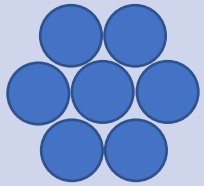
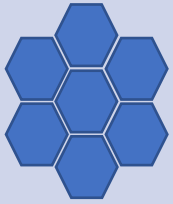
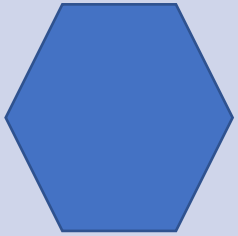
SESSION 1: DESIGNING A TELESCOPE

ACTIVITY 2: MIRROR SELECTION

Circular Mirrors:	**Diameter**	**1 m**	**2 m**	**3 m**	**4 m**
Gaps between mirrors = light lost Gaps within this mirror set-up reduce the total collection area by 10% To calculate your effective mirror diameter: = diameter of single mirrors combined x 0.9 	Mirror				
	Cost	£2 million	£4 million	£8 million	£16 million
	Weight	500 kg	1000 kg	1500 kg	2000 kg

Hexagonal Mirrors:	**Diameter**	**1 m**	**2 m**	**3 m**	**4 m**
To calculate your effective mirror diameter: = diameter of single mirrors combined  Note: sizes of mirrors can be combined	Mirror				
	Cost	£3 million	£6 million	£12 million	£24 million
	Weight	415 kg	830 kg	1240 kg	1654 kg

You must consider…

- ☆ How the different shaped mirrors fit together and how much light is lost through any gaps.
- ☆ The overall weight of their mirror – the lighter the better – this will affect which materials they can use for the structure.
- ☆ How easily the mirror will be able to be transported to site.
- ☆ The total diameter of the mirror – the larger the mirror the fainter the objects they will be able to see – this means that they will be able to look for objects at greater distances.
- ☆ The price of the mirror.
- ☆ How easily the mirror can be assembled on site.