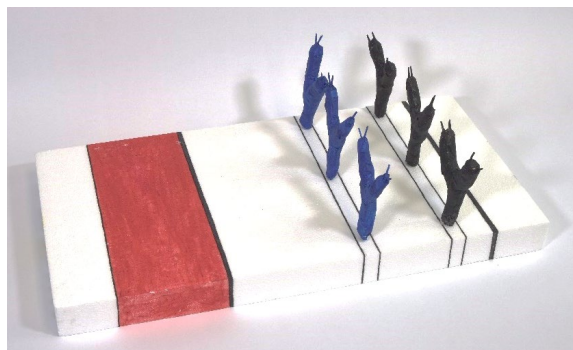
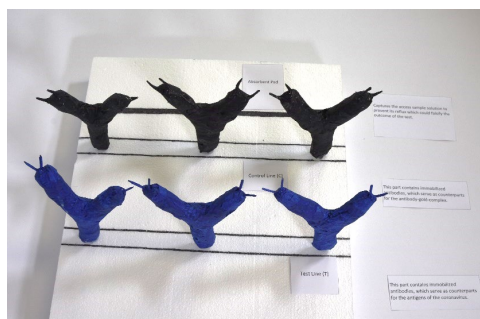


## Building instructions for COVID-19 antigen rapid test model



1) Select a rectangular-shaped piece of extruded polystyrene (e.g., Styrofoam), which serves as a base for the model and resembles the test strip. The overall size of the model depends on the size of the polystyrene board you select. Keep in mind that the polystyrene board has to be thick enough to stick in pieces of wire later on.

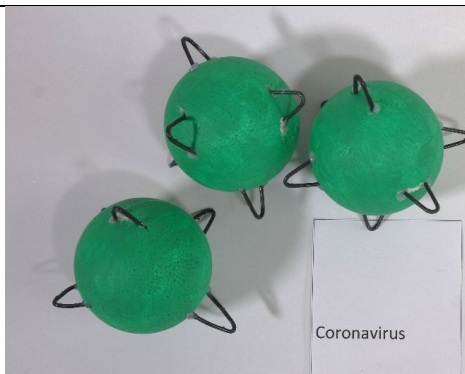
2) Draw lines to mark the different zones on the polystyrene board using a black marker pen. Use thicker lines to frame the reagent-pad zone. Paint the conjugate-pad zone red, using, e.g., acrylic paint.



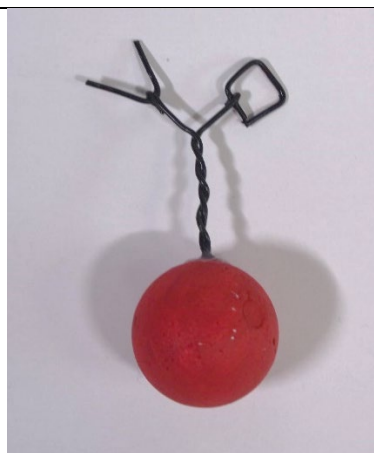
3) To build the antibodies and antigens on the antigen test, use wire (flower-arranging wire works best) and build Y shapes. Cut out the same shape, just a bit wider, of cardboard, and fix the wire onto the cardboard using tape. Wrap newspaper around the cardboard-wire base, and secure with tape to achieve a good Y shape.

4) **For antibodies on the test line:** Take a piece of wire and form it into square U shape and fix the closed side to the tips of the antibodies with tape. Paint all of the antibodies in one colour using acrylic paint (e.g., black).

5) **For antibodies on the control line:** Form a piece of wire into a V shape and fix its point to the tips of the antibodies. Paint all of the antibodies in a second colour using acrylic paint (e.g., blue).



6) **For the coronavirus particles:** Take polystyrene balls (size scaled to fit the model) and paint them in one colour (e.g., green). Bend some pieces of wire into a V shape and stick the wire ends into the polystyrene ball and secure them with hot glue.



7) **For antigen-gold complexes:** Take smaller polystyrene balls than those used for the coronavirus particles and paint them red using acrylic paint (red colour is important to signal the colour of colloidal gold). Build the structure shown in the picture with wire. Stick the wire into the polystyrene ball and secure the structure with hot glue.