MEDIUM SIZE TELESCOPE

A MIDDLE SIZE LIGHT-CATCHER EXPLAINED WITH SIMPLE WORDS

When light carrying a lot of power from space hits the air around the Earth, a special blue flash of light is made that is gathered by these light-catchers. Mirrors point this light towards a picture-taker that can take a picture of this flash. By looking at how bright the flash is, we can work out how much power the light from space had, and by using more than one light-catcher to take a picture of the flash, we can work out where the space light with lots of power came from.
This light-catcher has a middle size mirror for catching middle size flashes.

STICKS THAT HOLD THE PICTURE-TAKER

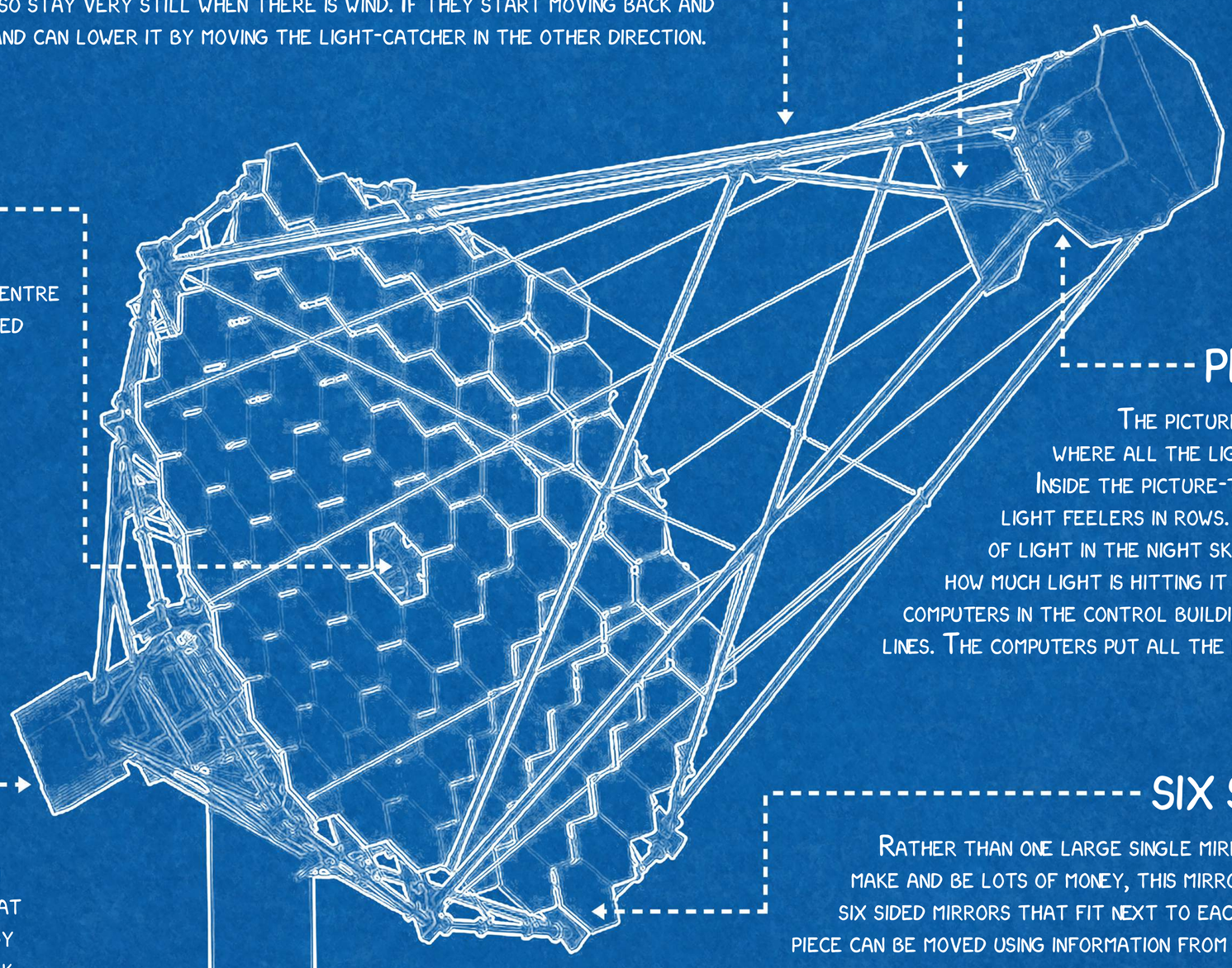
These sticks hold the picture-taker exactly where the light from the mirrors meets. The sticks have to be very strong and not bend so that the picture-taker will not move from the perfect spot, we will get bad pictures if they do. The sticks must also stay very still when there is wind. If they start moving back and forwards, a machine feels this moving and can lower it by moving the light-catcher in the other direction.

