



## Natural Indicators



### Red Cabbage Indicator

Equipment	Method
<ul style="list-style-type: none"> <li>• mortar and pestle</li> <li>• 1 heaped teaspoon of sand</li> <li>• 25 mL boiling water</li> <li>• pipette</li> <li>• beaker</li> <li>• chopped cabbage pieces</li> </ul>	<ol style="list-style-type: none"> <li>1. Place cabbage, sand and boiling water into the mortar.</li> <li>2. Use the pestle to grind the cabbage until a purple liquid forms.</li> <li>3. Use the pipette to extract the liquid from the mortar and put it in the beaker.</li> <li>4. Put the left over cabbage and sand into the bin and wash the mortar and pestle.</li> <li>5. Put away the equipment.</li> <li>6. If making indicator papers from the solution then soak strips of filter paper (1 cm x 3 cm) in the cabbage liquid for at least 20 minutes.</li> <li>7. Allow to dry on plastic wrap over night or use a hair dryer to dry.</li> </ol>



**Note:** This can also be done using a blender or food processor without the sand. It is a good way to make a large batch.

### Beetroot Indicator

Equipment	Method
<ul style="list-style-type: none"> <li>• mortar and pestle</li> <li>• 1 heaped teaspoon of sand</li> <li>• 25 mL boiling water</li> <li>• pipette</li> <li>• beaker</li> <li>• grated beetroot</li> </ul>	<ol style="list-style-type: none"> <li>1. Place the grated beetroot, sand and boiling water into the mortar</li> <li>2. Use the pestle to grind the beetroot until a red-purple liquid forms.</li> <li>3. Use the pipette to extract the liquid from the mortar and put it in the beaker.</li> <li>4. Put the left over beetroot and sand into the bin and wash the mortar and pestle.</li> <li>5. Put away the equipment.</li> <li>6. If making indicator papers from the solution then soak strips of filter paper (1 cm x 3 cm) in the beetroot for at least 20 minutes.</li> <li>7. Allow to dry on plastic wrap over night or use a hair dryer to dry.</li> </ol>



**Note:** This can also be done using a blender or food processor without the sand. It is a good way to make a large batch.

### Turmeric Indicator

Equipment	Method
<ul style="list-style-type: none"> <li>• 3 spatulas of turmeric</li> <li>• 25 mL boiling water</li> <li>• stirring rod</li> <li>• beaker</li> </ul>	<ol style="list-style-type: none"> <li>1. Place the turmeric into the beaker with the boiling water.</li> <li>2. Stir for 2 minutes until the mixture is well combined.</li> <li>3. You should have a beaker of yellow liquid.</li> <li>4. Wash and put away the equipment.</li> <li>5. If making indicator papers from the solution then soak strips of filter paper (1 cm x 3 cm) in the turmeric liquid for at least 20 minutes.</li> <li>6. Allow to dry on plastic wrap over night or use a hair dryer to dry.</li> </ol>



**Note:** This can also be done in a saucepan by boiling the turmeric in water for a few minutes.

### Curry Powder Indicator

Equipment	Method
<ul style="list-style-type: none"> <li>• 3 spatulas of curry powder</li> <li>• 25 mL boiling water</li> <li>• stirring rod</li> <li>• beaker</li> </ul>	<ol style="list-style-type: none"> <li>1. Place the curry powder into the beaker with the boiling water.</li> <li>2. Stir for 2 minutes until the mixture is well combined.</li> <li>3. You should have a beaker of yellow liquid.</li> <li>4. Wash and put away the equipment.</li> <li>5. If making indicator papers from the solution then soak strips of filter paper (1 cm x 3 cm) in the curry powder liquid for at least 20 minutes.</li> <li>6. Allow to dry on plastic wrap over night or use a hair dryer to dry.</li> </ol>

