



SMOKY HOMES

Pupil activity sheets



practicalaction.org/schools/smoky-homes

**Practical
ACTION**

What do you see?

**Practical
ACTION**





Killer facts: True or false?

Name: _____

Class: _____

Cut out the statements below and decide whether you think they are true or false.

Worldwide household smoke from open fires is a bigger killer than AIDS and malaria combined.

Most people affected by household air pollution are women and children.

An open fire in your kitchen is the equivalent of breathing in the air from 200 cigarettes an hour.

3 billion people worldwide cook or heat their homes over a fire or traditional stove.

Globally half the deaths of children under 5 are caused by respiratory problems, such as pneumonia which are caused by household air pollution.

There is nothing that can be done to reduce indoor air pollution from cooking.

The Sustainable Development Goals

	No poverty	End poverty in all its forms everywhere.
	Zero Hunger	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
	Good Health & Well-being for People	Ensure healthy lives and promote well-being for all at all ages.
	Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
	Gender Equality	Achieve gender equality and empower all women and girls.
	Clean Water & Sanitation	Ensure availability and sustainable management of water and sanitation for all.
	Affordable & Clean Energy	Ensure access to affordable, reliable, sustainable modern energy for all.
	Decent Work & Economic Growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
	Industry, Innovation & Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.
	Reducing Inequalities	Reduce income inequality within and among countries.
	Sustainable Cities & Communities	Make cities and human settlements inclusive, safe, resilient, and sustainable.
	Responsible Consumption & Production	Ensure sustainable consumption and production patterns.
	Climate Action	Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy.
	Life Below Water	Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
	Life on Land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss.
	Peace, Justice & Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
	Partnerships for the Goals	Strengthen the means of implementation and revitalize the global partnership for sustainable development.

What is important to the community?

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Before you design a cook stove and/or smoke hood for people in the Makwanpur District, it is important for you to find out what features people want their stoves to have. This way you can develop your 'design criteria' to meet people's needs.

Practical Action did some research with the community and this is what people told them, they wanted their improved cook stove to:



"Be efficient, so that I don't use as much firewood."

"Be cheap enough for my family to buy."



"Be good quality, so they look attractive in our homes."

"Be easy for us to make and repair locally."



"Include a feature to take the smoke out of the house."

"Be safe to use."



"Be able to burn different fuels such as briquettes and waste such as corn husks. "

Choose up to five ideas from the people above that you think are most important to help you write your design criteria.

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Your task

Design and make a model of an improved cook stove and/or smoke hood.

Who are you designing for?

Design criteria

What are the main design criteria your product will include?

It will:

1.

2.

3.

4.

5.

Why have you chosen these design criteria?

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Evaluate cook stoves and hoods

Do your own research on the internet to find a range of photographs of cook stoves and hoods and/or use the images in this set [flickr.com/photos/practicalaction/ sets/72157675104485235](https://www.flickr.com/photos/practicalaction/sets/72157675104485235).

Stick them on to the page(s) below and label any features that you think might be good design features to help you meet your design criteria.

