Possible Activities to teach PDSA cycles and Driver Diagrams

PDSA Airplane Exercise can be done in small groups to demonstrate use of PDSA cycle for making structured, measurable rapid change cycles.

Team

Divide into teams of 4 -5 and assign roles e.g. leader, data coordinator, test pilots 1,2,3

As a large group agree the aim – what are you trying to accomplish e.g. fly paper airplane 5 metres.

Task

1. PLAN – design a paper plan using the materials provided.
2. DO – each test pilot should take a turn to fly a plane
3. STUDY – after each flight, the data coordinator should measure the distance flown for each plane and record this. Calculate the average distance flown by the test pilots and review success.
4. ACT- based on measurements, review the design of your plan and look for improvements (what can we do that will result in an improvement). Make just ONE change to the design and repeat steps 1-4 until you have collected data for at least 3 cycles. Specify the impact you want the change to have for each cycle (e.g. to increase distance flown by 10%).
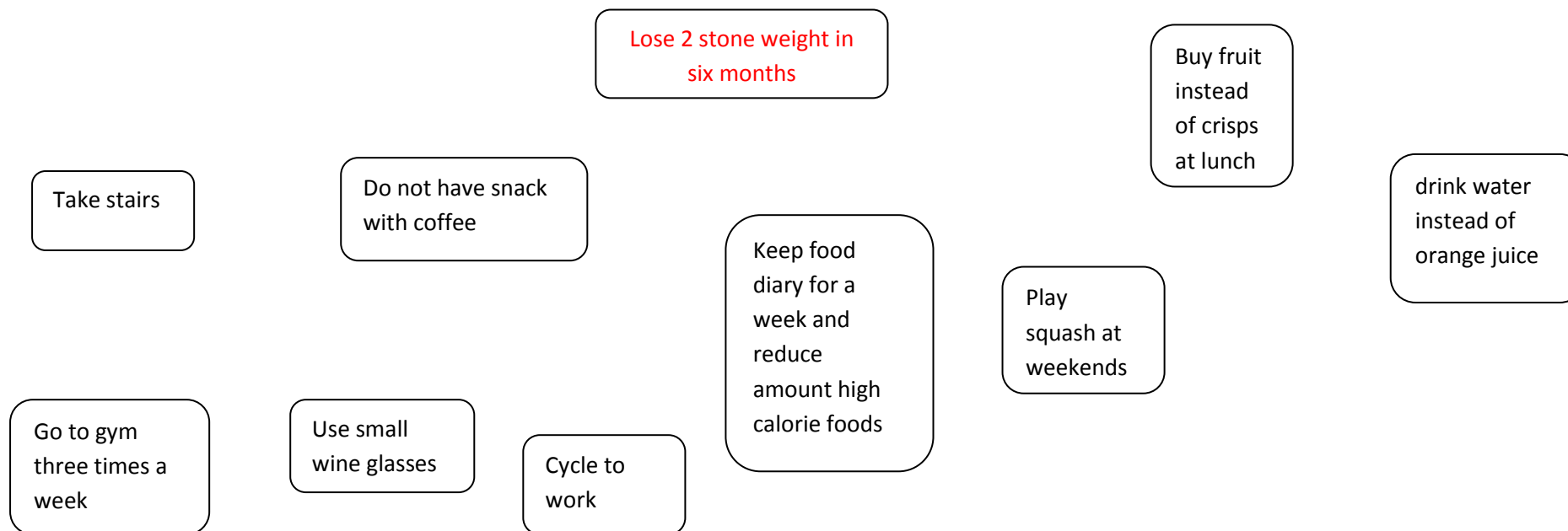
Use the form below to record all steps of the PDSA for each change cycle.