**Note:** This can also be done in a saucepan by boiling curry powder in water for a few minutes.



### Blueberry Indicator

Equipment	Method
<ul style="list-style-type: none"> <li>• mortar and pestle</li> <li>• 6 blueberries</li> <li>• 20 mL of ethanol</li> <li>• pipette</li> <li>• beaker</li> </ul>	<ol style="list-style-type: none"> <li>1. Cut the blueberries up into 4 pieces.</li> <li>2. Put the blueberry pieces, sand and ethanol into the mortar.</li> <li>3. Grind the blueberries until they form a paste and you have a bluey-purple coloured liquid.</li> <li>4. Use the pipette to extract the liquid from the mortar and put it in the beaker.</li> <li>5. Put the left over blueberries and sand into the bin and wash the mortar and pestle.</li> <li>6. Put away the equipment.</li> <li>7. If making indicator papers from the solution then soak strips of filter paper (1 cm x 3 cm) in the blueberry liquid for at least 20 minutes.</li> <li>8. Allow to dry on plastic wrap over night or use a hair dryer to dry.</li> </ol>

**Notes:** This can also be done using a blender or food processor without the sand. It is a good way to make a large batch.

Frozen blueberries work just as well as fresh.



### Blackberry Indicator

Equipment	Method
<ul style="list-style-type: none"> <li>• mortar and pestle</li> <li>• 6 blackberries</li> <li>• 20 mL of ethanol</li> <li>• pipette</li> <li>• beaker</li> </ul>	<ol style="list-style-type: none"> <li>1. Place the blackberries, sand and ethanol into the mortar.</li> <li>2. Grind the blackberries until they form a paste and you have a dark blue-purple coloured liquid.</li> <li>3. Use the pipette to extract the liquid from the mortar and put it in the beaker.</li> <li>4. Put the left over blackberries and sand into the bin and wash the mortar and pestle.</li> <li>5. Put away the equipment.</li> <li>6. If making indicator papers from the solution then soak strips of filter paper (1 cm x 3 cm) in the blackberry liquid for at least 20 minutes.</li> <li>7. Allow to dry on plastic wrap over night or use a hair dryer to dry.</li> </ol>

**Notes:** This can also be done using a blender or food processor without the sand. It is a good way to make a large batch.

Frozen blackberries work just as well as fresh.



## Tea Indicator

Equipment	Method
<ul style="list-style-type: none"> <li>• 1 tea bag or loose leaf tea</li> <li>• mortar and pestle</li> <li>• 25 mL boiling water</li> <li>• pipette</li> <li>• stirring rod</li> <li>• beaker</li> </ul>	<ol style="list-style-type: none"> <li>1. Put the tea leaves into the mortar (rip open the tea bag and tip in the contents).</li> <li>2. Add the boiling water.</li> <li>3. Grind the tea leaves until they form a dark brown liquid.</li> <li>4. Use the pipette to extract the liquid from the mortar and put it in the beaker.</li> <li>5. Put the left over tea leaves into the bin and wash the mortar and pestle.</li> <li>6. Put away the equipment.</li> <li>7. If making indicator papers from the solution then soak strips of filter paper (1 cm x 3 cm) in the tea liquid for at least 20 minutes.</li> <li>8. Allow to dry on plastic wrap over night or use a hair dryer to dry.</li> </ol>



**Notes:** This can also be done in a saucepan by boiling the tea leaves in water for a few minutes. You will need to sieve the tea leaves out.

