What's the most efficient design for a terrarium?
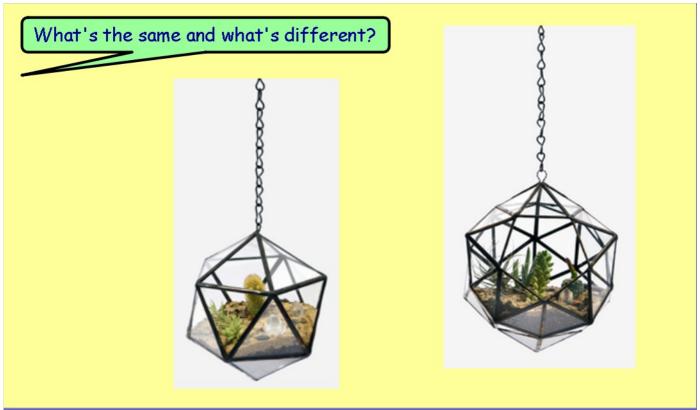
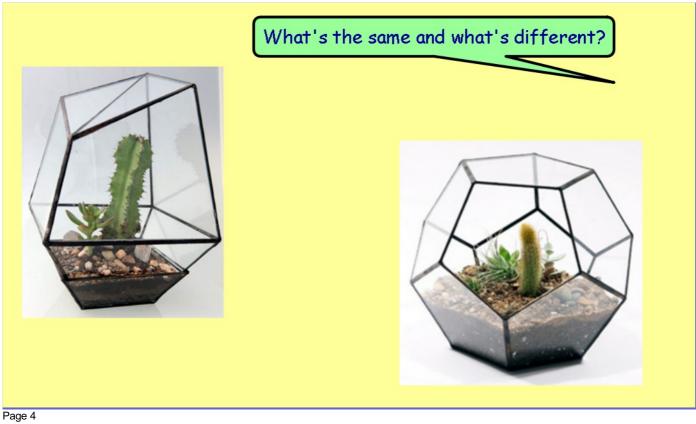What do you see?

What's the same and what's different?

What's the same and what's different?

Sales of terrariums have dropped at Gardens R Us.

Pitch a successful design for an innovative new terrarium and your team could be offered a valuable contract.

Your design must be produced from a 1m^2 sheet of acrylic and should produce as little waste material as possible.

Team A has already put forward this design.

What are its strengths and weaknesses?

Quality Gardens Nursery

You should produce a portfolio to present to Gardens R Us at your sales pitch.

⭐ Consider a selection of potential designs

⭐ Would you like your terrarium to hang or sit on a surface?

⭐ How easy and efficient will each design be to produce?

⭐ What size will each face be?

⭐ How much waste will be produced from the $1m^2$ sheet of acrylic?

⭐ Which shapes tessellate and why?

⭐ Bearing this in mind, make any alterations to your design in order to minimise waste material
What will you suggest as a selling price? Why? How much profit will this generate?

⭐ Assuming profits are split between your team and Gardens R Us in the ratio 1:9, how much
will you receive per terrarium sold?

Self-Assessment – Geometrical Reasoning (Designing a terrarium)

- RED = No or very little evidence of objective being met
- AMBER = Some evidence of the objective being met
- GREEN = Objective is met and full understanding is shown

Objective	Level	RAG
Use correct notation for money	3	
Use correct units for length and area	4	
Create nets of 3D shapes	4	
Incorporate squares and rectangles in your design (Accurate scale drawing produced)	4	
Calculate the area of squares / rectangles	4	
Incorporate quadrilaterals in your design (Accurate scale drawing produced)	5	
Research and calculate cost of production	5	
Share quantities in a given ratio	5	
Incorporate polygons in your design (Accurate scale drawing produced)	6	
Identify shapes that tessellate	6	
Calculate the area of other quadrilaterals and polygons	6/7/8	
Calculate the surface area of 3D shapes	6/7/8	
Express area in cm^2 and m^2, correctly converting between them	7	
Explain why certain shapes tessellate by referring to the interior / exterior angles	7/8	
Evaluate strengths and weaknesses of final design, emphasizing strengths in prepared presentation		

Level:

H_2I: