

## National 5 Biology: list of possible investigations for assignments

The examples are based on assignments previously submitted by candidates. These are suggested investigations only, so the list is not exhaustive or prescriptive.

| Investigation  | Possible independent variable  |
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| Osmosis  | Concentration of solution<br>Type of solution (for example salt, sugar)<br>Temperature<br>Type of tissue (for example potato, carrot, apple)                             |
| Yeast — rising dough                                     | Type of sugar<br>Mass of sugar<br>Mass of yeast<br>Type of yeast<br>Type of flour<br>Temperature   |
| Enzymes — pectinase and juicing                          | Type of fruit<br>Concentration of enzyme added<br>Volume of enzyme<br>Temperature<br>pH  |
| Enzymes — starch/milk agar                               | Type of enzyme<br>Concentration of enzyme<br>Temperature   |
| Enzymes — gelatin  | Type of fruit<br>Pineapple juice — tinned, fresh, boiled   |
| Enzymes — catalase                                       | Temperature<br>pH<br>Type of tissue<br>Concentration of substrate  |
| Factors affecting transpiration                          | Windspeed<br>Temperature<br>Number of leaves<br>Surface area of leaf   |
| Photosynthesis — algal balls/pondweed — limiting factors | Light intensity<br>Temperature<br>Carbon dioxide concentration<br>(Use bicarbonate indicator/data logging to measure CO <sub>2</sub> removed or O <sub>2</sub> produced) |
| Fertilisers and algal growth                             | Volume of fertiliser<br>Concentration of fertiliser<br>Type of fertiliser (N, P, K)  |