## Flower Petal Indicator

Equipment	Method
<ul style="list-style-type: none"> <li>• mortar and pestle</li> <li>• 8 large petals</li> <li>• 1 heaped teaspoon of sand</li> <li>• 25 mL boiling water</li> <li>• pipette</li> <li>• beaker</li> </ul>	<ol style="list-style-type: none"> <li>1. Place the petals, sand and boiling water into the mortar.</li> <li>2. Use the pestle to grind the petals until a coloured liquid forms.</li> <li>3. Use the pipette to extract the liquid from the mortar and put it in the beaker.</li> <li>4. Put the left over petals and sand into the bin and wash the mortar and pestle.</li> <li>5. Put away the equipment.</li> <li>6. If making indicator papers from the solution then soak strips of filter paper (1 cm x 3 cm) in the petal liquid for at least 20 minutes.</li> <li>7. Allow to dry on plastic wrap over night or use a hair dryer to dry.</li> </ol>



**Notes:** This can also be done using a blender or food processor without the sand. It is a good way to make a large batch. Any brightly coloured petals seem to work, but the darker colours are better. Rhododendron, camellia, rose and pansy/violet petals work well.

## Rhubarb Indicator

Equipment	Method
<ul style="list-style-type: none"> <li>• mortar and pestle</li> <li>• piece of rhubarb</li> <li>• 1 heaped teaspoon of sand</li> <li>• 25 mL of boiling water</li> <li>• pipette</li> <li>• beaker</li> </ul>	<ol style="list-style-type: none"> <li>1. Slice the rhubarb finely.</li> <li>2. Place the rhubarb, sand and boiling water into the mortar.</li> <li>3. Use the pestle to grind the rhubarb until a red liquid forms.</li> <li>4. Use the pipette to extract the liquid from the mortar and put it in the beaker.</li> <li>5. Put the left over rhubarb and sand into the bin and wash the mortar and pestle.</li> <li>6. Put away the equipment.</li> <li>7. If making indicator papers from the solution then soak strips of filter paper (1 cm x 3 cm) in the rhubarb liquid for at least 20 minutes.</li> <li>8. Allow to dry on plastic wrap over night or use a hair dryer to dry.</li> </ol>



**Notes:** This can also be done using a blender or food processor without the sand. It is a good way to make a large batch.

## Copper Beech Indicator

Equipment	Method
<ul style="list-style-type: none"> <li>• copper beech Leaves</li> <li>• knife</li> <li>• mortar and pestle</li> <li>• 1 teaspoon of sand</li> <li>• 25 mL boiling water</li> <li>• beaker</li> </ul>	<ol style="list-style-type: none"> <li>1. Chop the leaves into small pieces.</li> <li>2. Place the leaves, sand and boiling water into the mortar.</li> <li>3. Use the pestle to grind the leaves until a coloured liquid forms.</li> <li>4. Use the pipette to extract the liquid from the mortar and put it in the beaker.</li> <li>5. Put the left over leaves and sand into the bin and wash the mortar and pestle.</li> <li>6. Put away the equipment.</li> <li>7. If making indicator papers from the solution then soak strips of filter paper (1 cm x 3 cm) in the leaf liquid for at least 20 minutes.</li> <li>8. Allow to dry on plastic wrap over night or use a hair dryer to dry.</li> </ol>

**Notes:** This can also be done using a blender or food processor without the sand. It is a good way to make a large batch.

### Other Possible Indicators

Substance/Item	Basic Method
red onion	Use pieces of red onion.
onion skin	Blend down with boiling water.
red apple skin	Peel apples and crush with sand or blend.
elderberries	Crush berries.
cherries	Crush berries.
cranberries	Crush berries.
red or purple grapes	Crush berries.
peaches	Crush with sand or blend.
carrot	Extract juice.
plums	Crush with sand or blend.
radishes	Crush with sand or blend.
strawberries	Crush with sand or blend.
tomato leaves	Crush with sand or blend.
turnips	Crush with sand or blend.
dahlias	Crush with sand or blend.
daylilies	Crush with sand or blend.
geraniums	Crush with sand or blend.
hibiscus	Crush with sand or blend.
hydrangeas	Crush with sand or blend.
blue iris	Crush with sand or blend.
morning glories	Crush with sand or blend.
peonies	Crush with sand or blend.
petunias	Crush with sand or blend.
poppies	Crush with sand or blend.

