

# Cloud Wheel

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**Abstract.** *Cloud is one of the beauties of nature we could observe in daily life. It is composed of mass of little drops of water or frozen crystals suspended in the atmosphere. Cloud formation is influenced by atmospheric conditions such as humidity, temperature, and air pressure. Clouds, in many cases, foreshadow incoming weather and assist in forecasting. Learning cloud is another activity for student to connect science and real world.*

*Students can stare into sky and with their imagination they can find endless shape of cloud in sky, but many of them are clueless if they are asked about types or names of clouds they are looking at. Clouds have been classified in 10 categories, and each of them has difficult name and complex characters to remember. Students get bored easily to remember these cloud categories before they learn more about them.*

*The Cloud wheel was designed to help students to learn cloud with fun. Student can learn characteristic and name of the cloud easily by using the Cloud wheel.*

*The Cloud wheel is composed of 3 circle papers in different size stacked together into 3 layers, and each layer moves or spins independently from the others. These layers contain names, characters, pictures, and heights of clouds. Student can determine name of clouds they see by moving the top layer of the Cloud wheel to match the closest cloud picture on the Cloud wheel, and the cloud's name will appear in a name box. Student can learn more about that cloud by moving the wheel to see characteristics of that cloud. The Cloud wheel is colorful and easy to use. With the Cloud wheel, student can play and learn science at the same time.*

## 1. Introduction

One of the secondary science curriculums for students in Thailand is to learn about nature of atmosphere such as weather, and composition of atmosphere such as pressure, humidity, rain and cloud.

Clouds play as the important role in our atmosphere and have influence to other atmospheric compositions. Learning cloud is the way to understand atmosphere and our environment.

There are many ways to study the clouds but observation by eyes is one of the best ways for the secondary students. Observing cloud is to observe both quantity and shape of them then data are collected as quantity and name of those clouds. Clouds have been classified in 10 categories. Therefore they are very complicated and difficult for secondary students who are about 13-14 years old to learn and understand the nature of clouds.

Cloud Wheel was designed to help student to learn about the characteristic, shape and name of clouds. Designing cloud wheel was base on the knowledge of form and level of the clouds. Clouds are classified in 3 big shape; mass, sheet and feather with a 3 levels; low, middle and high.

## 2. Composition of Cloud wheel

The Cloud wheel is composed of three circle papers in different sizes stacked together into three layers, and each layer moves or spins independently from the others. The smallest paper is on the top of the set and the largest paper is on the bottom of the set.

**Keyword:** Cloud wheel, Cloud.



Figure 1. Cloud wheel

### 3. How to use cloud wheel

Students can use cloud wheel in 2 ways. First, observe cloud in the sky then move middle circle paper to match cloud picture with the character position at the smallest circle paper and move the bottom circle to select cloud level. Name of that cloud will appear in the name box at the bottom part of the cloud wheel. Second, move circle paper to change the name of the cloud in the name box and then the characters and the picture of that cloud will move to the character position.



Figure 2. Character position



Figure 3. Cloud Level



Figure 4. Name box

### 4. Development of the Cloud Wheel

From the beginning of invention, cloud wheel was made from paper. Later on, the paper version has been developed to cloud wheel version 2 in which three circle papers stacked together have been changed to be the package of cloud wheel. In addition, new version cloud wheel also consists of the stack of a little book containing the details about each of ten clouds.



Figure 5. Cloud wheel version 2

## **5. Conclusion**

Cloud wheel was design to help students in learning cloud and science with fun .One of the purposes of cloud wheel is to motivate them to open their mind in gaining the new knowledge.

Cloud wheel has been tested by many teachers and students and it was found that cloud wheel helps students not only learning more about clouds but also learning with fun.

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## **7. Reference**

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