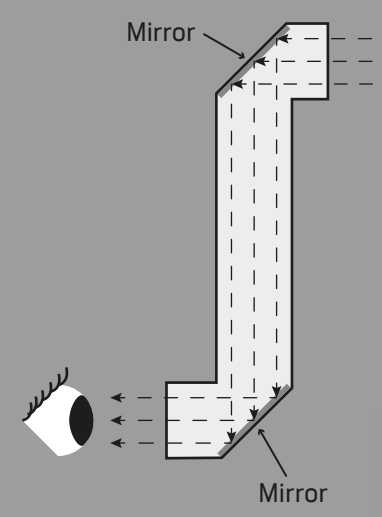
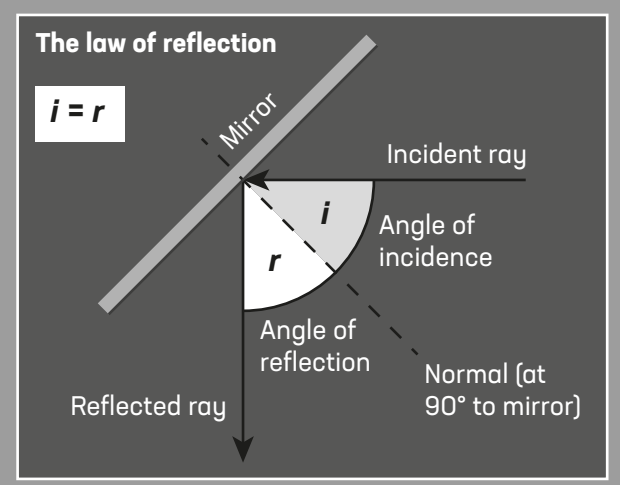


How your periscope works



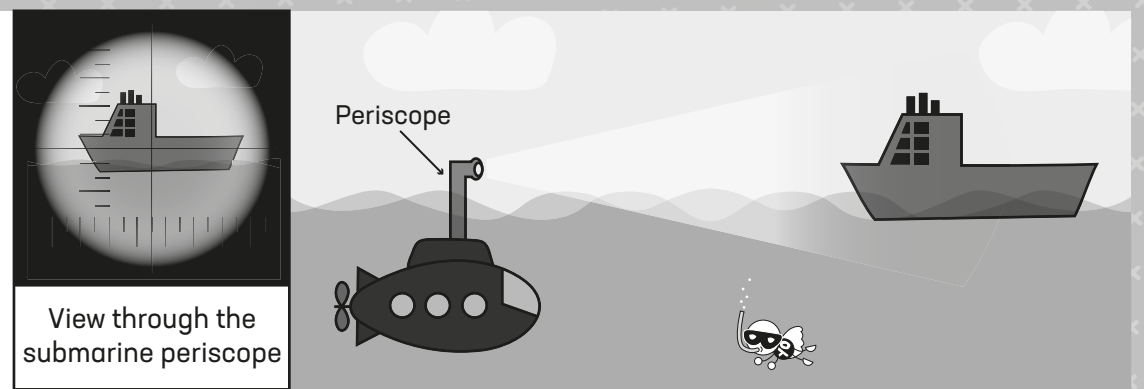
Periscopes consist of an outer tube with two mirrors at either end parallel to each other at a 45° angle. They are used when an observer needs to see above or around an obstacle. Try using your periscope to look around corners or over a wall. (we do not condone spying on your neighbours!)



Why is the image smaller when I extend the tube?
Because you are moving the mirrors further apart. More complex periscopes incorporate lenses or prisms to magnify the image.

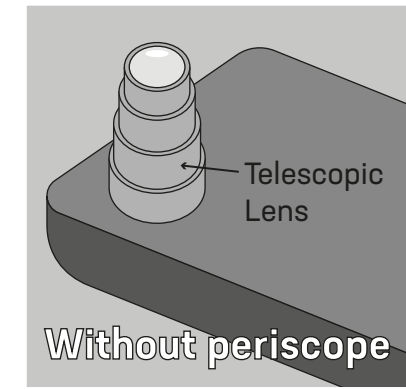
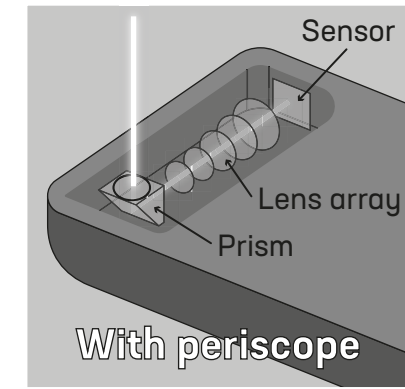
Uses of periscopes

Submarines
When submarines are at shallow depths they can use a periscope to observe nearby objects or threats on the surface above.



Mobile Phones

Periscope technology allows mobile phone cameras to have greater optical zoom whilst keeping the body as slim as possible. Instead of the light entering the lenses directly, it first hits a prism which reflects the light sideways to go through the lenses which are arranged along the body of the phone. To get the same level of optical zoom without using periscope technology, you would need a large and obtrusive telescopic lens on the back of the phone, as shown here:



Tanks

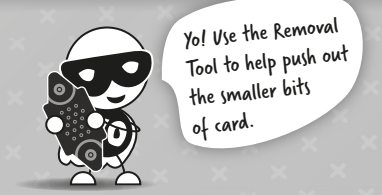
Tanks and armoured vehicles use periscopes to allow the occupants to see what is going on around them without needing to cut holes in the front or side armour - the periscope can come out of the roof. This means the vehicle and people inside are better protected.

