Subject: Integrated Science

Topic: Acids and Alkalis

Level: S.2

Learning objectives

1. Content:

Students should be able to:

i. explain the use of litmus paper and other acid/alkali indicators

ii. describe the colour change in indicators

2. Language

Students should be able to:

i. use the simple present tense to describe a process (colour change in indicators),

e.g. *Acids turn blue litmus red; blue litmus does not change colour in alkalis*

Prior activity

Before distributing the activity sheet, students have finished experiments using different indicators to test acids and alkalis.

Integrated Science

Acids and Alkalis

Worksheet 1

Name:_____ Class:_____ No.:_____ Date:_____

Indicators for testing acids and alkalis

An indicator is a substance that produces different colours in acids and alkalis.

Task 1

Fill in the table below to show different colours of indicators in acids or alkalis.

Indicators	Original colour	Colours in	
		Acids	Alkalis
Blue litmus paper			
Red litmus paper			
Leaves of red cabbage			
Petals of rose			

Task 2

Write a short sentence to describe the colour change of each indicator in acids and alkalis. The answers of the first two sentences are given to you.

1. Acids turn blue litmus paper red.
2. Blue litmus paper does not change colour in alkalis.
3. Alkalis turn _____
4. _____does not change colour in _____
5. Acids turn _____
6. Alkalis turn _____
7. _____
8. _____

Task 3

A	What is the colour change of	blue litmus paper	in	Sulphuric acid? calcium hydroxide solution?
		red litmus paper		sodium hydroxide solution? hydrochloric acid?
		red cabbage indicator		ammonia? 7-up?
		rose petal indicator		detergent? lemon juice?
B	Sulphuric acid (The substance)	Turns	Blue litmus paper (the indicator)	Red (colour)
		OR		
	Blue litmus paper (the indicator)	Does not change colour in		detergent

Task 4

Hydrangea flower can be used as an indicator.
Search information about it in books or websites. You may use the websites given below:

http://www.insite-r.co.jp/Flower/june/hydrangea_E.htm
http://www.suresoft.ca/Gallery_9/DSC_3427.html

Please write a short paragraph to describe its colour change in acids and alkalis by using the sentence pattern you have learnt in this activity. The paragraph is started for you as below:

A Hydrangea flower is an example of a natural

_____

_____

_____