Indiana 4-H Geology Project – Questions & Answers

2013

Q – The card labels ask for the Specimen Name (Levels 1 & 2). The question is – do you want the common name, scientific name, or both?
A – The more information the better on labels. Scientific name is probably best but the judges generally do not quibble if identification is correct.

Q – Do minerals have ‘Phylas?’
A – No phyla in minerals. There are chemical, crystallographic, or property classifications but not phyla.

2009

Q – Since the Level 1 manual is for Grades 3-5, how many activities do they need to do (manual doesn’t state)?
A – There are no state guidelines as to how many activities are required. We used to put these in our manuals but since each county seems to do something different, I quit adding any recommendation. I generally try to have 5-6 options for activities each year for the 4-H members but don’t expect them to do all of them, unless they want to. Some kids like to pick and choose and others start at the beginning and work back.

Q – The requirements to exhibit mentions a 18x24 inch insect box; can this be built or do they have to purchase a specific type (insect) of box?
A – This box can be built or purchased – it is up to the 4-H member. If they want to build one, they can look at the plans on my geology website (www.four-h.purdue.edu/natural_resources/Projects/geology/). Or, the boxes can be purchased from MDC (# 4-H-763) or from commercial vendors (see my entomology website for a list (www.four-h.purdue.edu/natural_resources/Projects/entomology/). The collections don’t actually have to be in a display box, they can be on a poster, but we have had trouble with theft of rocks at the state fair with the posters (people slashing the plastic and stealing fossils, especially – it happens so fast that our student workers don’t see it).

Q – “when exhibiting rocks-show a fresh surface to help judges identify the rocks” Does “fresh surface” mean to split the rock?
A – Yes, the judges prefer that the rocks are split, or has a small part removed, if possible. This is particularly true with rocks where it is difficult to see the structure and make a good identification. If the rock can easily be identified as it is, there is no need to split it.

2008

Q – A question has come up about the new Geology guidelines for a Level 2 Collection: Can you exhibit only 4 fossil and 4 minerals or 5 and 5 or 6 and 6 or 7 and 7 etc. or does it have to be 16? We understand the part about them being one different then exhibited before.
A – 4-H members, choosing the last bullet option for Level 2, Geology, may exhibit any of the following:
4 fossils and 4 minerals for a total of 8 specimens
5 fossils and 5 minerals for a total of 10 specimens
6 fossils and 6 minerals for a total of 12 specimens
7 fossils and 7 minerals for a total of 14 specimens
8 fossils and 8 minerals for a total of 16 specimens

Last year we required 16 and that was just too many to put in one box. This is an effort to allow for the various sizes of specimens but to keep the box balanced and have the youth collect both fossils and minerals.

2007 and before:
Q – Can 4-H members purchase the items that they need for their geology project?
A – Yes, they can purchase the items that they need for a geology exhibit. Years ago kids were able to find rocks, minerals, & fossils around the state but many of the places have been closed to rock hunters and most, if not all, have been closed to youth (due to liability concerns and preservation concerns). So, most 4-H members must buy the geology specimens that they exhibit.

Q – What is the best way to display geology specimens?
A – The best way to display geology specimens is in a box (entomology-type). We have had trouble with theft of rocks at the Indiana State Fair. (It's so easy for someone to walk by and slash a plastic covering and walk on. So, if youth have a special fossil (etc.) that they found or purchased it may be irreplaceable, so caution is advised. A very valuable specimen should not be exhibited.

Q – Do the rocks and minerals need to come from within Indiana?
A – No, they do not need to come from Indiana.

Q - We are analyzing a mineral and have performed luster, streak, and hardness tests and still have not determined the mineral between quartz and olivine. Do we need to conduct a further test to strictly define the mineral? Or is grouping it into one of the two listed above good enough?
A – (Answer from a state fair judge) Listing as one of the two is probably ok as both are very hard. But you should be able to determine by the color – olivine is named for its’ olive color, the August birthstone.

Q – What is the best way to display the rocks? In the book it refers to cement – which brand is best? If they are attached, how is this done? How is the label attached? We purchased a geology box from Purdue, but it came with no top. Is Plexiglas or glass better for the box?
A – Posters and display boxes will be exhibited “standing up” at the Indiana State Fair. Therefore, you need to secure your specimens securely. Project leaders suggest the following methods:
  • soaking ½ cotton ball in Elmer’s glue. Place the cotton ball in your box and put your rock (or fossil or mineral) on the cotton ball and let sit. It will take 1-2 weeks for Elmer’s glue to fully harden. Specimens mounted with Elmer’s glue can be removed by soaking the cotton ball in water. Glue remaining on the rock may be brushed off with an old, damp toothbrush.
  • Use hot glue or clear tub sealant for cementing the rocks.
• Many people put their specimens in a box (as is used for insects) for their geology display (rather than gluing to a poster). A box is more secure, because we do have geology specimens stolen occasionally.

• The label is usually glued to the box under the specimen. (see examples at the website: http://www.four-h.purdue.edu/staff.home/natalie/projects.htm).