WW1 Trenches

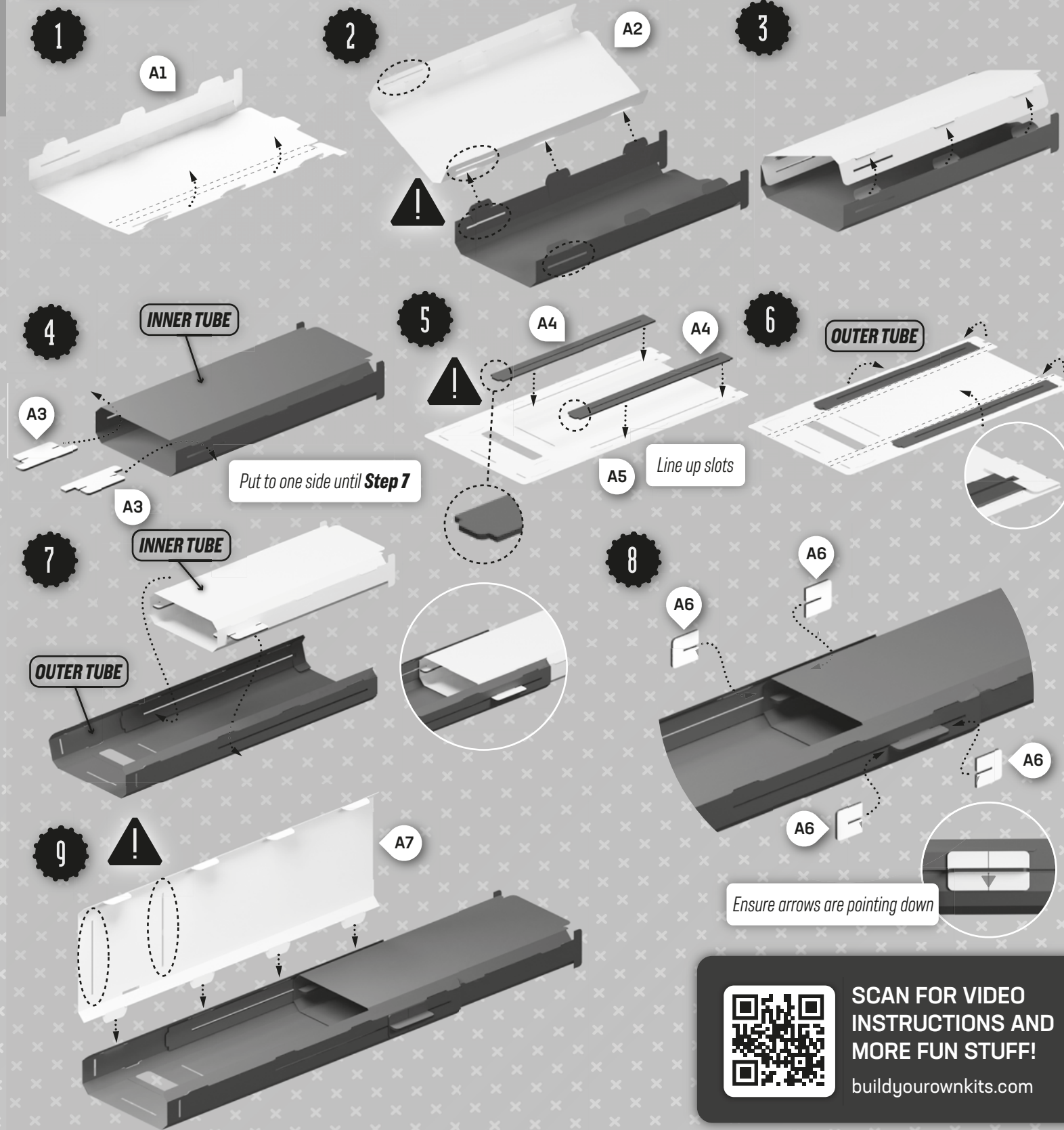
Perscopes were used widely in WW1 (1914-1918) by soldiers so that they could see over the top of the trenches whilst avoiding enemy fire. Some periscopes were combined with rifles to allow the soldier to aim and fire from a safe position.

BUILD YOUR OWN PERISCOPE

BEFORE YOU START
The mirrors are in the brown envelope in the top pocket of the outer box.



WARNING!
- Use only under adult supervision and/or guidance - Only to be used by persons capable of understanding the safety aspects concerning misuse of the product.
- DO NOT look directly at the sun with the naked eye or with this periscope. Permanent and irreversible eye damage may occur.
- DO NOT leave the periscope unattended, especially with children or adults who may not be familiar with the risks mentioned.
- DO NOT store in places where direct sunlight may enter the mirrors. Always cover the lenses with the dust cap when not in use.
- Check product regularly for signs of damage or breakage and if found discontinue use.
- Take care when putting the periscope up to your face.
- Use only when stationary to avoid potential trips or falls as vision is obstructed.



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