

## Indicators Quiz Answer Key PDF

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**Which factors can affect the accuracy of an indicator? (Select all that apply)**

- A. Temperature ✓**
- C. Volume of the solution
- D. Light exposure
- C. Concentration of the solution ✓**

**What color does universal indicator turn in a strongly acidic solution?**

- A. Blue
- C. Green
- D. Yellow
- C. Red ✓**

**At what pH does litimus paper change color?**

- A. 4
- C. 10
- D. 12
- C. 7 ✓**

**Which of the following are examples of synthetic indicators? (Select all that apply)**

- A. Phenolphthalein ✓**
- C. Methyl orange ✓**
- D. Red cabbage juice
- C. Bromothymol blue ✓**

**Which of the following are limitations of using indicators? (Select all that apply)**

**A. They provide an approximate pH value ✓**

C. They are more precise than electronic pH meters

D. They can change color due to light exposure

**C. They can be affected by temperature ✓**

**What is the transition pH range for phenolphthalein?**

A. 3.1 to 4.4

C. 4.5 to 6.0

D. 11.0 to 12.5

**C. 8.2 to 10.0 ✓**

**What is the primary purpose of an indicator in chemistry?**

A. To measure temperature

**C. To determine the pH level of a solution ✓**

D. To increase the volume of a solution

C. To change the state of matter

**Which indicator is commonly used in titrations involving strong acids and strong bases?**

A. Methyl orange

C. Litmus

D. Bromothymol blue

**C. Phenolphthalein ✓**

**Which of the following are true about the universal indicator? (Select all that apply)**

A. It is a single chemical compound

**C. It shows a gradual color change over a wide pH range ✓**

**D. It can indicate both acidic and basic solutions ✓**

C. It is only used for educational purposes

**What are some applications of indicators? (Select all that apply)**

**A. Determining the endpoint of a titration ✓**

C. Measuring electrical conductivity

**D. Testing the pH of soil ✓**

**C. Illustrating acid-base reactions in education ✓**

**Which of the following is a natural indicator?**

A. Phenolphthalein

**C. Red cabbage juice ✓**

D. Bromothymol blue

C. Methyl orange

**Which indicator is colorless in acidic solutions and pink in basic solutions?**

A. Methyl orange

C. Bromothymol blue

D. Litmus

**C. Phenolphthalein ✓**

**Which of the following are properties of indicators? (Select all that apply)**

**A. They change color at a specific pH ✓**

C. They can measure temperature

D. They can be used to determine the concentration of a solution

**C. They provide a visual representation of pH ✓**

**Which of the following is a synthetic indicator?**

A. Red cabbage juice

C. Litmus

D. Turmeric

**C. Bromothymol blue ✓**