Finally you can ask each team to identify their best pilot and design of plane, and compete against each other to find the plane that flies the longest distance
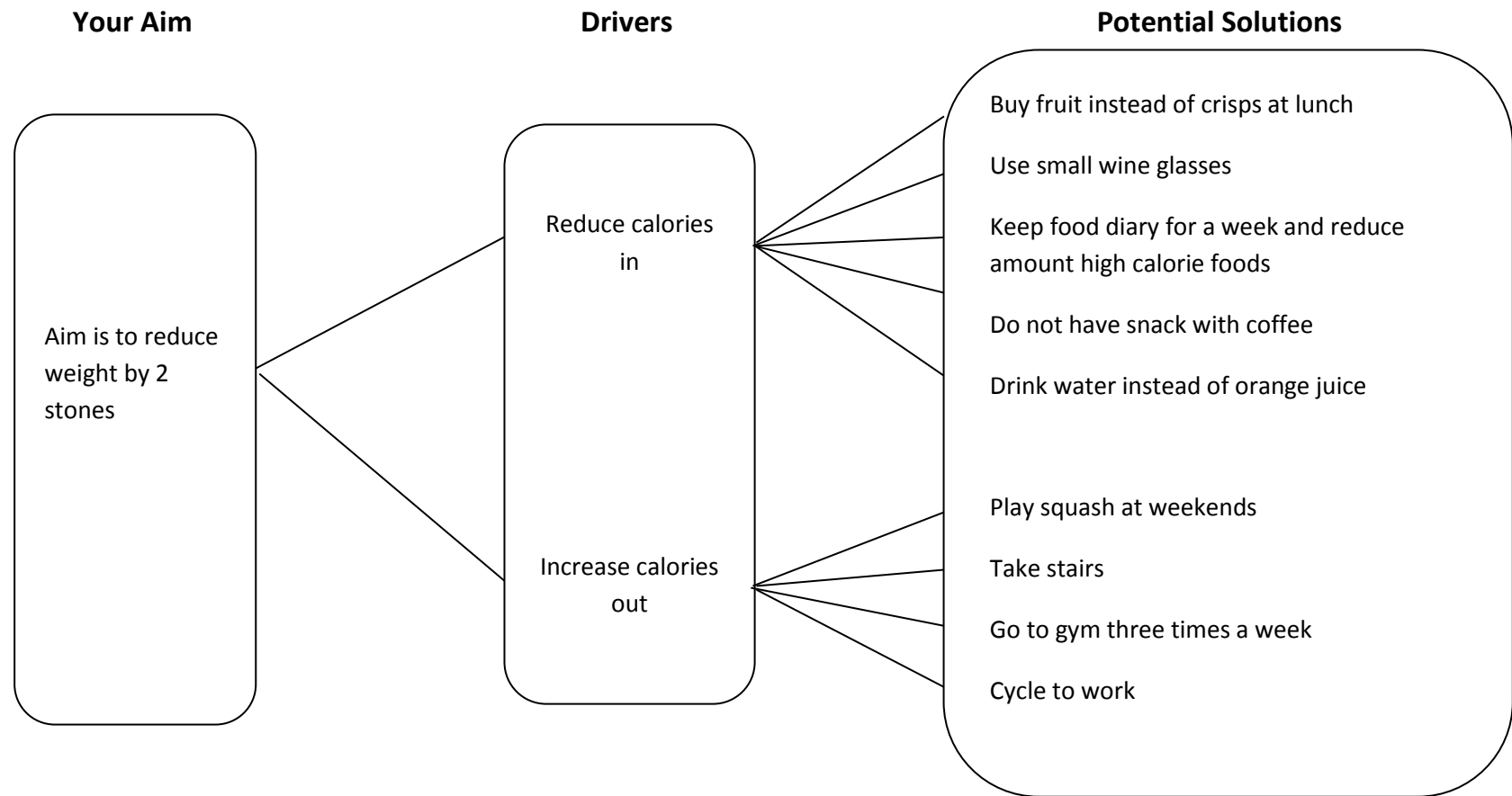
You can also do a similar project with time taken for building lego models, completing a jigsaw, making origami animal.

Rapid Cycle	**Plan** *What is the idea/ change to be tested?*	**Do** *What change or action did you specifically do to test this idea/change?*	**Study** *What were the results?*	Distance	**Act** *What is the next step?*
Baseline – first throw for each pilot prior to any changes					
1 pilot					
2 pilot					
3 pilot					
Change cycle 1: make one change to your airplane and have each pilot throw again					
1 pilot					
2 pilot					
3 pilot					
Change cycle 2: make one change to your airplane and have each pilot throw again					
1 pilot					
2 pilot					
3 pilot					
Change cycle 3; make one change to your airplane and have each pilot throw again					
1 pilot					
2 pilot					
3 pilot					

Driver diagrams – can be used to generate change ideas. Suggest share the target with the group, give everyone up to 3 post it notes and ask everyone to suggest ideas to achieve aim, writing one aim on each post it note. In the example below   the aim is to lose 2 stone weight in six months.

Lose 2 stone weight in six months

Buy fruit instead of crisps at lunch

Take stairs

Do not have snack with coffee

drink water instead of orange juice

Keep food diary for a week and reduce amount high calorie foods

Play squash at weekends

Go to gym three times a week

Use small wine glasses

Cycle to work

Then ask team to cluster ideas and identify the main factors that you need to influence to achieve the aim – the drivers. In this example, the two drivers are to reduce calories in and increase calories out.

Your Aim	Drivers	Potential Solutions

Aim is to reduce weight by 2 stones

Reduce calories in
- Buy fruit instead of crisps at lunch
- Use small wine glasses
- Keep food diary for a week and reduce amount high calorie foods
- Do not have snack with coffee
- Drink water instead of orange juice

Increase calories out
- Play squash at weekends
- Take stairs
- Go to gym three times a week
- Cycle to work

An example of another aim that can be used to demonstrate a driver diagram could be 'Improve quality of sleep by decreasing number of awakenings by 50%'. Primary drivers could include external issues (e.g. noise, child crying, pets in the bedroom, light) and internal issues (e.g. caffeine intake, alcohol intake, exercise, use of SMART phones).