



NATURALLY ILLINOIS EXPO
INSTITUTE OF NATURAL RESOURCE SUSTAINABILITY

**2010
FIELD BOOK**

CREW

DATE

WEATHER

COMPLETED

1. BACKYARD DIVERSITY— INSECTS OF ILLINOIS AND BEYOND

There are more different kinds of insects
than all other animals combined.

TRUE FALSE

More than ten thousand new species of insects
were discovered and named last year,
including at least one from Illinois.

TRUE FALSE

2. TURTLES OF ILLINOIS

How many different turtles are there in Illinois?

17

Female turtles lay their eggs in water.

TRUE FALSE

3. WHAT HAPPENS TO YOUR ELECTRONIC WASTE? – SUSTAINABLE ELECTRONICS INITIATIVE

Electronic wastes can contain materials such as lead, mercury, gold, or silver.

TRUE FALSE

Only about

15% 25% 50%

of electronic devices are recycled after they are taken out of service and the rest are disposed of in landfills.

4. MUSSELS OF ILLINOIS

How many feet does a freshwater mussel have?

One

Mussels live in the bottom of a river.

TRUE FALSE

8. INRS LIBRARIES

The INRS Libraries have information about which topic(s)?

- a. Orchids b. Recycling c. Climate
d. Historical artifacts e. Minerals f. All of the above.

Members of the public are welcome to visit the Illinois Natural History Survey Library weekdays during regular business hours—no appointment necessary.

TRUE FALSE

10. MINERALS AND ANCIENT CREATURES

Why has a dinosaur never been found in Illinois?

**Weathering and erosion
—or water and wind**

11. UNDERGROUND CAVERN DISPLAY

Stalactites form on the cave

- a. Ceiling b. Floor

12. ILLINOIS MINERALS

What minerals are found in your county?

Answers vary by county

13. GROUNDWATER: A MOVING EXPERIENCE

Groundwater is water that we find underground.

TRUE FALSE

What do we use to get water from underground?

A well

14. GROUNDWATER: UNDERSTANDING THE MAHOMET AQUIFER

Where does your water come from?

Answer will vary by location. The water source is ultimately rain and snow that either runs off into a river/lake (surface water) OR infiltrates to become groundwater.

What do we call a geologic formation that provides water to a well?

An aquifer

15. BUILD ILLINOIS

The muddy forested delta in ancient Illinois produced
WHAT valuable natural resource?

- a. Water b. Iron **c. Coal** d. Oil

What major geologic process completely rearranged
and re-built the landscape of Illinois in the last 2 million years?

- a. Earthquakes **b. Glaciers**
c. Volcanoes d. Shallow tropical ocean

16. MICROCRITTERS: DEAD AND ALIVE

How big (in millimeters) are the ostracodes
and/or other microcritters?

About 0.5 mm

What things that you see alive today might become fossils
in lake sediment? (CIRCLE 3)

- Ostracode shells** Leaves **Clam shells**
Wood fragments Worms Isopods

17. COORDINATED HAZARD ASSESSMENT MAPPING PROGRAM

What natural disaster causes the most damage in Illinois?

Flooding

19. ILLINOIS RIVERS ONLINE (POSTER)

What watershed do you live in?

Answer varies by location

What watershed is the Illinois state capital, Springfield, located in?

- a. Sangamon b. Illinois
c. Mississippi d. All of the above

All answers can be considered correct since smaller watersheds are nested within larger ones. Here, the Sangamon is within the Illinois, which is within the Mississippi.

20. MIDWESTERN REGIONAL CLIMATE CENTER

How many Regional Climate Centers are there in the U.S.?

Six

Name at least three subject areas where climate data is used.

Agriculture, energy, transportation,
risk management, water resources,
environment, or health

21. FUN WITH GASES, LIQUIDS, AND SOLIDS

What are the two most common gases in air?

- a. Carbon dioxide & argon b. Oxygen & carbon dioxide
c. Nitrogen & oxygen

What happens when air is heated?

- a. It expands b. It contracts c. It condenses

22. DIGITAL TOPOGRAPHIC MAP OF CHAMPAIGN COUNTY (POSTER)

What does LiDAR stand for?

**Light Detection
and Ranging**

23. FUN WITH WATER CHEMISTRY

Solutions with a pH of less than 7 are called what?

- a. Acidic b. Neutral c. Basic

The word "polymer" means what?

- a. Large volume b. Colored solution c. Many parts

24. CoCoRaHS!

What do CoCoRaHS volunteers measure?

**Rain, snow, and hail;
or precipitation**

25. CLIMATE AND CLIMATE CHANGE IN ILLINOIS

What is coldest temperature ever reported in Illinois?

- a. -10 degrees
- b. -36 degrees**
- c. -96 degrees
- d. -127 degrees

Is Illinois wetter or drier than Colorado?

Wetter
**Illinois gets almost 39 inches of precipitation
compared to 15 inches in Colorado.**

26. FUN WITH WEATHER

What was the high temperature on your birthday?

Answer varies

What was the amount of precipitation on your birthday?

Answer varies

27. WHAT'S IN OUR RAIN?

Lemon juice is (circle all that apply)

Acidic Neutral Basic

Rain water is (circle all that apply):

Acidic **Neutral** Basic

28. MONITORING BIRDS IN ILLINOIS

Why do some birds leave the nest before they can fly?

