

<p>1. <u>Alaskite</u> - Mitchell County, NC</p> <ul style="list-style-type: none"> • This is an extremely light colored variety of the igneous rock granite, composed primarily of three minerals – white feldspar, light gray quartz, silvery muscovite mica, dark red dots are garnet. • It occurs as very coarse (large) mineral veins called pegmatites. These pegmatites are 320-390 million years old and occur along the edge of the Blue Ridge. 	<p>2. <u>Andesite Tuff</u> - Chatham County</p> <ul style="list-style-type: none"> • It is made of rock fragments and ash that exploded from volcanoes; they accumulated on the ground and hardened into the volcanic (extrusive igneous) rock known as tuff. • These volcanoes were active about 540-600 million years ago and they were similar to the modern volcanoes of Japan and the Aleutians.
<p>3. <u>Tonalite</u> – Nash County, NC</p> <ul style="list-style-type: none"> • It formed as molten rock intruded the surrounding rock. This intermediate intrusive igneous rock is part of the Rocky Mount intrusive suite (270-320 million years old) and includes the prominent minerals biotite and hornblende. • This intermediate rock is chemically between light colored granite and dark colored gabbro. 	<p>4. <u>Cretaceous Sand</u> - Anson County, NC</p> <ul style="list-style-type: none"> • This sample consists of quartz grains deposited about 65 million years ago. • It was carried by an ancient river and deposited where the river emptied into the Atlantic Ocean (the coastline was much farther to the west than it is now).
<p>5. <u>Diabase</u> - Granville County</p> <ul style="list-style-type: none"> • It is a type of basalt – the fine-grained, dark colored igneous rock that makes up the sea floor. • It is magnetic – test it with a small magnet on a string. • This diabase formed about 200 million years ago as the supercontinent Pangea split apart and the Atlantic Ocean began to form. 	<p>6. <u>Gneiss</u> - Henderson County, NC</p> <ul style="list-style-type: none"> • Gneiss (pronounced “nice”) is a metamorphic rock consisting of bands and streaks of alternating darker and lighter color minerals. • This rock was originally granite that crystallized from molten magma about 490 million years ago, and was then metamorphosed (heated and squeezed) into gneiss about 350 million years ago. • Eye-shaped white feldspars, normally rectangular, were squished during metamorphosis and are called augen (German for “eye”).
<p>7. <u>Granite</u> - Surry County, NC</p> <ul style="list-style-type: none"> • Mount Airy Granite is a medium-grained igneous rock composed of quartz, white feldspar and biotite mica. • It formed about 350 million years ago as magma cooled deep inside the earth’s crust. Erosion gradually removed the overlying layers of rock exposing the granite on the Earth’s surface. • Granite is North Carolina’s state rock. 	<p>8. <u>Argillite & Tuff</u> - Cabarrus County, NC</p> <ul style="list-style-type: none"> • The argillite & tuff formed about the same time and same way as the Andesite Tuff. • The tuff came from an explosive volcanic (extrusive igneous) eruption and the argillite came from clay and silt (sedimentary) laid down during quiet periods. • The rocks were originally deposited around 550 million years ago, later everything was then slightly metamorphosed.
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<p>9. <u>Limestone</u> - Pender County, NC</p> <ul style="list-style-type: none">• Limestone is a sedimentary rock made of the mineral calcite (and sometimes fossils).• Calcite fizzes in acid, put a drop of vinegar or a weak solution of HCL on the specimen.• This limestone formed more than 40 million years ago when layers of seashells and mud accumulated in a tropical ocean.	<p>10. <u>Murphy Marble</u> - Swain County</p> <ul style="list-style-type: none">• Marble is metamorphosed limestone• Limestone is a sedimentary rock made mostly of the mineral calcite• Limestone usually forms in marine environments• Because marble also has calcite, it fizzes in acid; put a drop of vinegar or a weak solution of HCL on the specimen.
<p>11. <u>Dacite</u> - Durham /Orange Counties</p> <ul style="list-style-type: none">• Dacite is an extrusive igneous rock.• It is relatively high in quartz which makes this lava very sticky (viscous) which can lead to very explosive eruptions (Mt. St. Helens 1980)• This dacite was part of an active volcanic island chain 500-570 million years ago• It was metamorphosed 400 million years ago when the islands collided & stuck (accreted) onto ancient North America	<p>12. <u>Phosphate “rejects”</u> Beaufort Cnty, NC</p> <ul style="list-style-type: none">• Phosphate (black pellets) is associated with the marine (ocean) sedimentary rock, limestone.• It was deposited on the ocean floor about 15 million years ago. It is accompanied by fossils of many marine animals including sharks and whales.• The fossilized teeth of the Megalodon Shark is our State Fossil.
<p>13. <u>Porphyritic Granite</u> Richmond Cnty, NC</p> <ul style="list-style-type: none">• Lilesville Granite is a coarse-grained igneous rock composed of quartz, white and pink feldspar and biotite mica.• It formed at about the same time and way as the Mount Airy granite, but the larger grain-size and, especially the large pink crystals, indicate that it cooled much slower.	<p>14. <u>Pyrophyllite Ore</u> - Moore County, NC</p> <ul style="list-style-type: none">• This soft mineral is found in metamorphic rock.• It can grow in radiating crystals like the spokes of a bicycle tire.• Similar in appearance to talc, it was named for the Greek words for fire and rock since its early use was for hearthstones around fireplaces.
<p>15. <u>Quartz Gravel</u> - Anson County</p> <ul style="list-style-type: none">• This gravel is made mostly of rounded pieces of quartz and was deposited about the same time as the Cretaceous Sand sample.• It was carried by an ancient river, possibly during a flooding event.• The gravel is rounded by the abrasive action of the river in the same way a rock tumbler rounds pieces of rock.	<p style="text-align: center;">INTENTIONALLY LEFT BLANK</p>