• The choice of glass or Plexiglas is up to the 4-H member. Plexiglas is safer but it does scratch.

Q - The exhibit guidelines do not indicate any size on the specimens. Also, may specimens be polished or should they not be polished? I think I have seen polished specimens at State Fair, and I know we have had some here at the county—but I was wondering what experts (the judges) prefer?
A - The size of the specimens is not so important, but they should all be about the same size to make a uniform display. Generally, specimens of at least 2x2 inches (square), up to 4x4 inches (square) would be best. If the rocks are too small it is difficult to tell what they are. Polished stones are fine if the whole display has polished stones (for a consistent look). Rocks should have a freshly broken surface so you can see the unweathered rock.

Q - Is a geode acceptable on a Minerals Poster?
A - Yes.

Q – My daughter has collected creek rock & river gravel. Do you know if these are acceptable for fair? This is a project that isn't taken much in our county, therefore, we ask questions...her labels do not have creek rock or river gravel, that's my problem. We have gravel as a label, but didn't know if these 2 would be acceptable.
A – The word gravel does not identify the type of rock: granite, limestone, sandstone, etc. Regardless of where the rocks were collected, they must be identified by type.

Q – We are new to the geology project and have a lot of questions. Do you know someone who can help us identify our rocks?
A – Geology can be especially difficult if you don’t have access to a resource person. Another thing to try is to see if there are any rock shows around you. You can meet many geology enthusiasts there and get help with ID. The American Geology Society lists shows on it’s website, www.amfed.org/mwfp/. Click on Calendar of Events and scroll down. One of the biggest shows in Indiana is the Lawrence County Rock Club show in Monroe County, Bloomington. Many of the state fair judges and people from the Indiana Geology Society will be there.

Q – Can fossils be embedded in stone or do they need to be individual fossils separated from the stone?
A – Exhibiting a fossil in the rock it came from fine. Paleontologists like to see the rocks that the fossils are found in helps us learn more about them. As long as the fossil is not too large you may go ahead and use it.

Q – May I exhibit several individual specimens in each fossil category (for example, crinoid stems and buttons) in the same display segment or would these count as 2 individual fossils?
A – Showing several fossils on one space as long as they are the same plant or animal is fine. If you put stems and buttons of Crinoids on the same space, as one fossil, it is fine, but if you put one on one space and the other on a different space, expecting them to be counted as two different fossils, that would be wrong since buttons are just individual parts of the stems.

Q – I have one more question for you concerning the fossils. As we study the fossils we have found and try to label them, we are running into questions. We have 3 different types of corals and were wondering if we are allowed to display cup corals as one item, honeycomb coral as another and so on. The same question for the Bryozoans......the book shows 2 separate types. Can these be separate entries or can we only show Bryozoans once?? Also, after studying and reading up on petrified wood and bark, we are having trouble distinguishing between the 2. Is there a basic difference we should look for? Any help would be appreciated. Thank you

A – The Corals can be used separately as long as they are different. The Bryozoans need to be looked at carefully to make sure they are indeed different as they look very much the same. If they are different they can be used. The petrified wood and bark not found separate as a rule, would just call it petrified wood and let it go at that, just be sure as changed and not recent material.

Q – I have a quick question about the labels. Are we supposed to answer "Where this rock comes from?" where the rock comes from or where we found it?

A – Identify where the rock was found or, if it was purchased, where you would expect to find it (its native location). Example: near Red Lodge Montana, or Beartooth Mts, Wyoming, or Lafayette Indiana (in it’s native location – not transferred by people). We are considering revising the label suggestions so they will be more clear.

Q – We are aware that we must have a different collection from year to year and my daughter always brings her old box to show the judge it is a different collection.

A – It is not necessary to have an entirely new exhibit in Geology for the State Fair exhibits, However, county guidelines may differ. (Entomology is the same – youth can add to their collection and do not need to start over.) Please check with your county Extension Office about this.

Q – My daughter, who is just starting 4-H this year, is doing geology. What type of display box is used? Do we need to get a wooden one with a glass lid? Is there a specific size/dimensions for the box? I have to say I can’t ever paid attention looking at displays at the fair before.

A - The most often used box is the “entomology” box (18 x 24 inches), wooden with a glass top, because it reduces the likelihood that geology specimens will be stolen. (A very unfortunate problem that we have at the state fair.) A poster (22x28) is also fine. You can get these boxes from Purdue’s Media Distribution (ask your county educator how to get one) or make one – plans are available on-line under Entomology. If you don’t have time to get/make a box you could always do a poster for the county fair and, if selected for state fair, move the specimens to a box for that. I just hate to have the specimens stolen and it takes so little time for someone to walk by, slit the plastic and go. We have lots of kids walking around the exhibits but still have the problem. It is a sad reflection on society....
Q – Do geology specimens have to be glued down?
A – If the specimens are going to be displayed on a board they will need to be glued. If they are going to be displayed in boxes glue may be an option at county fairs, if the boxes are laid flat. At the Indiana State Fair all geology exhibits are displayed vertically so the specimens must be glued.