- a. To avoid predators, such as a raccoon or a snake
- b. To hop around and play

Some birds can fly over 1,000 miles without stopping.

TRUE FALSE

29. MUD TO PARKS

Sediment washed from central Illinois farms and cities into rivers and lakes looks like _____ after it settles.

Garbage Oil Mud

Sediment taken from the Illinois River at Peoria can be used as _____.

Glue Topsoil Roofing shingles

30. BIOFUELS—FROM WASTE TO BIODIESEL

Our biodiesel discussed in this exhibit is made from:

Corn Used cooking oil Petroleum

Any vegetable oil as well as animal fats or oil from algae may be used to make biodiesel.

TRUE FALSE

31. BIOCHAR

Biochar can be made from:

Yard waste Empty cans Petroleum oil

Biochar cannot be used for:

Fuel Fertilizer Spices

32. BUILDING A SUSTAINABLE ENERGY SYSTEM IN HAITI WITH *JATROPHA CURCAS*

What products can be obtained from *Jatropha*?

- a. Oil b. Animal feed c. Metal **d. Both a and b**

Jatropha grows best in a **tropical** climate.

33. PPCPS, EMERGING CONTAMINANTS IN THE ENVIRONMENT

Where are pharmaceutical and personal care products (PPCPs) being released to the environment:

- a. Animal farms b. Sewage treatment plants
c. Both a and b

Should we flush our unused medications (drugs) down the toilet?

Yes **No**

34. KIDS FOSSIL DIG

What is a fossil?

Any evidence of past life

Many of the fossils found in Illinois are the remains of animals that once lived in the sea. Why is this?

**Illinois was once covered by
a shallow inland sea**

35. ROCKS, BONES, POTS, AND PEOPLE: WHAT DOES IT ALL MEAN?

What do archaeologists find when they excavate a site?

Artifacts such as projectile points, stone and bone tools, pottery, broken animal bones, and burned plants such as seeds, corn, nuts, and wood. Differences in soil colors reveal remains of houses, trash pits, hearths, and burials.

What do we learn from archaeology?

Archaeology is the study of how and why societies change over time. We learn from artifacts the diets and environment of past peoples; their technology, such as their tools, pottery, jewelry, house construction, village organization; daily life; social behavior. Differences in types of artifacts between sites from different time periods help us answer questions about how and why cultures change.

36. GLACIAL GEOLOGY OF ILLINOIS

What is the name of a hill or ridge formed along the edge of a glacier?

A moraine

37. SLOTH SAYS...ICE AGE, WHAT?

What is "glacial till"?

The sediment or debris deposited by a glacier

38. CORROSION SHOWCASE

Can you see the minerals that are dissolved in water?

Yes ☒ No

Can water dissolve metal pipe?

Yes ☒ No

39. ILLINOIS WETLANDS: A WATER RESOURCE

What 3 things does land need in order for it to be a wetland?

**Water, hydrophytic (water-tolerant)
plants, hydric soils**

List three reasons why we should protect wetlands.

**They reduce sediment and contaminants in our
streams and rivers, reduce flooding, recharge
our groundwater supplies, provide food and
nesting places for many different animals, provide
recreation for people who like fish, birdwatch, hunt.**

40. HOW STREAMS WORK

What is a watershed?

The land area that drains into a stream or a ridge of land that separates two river systems

What direction does water go in a watershed?

Downstream or downhill

42. GET TO THE CORE: STEAMY SWAMPS AND ICE AGE GLACIERS

The core on display contains sand, silt, and clay deposited by glaciers. How old are they?

- a. Less than 100 years old b. More than 500 million years old
c. 20,000–800,000 years old d. Less than 20,000 years old

Illinois coal is a major natural resource that is burned to produce energy to generate electricity and heat. Coal forms over millions of years as plant material accumulates and is compressed.

Where would coal most likely form?

- a. Tropical swamps, bogs, and wetlands b. Mountain tops
c. Deserts d. The North Pole

43. MINING OF COAL RESOURCES IN ILLINOIS

How much coal is left in Illinois?

211 billion tons

Coal is made up of the compressed remains of:

- a. Plant debris
- b. Animal bones
- c. Washed-up former rock stars of the 1970s

44. BOREHOLE GEOPHYSICS

What is one property that the ISGS measures when downhole logging?

Gamma radiation, resistivity, density, moisture, hydrogen, or temperature

What produces gamma radiation?

The sun, certain earth materials with increased radioisotopes (uranium, potassium), clay-rich material

45. RESEARCH OFF THE GRID

The NADP is using
solar and wind power
for its equipment in remote locations.

Under what conditions is wind power better than solar power
(circle all that apply)

Night time

Cloudy days

Calm days

Winter

TRAVELING SCIENCE CENTER (POSTER)

How many people visited the Traveling Science Center
while it was in northern Illinois?

78,000

What will be the focus of the Traveling Science Center
in central Illinois?

The Rivers of Illinois

INSTITUTE OF NATURAL RESOURCE SUSTAINABILITY

HOME OF THE ILLINOIS STATE SCIENTIFIC SURVEYS

Illinois Natural History Survey
Illinois State Archaeological Survey
Illinois State Geological Survey
Illinois State Water Survey
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