PICTURE-TAKER COVER

This cover stops the picture taker from being hurt by bright light during the day. It also keeps out rain and dust which could break the picture-taker.

PICTURE-TAKER POSITION CHECKER

There is a picture-taker in the very centre where there is no need to put a six sided mirror because the main picture-taker will block light from reaching this part. This picture-taker looks at how much the main picture-taker moves from its own weight bending the sticks that hold it. Using this information each of the six sided mirrors can move to fix this and give us perfect images.



PICTURE-TAKER

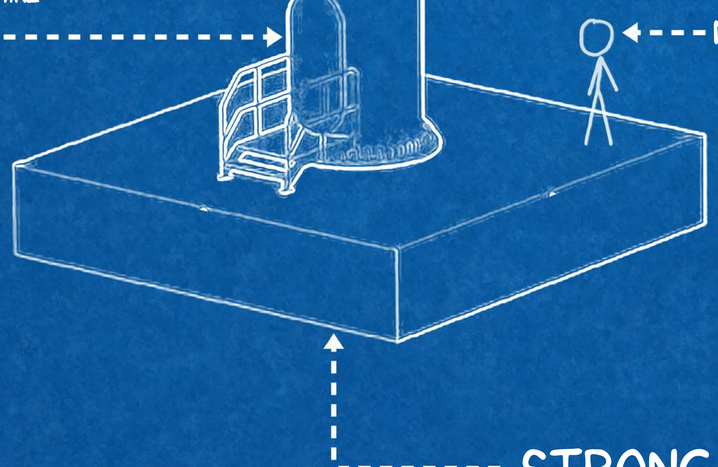
The picture-taker is held at the point where all the light from the mirrors meets. Inside the picture-taker there are many small light feelers in rows. When there is a blue flash of light in the night sky, each light feeler checks how much light is hitting it and sends a message to the computers in the control building through the information lines. The computers put all the messages together to make a picture of the flash.

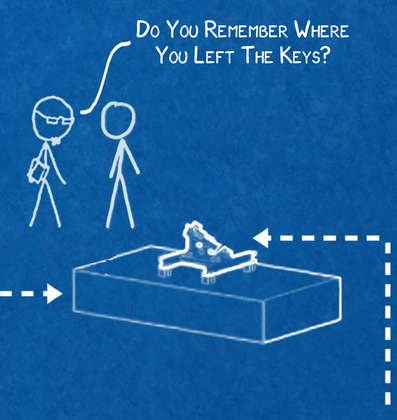
HEAVY WEIGHT

This heavy weight is made from metal plates and makes sure there is an even weight on both sides of the machine that raises and lowers the picture-taker. By using a heavy weight, there is less work put on the raising and lowering machine and less power is needed.

SIX SIDED MIRRORS

Rather than one large single mirror, that would be hard to make and be lots of money, this mirror is made up of 90 smaller six sided mirrors that fit next to each other. Each small mirror piece can be moved using information from the mirror position checker to make sure the pictures of the blue flashes of light are sharp and clear.





PEOPLE DOOR

This allows workers inside the light-catcher where they can look after the many power lines and information lines inside. The parts that help turn the light-catcher around can be reached at the top of the third floor by climbing stairs that go straight up.

STRONG FLOORS

This is a strong flat surface for the light catcher to sit on. Information and power lines that join the light-catcher to the control building enter beneath the strong floors.

RESTING POSITION LOCK

When the light-catcher is not being used (when the sun or full moon is out), the light-catcher will rest here and get locked down. This is important during fast winds or when workers need to check the picture-taker.

A group of over 1,200 people (mostly teachers at schools for grown ups) from 32 countries who want to see light from space with a lot of power. They are building groups of light-catchers in both the North and the South of the Earth at very dark places so it is easier to see the small blue flashes in the night sky.

cta — cherenkov telescope array — UK

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