

Formation of Wind

Task Information

Subject: Earth Science

Content:

- NYS Syllabus (1970 ed.) Topic VII C
- Earth Science Syllabus (Pro. Mod.) (1993 ed.) - Unit 6 - Meteorology
- Framework Standard 4 Science - Interactions of air, water, and land components.
- Middle Level Science Block E Section IV - Air movement

Format: Paper/pencil

Purpose:

- To assess the student's ability to correctly sequence the steps leading to the formation of wind.
- To assess the student's understanding of the cause and effect relationships involved in the formation of wind.

Skills:

Primary: Classifying, generalizing/infering

Secondary: Interpreting data, communication

Time: 10 minutes

Materials:

Teacher

- index cards
- markers

per Student

- 6 "wind cards"
- 1 blank card

Preparation:

- Type six (6) each of the following statements with its corresponding letter on separate index cards:
 - A - Air which is less dense, and causes lower pressure than the surrounding air, will rise.
 - B - The sun's rays warm the Earth.
 - C - Cold air is warmed and becomes less dense.
 - D - Cool air, which is more dense, sinks and causes an increase in air pressure.
 - E - The Earth radiates heat and warms the surrounding air.
 - F - As air rises it expands and cools
 - G - Blank
- Cards need to be made, laminated or covered, if desired and bundled in groups

Safety: N/A

Extensions/Modifications:

- Students could work in groups.
- Pictures could be drawn to represent cards.

Formation of Wind

Task: At this station, you will determine the sequence of events in the formation of wind.

Materials:

- 6 "wind" cards
- 1 blank card

Directions:

Each of the six index cards you have been given has written on it a letter and a statement describing one of the events leading to the formation of wind.

1. Spread the cards out on your desk, and read each statement carefully.
2. Arrange the cards in the order in which they must occur to result in the formation of wind.
3. When you are satisfied with your arrangement, record in the blanks below the numbers on the cards in the order you have placed them.

Answers:

(first)

(last)

4. Card G represents the final event which leads to the Formation of Wind. In a complete sentence, write a statement which describes this event.

Formation of Wind - Scoring Rubric**Maximum score - 7 points****Tasks 1-2 Directions****No Credit****Task 3.****5 points total**

Standard: The student arranges the cards in the correct sequence. The correct sequence is B-E-C-A-F-D

Criteria:

- Allow 5 points for the correct placement of 5 or 6 of the cards.
- Allow 4 points for the correct sequencing of 4 of the cards.
- Allow 3 points for the correct sequencing of 3 of the cards.
- Allow 2 points for the correct sequencing of 2 of the cards.
- Allow 1 points for the correct sequencing of 1 of the cards.
- Allow 0 points for the incorrect sequencing of all of the cards.

Task 4**2 points total**

Standard: The student should refer to air moving in to replace the rising air.

Criteria:

- Allow 2 point for a correct response in a complete sentence.
- Allow 1 point for a correct response, but not in a complete sentence.
- Allow 0 points for an incorrect response even if it is in a complete sentence.

Sample correct response:

G. Sinking air moves along the surface as wind.

Highest Possible Score - 7 points

Student ID ESTS-1-3

Scoring Form - Formation of Wind

Male or Female (circle one)

Circle the student's score for each question. Add the points for each question and write the total score at the bottom of the scoring form.

3. Card arrangement 0 1 2 ③ 4 5

4. Description of final event ① 1 2

Total Score 3
(Total Possible score - 7 points)

