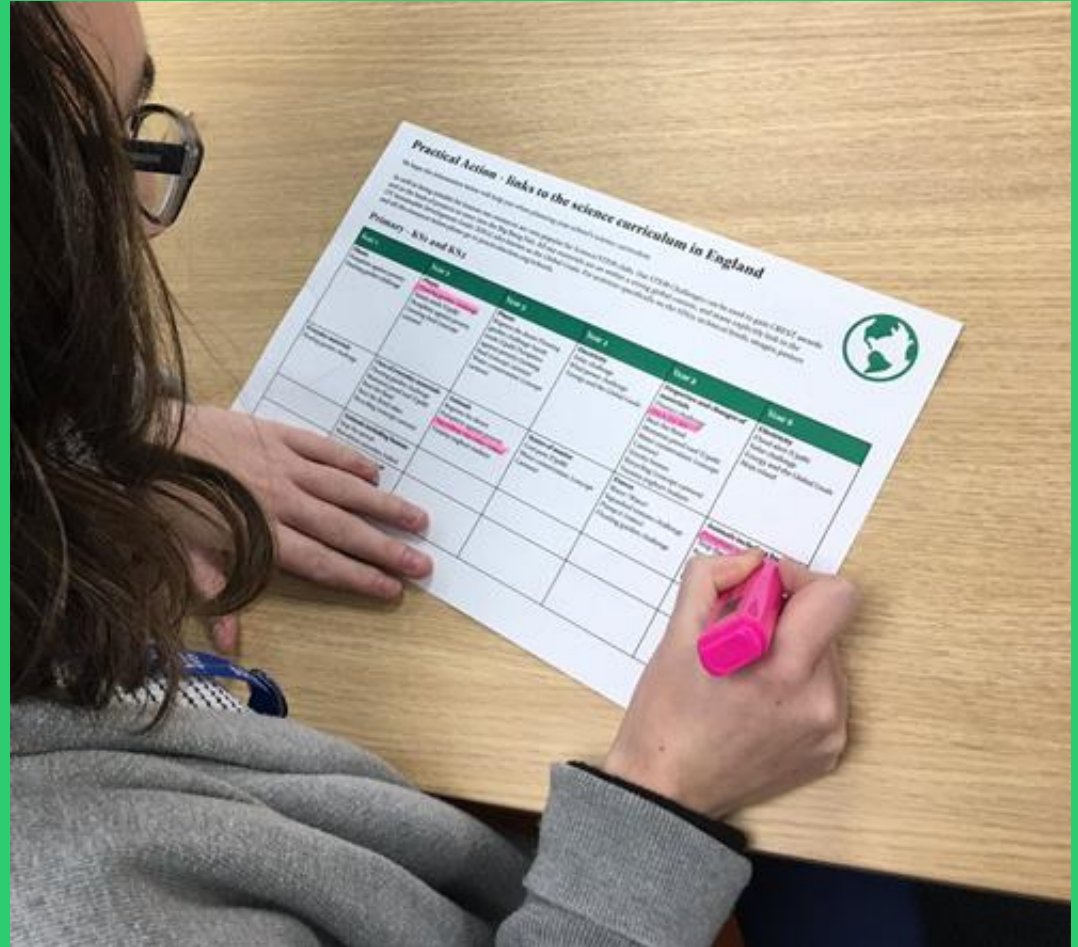


Useful  
**INFORMATION**

# Curriculum links

One really useful document is our science curriculum links doc, which shows where all our resources fit with the UK science curriculums

[practicalaction.org/  
science-curriculum](https://practicalaction.org/science-curriculum)



# Sustainable Development Goals

Many of our materials link to the Sustainable Development Goals (SDGs) or Global Goals

Try our string activity to help pupils understand how they are all connected.



# STEM CHALLENGES

# STEM clubs and more!

As well as embedding our STEM challenges in the formal schools curriculum, they are being used in STEM/science clubs, transition days, enrichment days and to support home learning and parental engagement.



Lisa Evans

We did:

Ks1 - floating garden challenge

Y3 - ditch the dirt

Y4 - solar challenge

Y5 - squashed tomato

Y6 - plastic challenge

On Friday, we invited the parents in. Half of each group had to stay to present their project while the other half went to see what the rest of the school had been doing with their parents then they swapped.

15 w Like Reply





# Floating garden challenge



How can you grow food on land that floods?



# Beat the flood

How can you build a house that will beat the flood?

[youtu.be/JguVC8xEvKk](https://youtu.be/JguVC8xEvKk)





# Squashed tomato challenge



Can you design a  
system to move  
tomatoes down a  
mountainside?



