

STUDY QUESTIONS

TO “CLUES IN THE CLOUDS”

Study and learn facts and ideas based on this Young Naturalists nonfiction story in *Minnesota Conservation Volunteer*, July–August 2018, www.mndnr.gov/mcvmagazine.

Minnesota Conservation Volunteer magazine is your guide to wild things. Every other month, six times a year, the magazine arrives in your school library. Each one has a story for Young Naturalists like you. **Are you curious about wild things?** Young Naturalists tells true stories that can answer all kinds of questions such as these—

Have you ever heard of a purple wartyback? How about a pink heelsplitter, pimple-back, or monkeyface? All are Minnesota freshwater mussels. Read Young Naturalists stories to learn which species (kinds) of critters live in Minnesota—frogs, salamanders, snakes, wild cats, wild dogs, weasels, mice, and rabbits.

Want to **peek inside the den of a red fox** and see how the kits grow up? Are you a rock hound searching for agates? Have you ever wondered what’s alive under snow? How animals see? Why a bluebird is blue? How birds fly?

Would you like to hear the true story of **giants of the ice age**? Young Naturalists also tells you about the underground universe. You can read the story of a tiny owl that went to a hospital with an injured wing. Find out about a boy who worked in a logging camp. Read the story of Ojibwe children today hunting and gathering like their ancestors did.

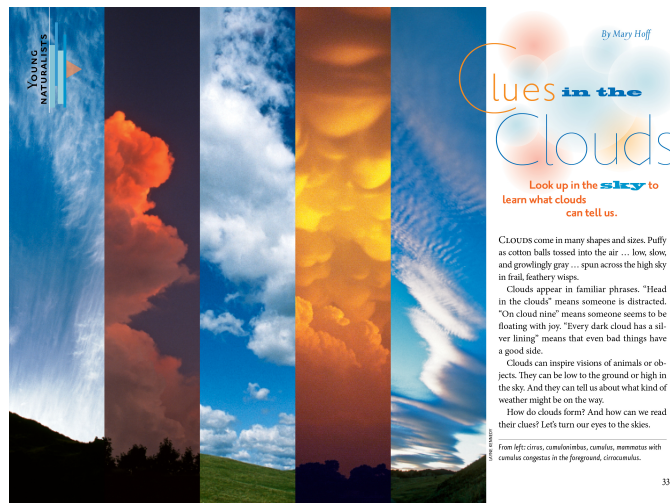
Learn how to get started **camping, snowshoeing, ice fishing, or canoeing**.

Find these stories and more online at www.mndnr.gov/young_naturalists.

Your knowledge of wild things helps you explore and enjoy the outdoors. Have fun!

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1. WHAT THREE INGREDIENTS ARE NEEDED TO MAKE A CLOUD?

2. WHEN WATER CONDENSES, IT?

- a. turns from a gas into a liquid
- b. turns from a liquid into a gas
- c. turns from a liquid into a solid
- d. turns from a solid into a liquid

3. WHAT HAPPENS WHEN TWO AIR MASSES RUN INTO EACH OTHER?

4. TRUE OR FALSE: AIR HIGHER IN THE SKY IS WARMER THAN AIR CLOSER TO EARTH.

5. PUFFY CLOUDS FORM WHEN _____ CAUSES AIR TO MOVE SKYWARD. STRINGY CLOUDS FORM WHEN _____ CAUSES AIR TO MOVE SKYWARD.

6. EARTH'S SURFACE COVERS 197 MILLION SQUARE MILES. ABOUT HOW MANY SQUARE MILES DO CLOUDS COVER? HOW MANY SQUARE KILOMETERS? _____

7. WHAT THREE FACTORS DETERMINE WHICH CATEGORY A CLOUD FALLS INTO? _____

8. NAME TWO WAYS IN WHICH NIMBOSTRATUS AND CIRRUS CLOUDS ARE SIMILAR AND TWO WAYS IN WHICH THEY DIFFER. _____

9. TRUE OR FALSE: CUMULUS CLOUDS ARE MORE COMMON IN WINTER AND STRATUS CLOUDS ARE MORE COMMON IN SUMMER.

10. WHEN YOU “SEE YOUR BREATH” IN WINTER, WHAT ARE YOU REALLY SEEING? _____

11. NAME THREE CLOUD TYPES THAT TELL US RAIN OR SNOW COULD BE ON THE WAY. _____

12. MATCH THE CLOUD TYPE WITH THE FACT ABOUT IT:

nimbostratus
cumulonimbus
cirrus
cirrocumulus

featherlike clouds high in the sky
clouds associated with thunderstorms
clouds that foretell cold weather with no snow
dark gray clouds that cover the entire sky

13. WHY DO CLOUDLESS NIGHTS TEND TO BE COOLER THAN CLOUDY NIGHTS? _____

BONUS: WHAT ARE SOME POSSIBLE REASONS THAT CITIES HAVE MORE CLOUDS THAN RURAL AREAS? _____

MINNESOTA COMPREHENSIVE ASSESSMENT

NAME _____ PERIOD _____ DATE _____

1. WHAT DO CLOUDS WITH “CUMUL” IN THEIR NAMES HAVE IN COMMON? _____

2. WHAT DO CLOUDS WITH “NIMB” IN THEIR NAMES HAVE IN COMMON? _____

3. WHAT DO CLOUDS WITH “STRAT” IN THEIR NAMES HAVE IN COMMON? _____

4. WHAT TWO KINDS OF CLOUDS ARE MOST LIKELY TO CREATE A HALO EFFECT AROUND THE SUN OR MOON? _____

5. IF YOU ARE LOOKING FORWARD TO A FUN DAY OUTDOORS, WHICH KIND OF CLOUD WOULD YOU MOST LIKE TO WAKE UP TO, AND WHY? _____

STUDENT STUDY GUIDE: VOCABULARY CARDS

Cut along horizontal lines, fold in the middle and tape or staple. Blanks are provided to allow you or your students to add new words or phrases

Things that are DENSE	FOLD	When things CONTAIN A LOT OF MATTER FOR THE AMOUNT OF SPACE , we say they are
An object in the FOREGROUND is	FOLD	An object in FRONT OF OTHER THINGS is
When you see A RING OF LIGHT around the sun or moon, you are looking at	FOLD	A HALO is
A PART OF A SENTENCE is known as	FOLD	A PHRASE is
RAIN, SNOW, AND SLEET are forms of	FOLD	PRECIPITATION is a word for

Something that is **HELD**
WITHOUT TOUCHING A
SURFACE IN WATER OR AIR is

FOLD

Something that is
SUSPENDED is

A **WISPY** cloud
is

FOLD

We might call a cloud
MADE OF DELICATE,
STRINGLIKE SHAPES

FOLD

FOLD

FOLD

FOLD