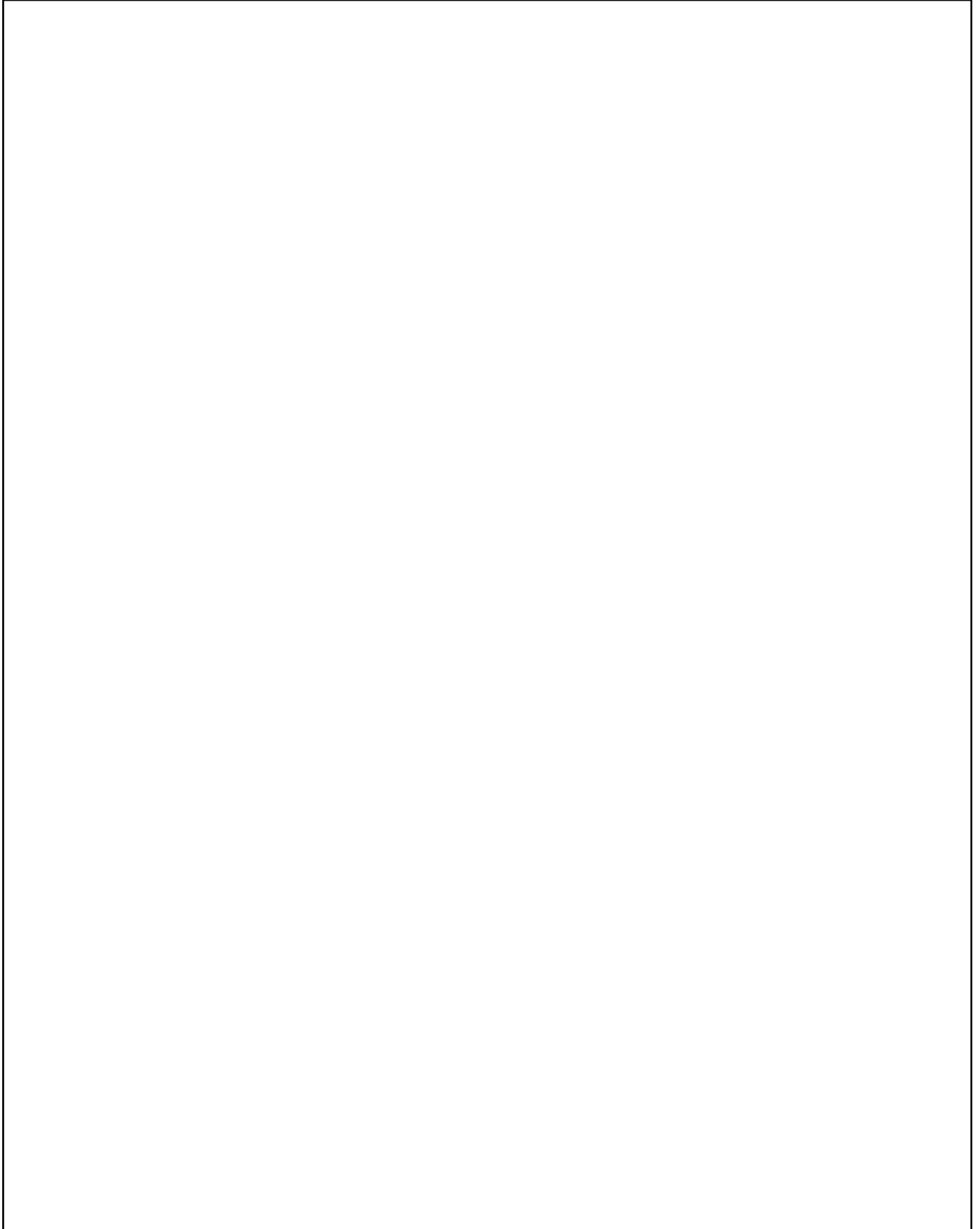
Smoky homes project

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Design ideas

Sketch a range of ideas for your cook stove and/or hood. Annotate your ideas with comments about design features.



