Periscope
If you make this periscope very carefully, it will enable you to see around corners and over the top of things much higher than you are.

Materials
- stiff card 28cm x 50cm painted black on one side
- colored pencils and ruler
- pair of compasses and scissors
- 45° set square
- masking tape
- modelling knife
- 2 mirrors, each about 7cm x 9cm

1. Lay the card black side up.
2. With the ruler parallel to the short sides, measure from the top and mark three points 7cm apart. Do this three times across the card.
3. With the ruler parallel to the long sides, join up the marks. This divides the card into four panels.
4. Mark three points 2cm in from each short side of the card.
5. Join up each row of points.
6. Draw two circles, each with a radius of 2.5cm, touching the base lines and roughly in the center of each pan.
7. Cut out each circle with scissors.
8. Use the set square and pencil to draw four lines, each at a 45° angle to the base line, as shown. The ends of the lines must stop 1 cm from each panel line.

9. Slit the lines so that the short side of a mirror will fit into the slit.
10. Guided by the ruler, pull the tip of the scissors along each panel line to score it.
11. Color or decorate the other side of the card, if you like.
12. Fold the panels, black sides in, and tape the edges together

13. Slide a mirror through one slit so that you can see the shiny side through the opposite hole.

14. Keep sliding the mirror until it goes through the opposite slit and is fixed in the box.
15. Fix the second mirror into the other pair of slits in the same way.
16. Tape the edges of the mirrors to the outside of the box.
17. Look through one of the holes, then point the periscope at an object above your head or round a corner.

You can see the object because light travels from it to the mirror in the top of the periscope. The light is then reflected on to the bottom mirror, and from there into your eyes.