[youtu.be/v5L5Gp849Qo](https://youtu.be/v5L5Gp849Qo)

# Regreen the desert



Can you combat  
climate change by  
building an  
irrigation system?

[https://youtu.be/B6zGS\\_p2-jA](https://youtu.be/B6zGS_p2-jA)



# Wind power challenge



Can you design and make a simple wind turbine?





# Ditch the dirt



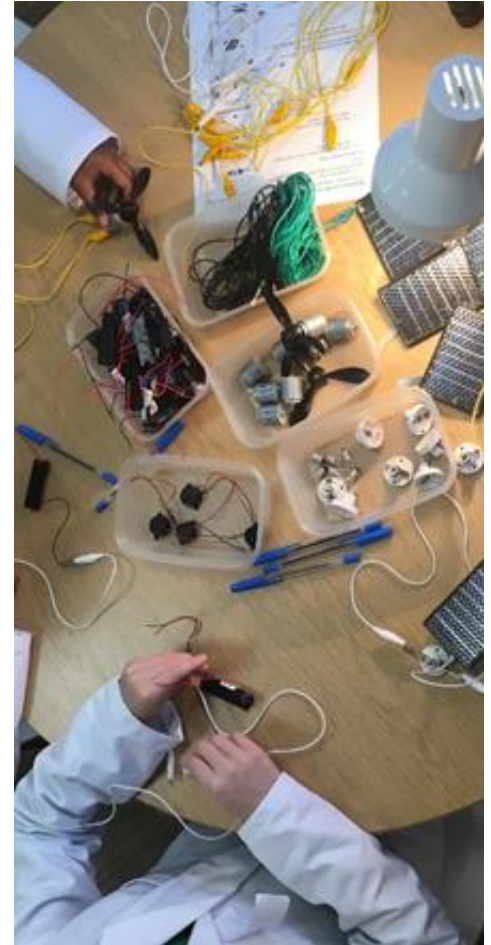
Can you design a filter to make dirty water clean?

[youtu.be/SuafoTdrSAs](https://youtu.be/SuafoTdrSAs)



# Solar challenge

Can you decide how best to use solar power in a community in Zimbabwe?



# Stop the spread

Can you stop the spread of infectious disease in Kenya?

[youtu.be/4UfqHT-2moQ](https://youtu.be/4UfqHT-2moQ)





# Plastics challenge



How can you make  
a useful produce  
by reusing or  
recycling plastic?





# Eco-Schools

Our STEM Challenges  
link to the  
Eco-Schools topics:

Global Citizenship  
Energy  
School Grounds  
Water  
Healthy Living  
Transport  
Plastic



Celebrating  
**SUCCESS**

# Certificates

All our STEM challenges come with downloadable certificates you can give to pupils to take home and stick on the fridge!

## FLOATING GARDEN CHALLENGE

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Took part in Practical Action's Floating garden challenge. Great work!

Signed: \_\_\_\_\_

Date: \_\_\_\_\_



[practicalaction.org/schools/floating-garden-challenge](https://practicalaction.org/schools/floating-garden-challenge)

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**Our materials are  
accredited for the  
CREST Award Scheme**

[www.crestawards.org](http://www.crestawards.org)

[www.practicalaction.org/STEM](http://www.practicalaction.org/STEM)  
(All levels)

[www.practicalaction.org/schools/  
global-project-ideas](http://www.practicalaction.org/schools/global-project-ideas)  
(Bronze-Gold)

**Video -** <https://youtu.be/4rbioTEGPNE>



**Star**  
Primary



**Superstar**  
Primary



**Discovery**  
Primary and  
Secondary



**Bronze**  
Secondary



**Silver**  
Secondary



**Gold**  
Secondary



Our STEM Challenges can also be developed into projects to enter the Big Bang Competition either via regional heats or the online route... and have won major prizes in the past. Prizes include mentoring, cash awards and international trips abroad to represent the UK.

**[competition.thebigbangfair.co.uk](http://competition.thebigbangfair.co.uk)**

They are also perfect for the Great Science Share for Schools, held in June each year.

**[greatscienceshare.org](http://greatscienceshare.org)**



need  
**SUPPORT?**



# Try us!

**Practical Action**  
(materials, training)

**STEM Ambassadors**  
(STEM clubs, events)

**British Science Association - BSA**  
(CREST, funding)

**Association for Science Education**  
(conferences, publications, training)

**Engineering UK**  
(Big Bang Fair)





Keep in  
**TOUCH**

Keep  
in touch



**[practicalaction.org/schools](http://practicalaction.org/schools)**



**STEM Matters** newsletter



@PA\_Schools



Practical Action Schools



/Practical Action Schools



**[schools@practicalaction.org.uk](mailto:schools@practicalaction.org.uk)**