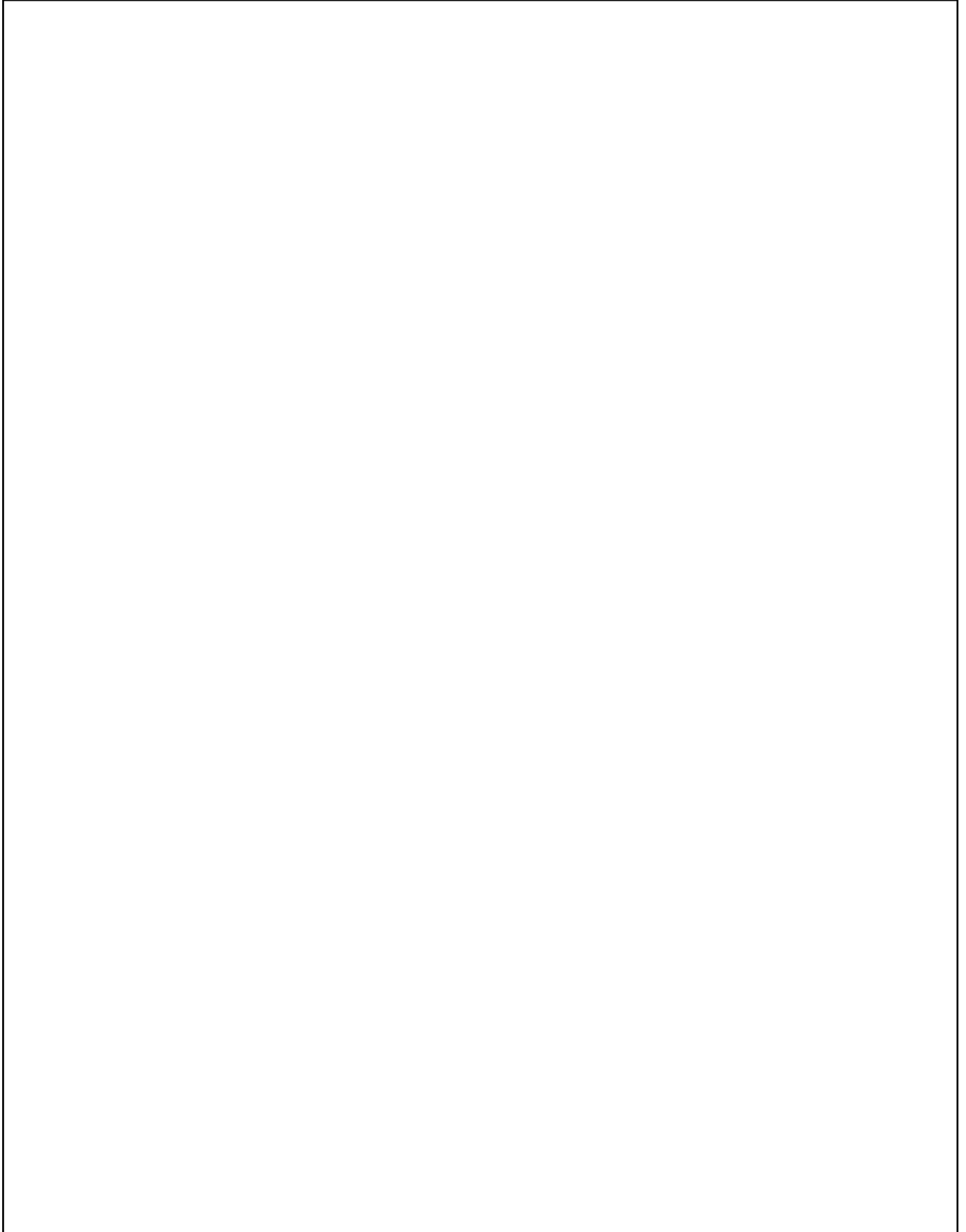
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Final idea

Sketch your final design idea. Annotate your work with how your design meets your design criteria.



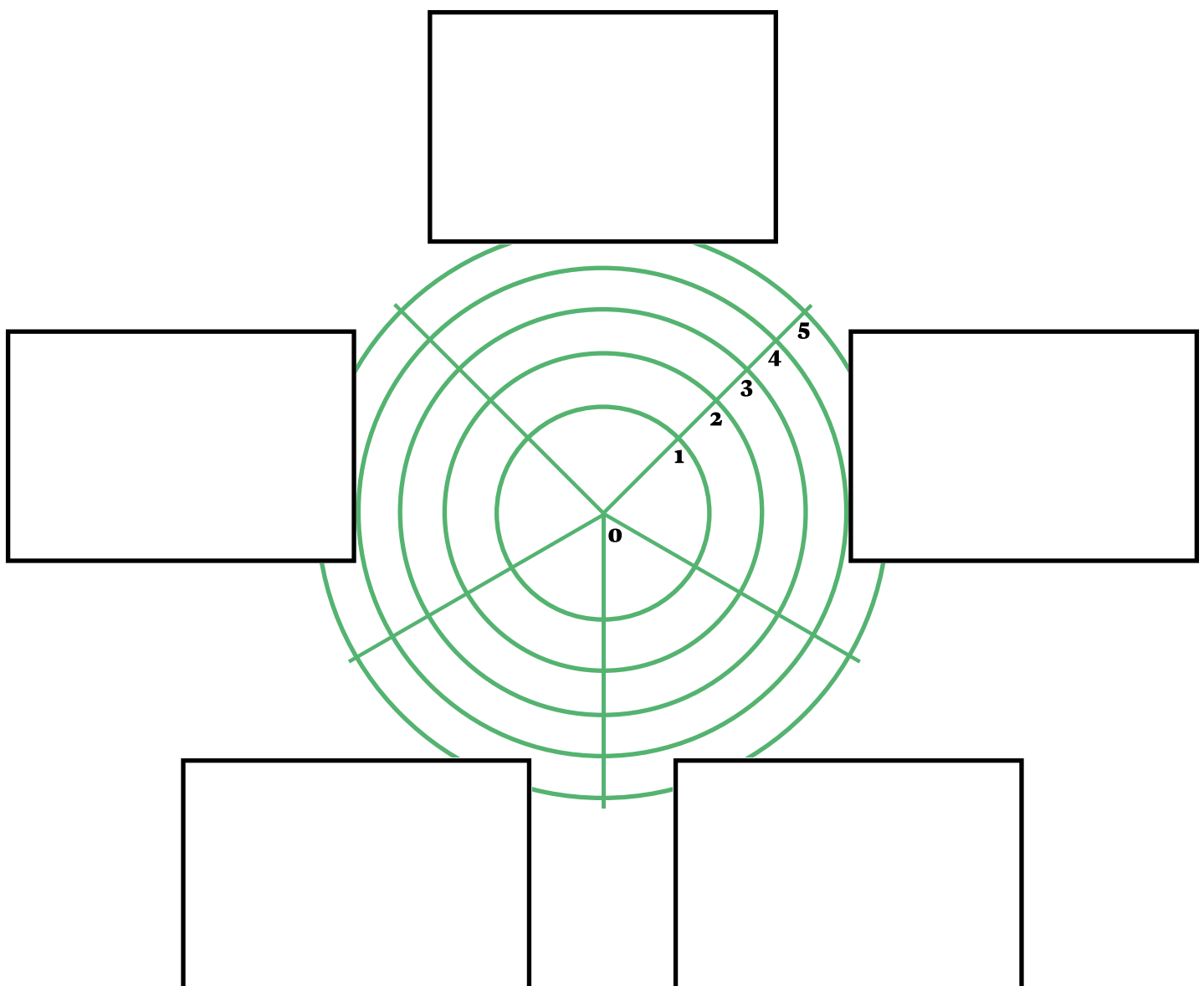
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Evaluation web

1. Write your design criteria in the boxes around the edge of the web.
2. Discuss how well your cook stove and/or hood performed against each criteria and give it a score of 0-5 (0 is poor and 5 is excellent). Mark your score on the web with an x for each criteria including a final overall score. When completed, draw a line to join up the x's.
3. What pleased you most about your cook stove and hood?
4. What would you change if you designed and made it again?



Smoky homes quiz

Name:

Class:

1	How many people in the world cook on open fires?	please tick
a.	3 million	<input type="checkbox"/>
b.	3 billion	<input type="checkbox"/>
c.	30 billion	<input type="checkbox"/>
2	What is the main problem for people with cooking on an open fire?	
a.	Burns	<input type="checkbox"/>
b.	Inhaling smoke	<input type="checkbox"/>
c.	Getting very dirty	<input type="checkbox"/>
3	Which of these other problems are caused by cooking on open fires?	
a.	Firewood needs to be collected which can be dangerous, take lots of time and reduces the number of trees	<input type="checkbox"/>
b.	People get respiratory illnesses	<input type="checkbox"/>
c.	a and b	<input type="checkbox"/>
4	In Nepal who mainly gets affected by smoke from cooking on open fires?	
a.	Women and children	<input type="checkbox"/>
b.	Animals	<input type="checkbox"/>
c.	Men only	<input type="checkbox"/>
5	Using a smoke hood over an open fire means you have less indoor smoke. How much less?	
a.	30%	<input type="checkbox"/>
b.	80%	<input type="checkbox"/>
c.	100%	<input type="checkbox"/>
6	Using an improved stove and smoke hood reduces the amount of firewood needed for fuel so that:	
a.	There is more time for other things like going to school instead of collecting wood	<input type="checkbox"/>
b.	Other things can be burnt instead	<input type="checkbox"/>
c.	Less time is spent cooking	<input type="checkbox"/>
7	Which of the Sustainable Development Goals do the improved cook stoves help reach?	
a.	Goal 3 Health and Well being	<input type="checkbox"/>
b.	Goal 5 Gender Equality	<input type="checkbox"/>
c.	Both Goals 3 and 5	<input type="checkbox"/>

Feedback

Listen to the presentations from each group. Think about how well they did in terms of the questions in the table below. Make notes and give them a mark between 0-10 for each area, where 10 is the best.

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Name:

[illegible]