

Earth Strata (art + science)

The inside of the Earth holds hidden secrets very close to us that are not observed as often as the stars, clouds, moon and sun. So dig a hole to uncover layers of mystery! A hole just 1" deep will show a very small example of soil strata or layers called "horizons."

Discuss the types of objects or matter found in this and other strata - including rocks, shells, fossils, geodes, water, oil and coal - then depict the textures and colors discovered in this elementary geology lesson in an Earth Strata panel. This art project is based on geology but need not be scientifically accurate as students creatively incorporate elements and principles of design.

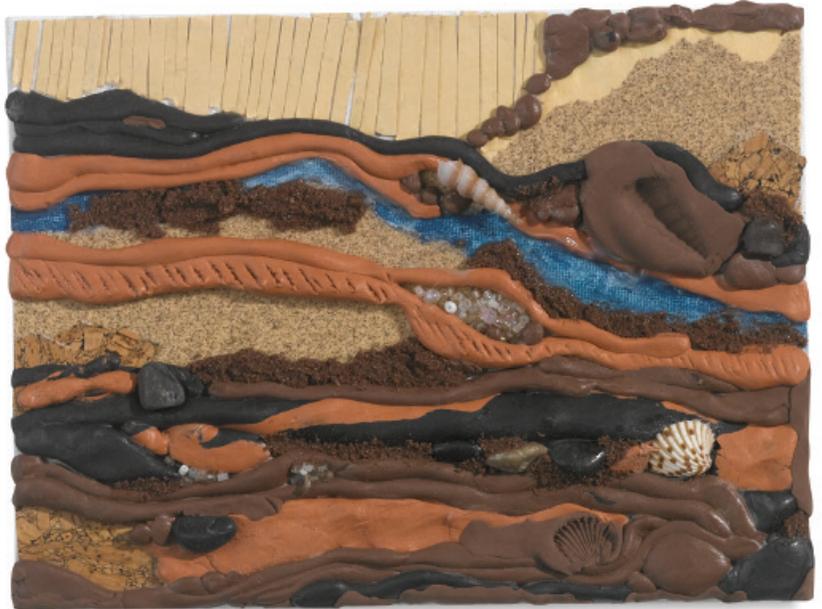
Texture and line are extremely important in this lesson plan.

Grade Levels 1-6

Note: Instructions and materials based on a class of 25 students. Adjust as needed.

Process

1. Discuss layers uncovered in your "dig." Start with the visible top layer of grass, leaves and other materials; next may be old leaves and matter that are starting to decay beneath the first layer. The next layer in the "strata" may be a lighter-colored matter of mostly sand. The dark rich layers for growing start to give way to clay and minerals. Rocks form and break up under the clay. Although much deeper than your hole, solid rock is the final layer before the earth's massive crust, mantle and core.



Materials

Blick® Economy Canvas Panels, classpack of 24, 8" x 10" (07015-1012); need one per student

Crayola® Model Magic®, assorted naturals (33214-1008); share two 2-lb buckets across class

Crayola® Model Magic®, Black (33214-2004); share six 4-oz pkgs across class

Blickrylic® Student Acrylics, Titanium White (00711-1116) and Cobalt Blue (00711-5186); share one pint each across class

Blickrylic® Polymer Gloss Medium, Pint (00711-1026) 1 bottle

Reeves® Quality Bristle Art Brushes (06004-1003); share one 144-piece cannister across class

Norton Sandpaper, 9" x 11", med. 100-grit (34935-1033); share one 25-sheet pkg across class

Cork Paper, 15" x 20" (12445-1020); share one sheet across class

River Rock Assortment, Montana Neutrals (61138-1001); share two 1-lb bags across class

Elmer's® Glue-All (23810-1005); share six 7-5/8 oz bottles across class

Crushed Pebbles for Mosaics, White (61005-1005) and Black (61005-2005); share one 1-lb bag each across class

Hygloss™ Bucket O' Shells (61451-1010); share two 10-oz buckets across class

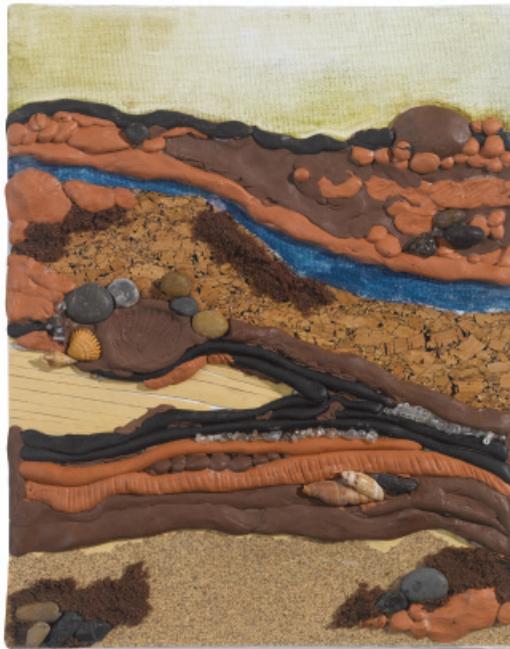
Colored Sand, Brown (61006-8002), and Beige (61006-8142); share one bag each across class

Potpourri Glass Beads, assorted colors (61518-); share two 1-lb bags across class

Process, continued

You can use a sandwich to illustrate the layers or strata – either a real sandwich or an advertisement showing one cut in half would work.

2. Discuss the differences in color and texture found in each horizontal layer. For example, decaying leaves form a dark layer where seeds start to grow. Extend your talk about geology to include stories about plants and animals that can be discovered in its study.
3. Provide students with an 8" x 10" canvas panel and let them decide how they will use it. If used vertically, more layers of texture can be shown; used horizontally, more "line" can be worked across the panel. Have students draw lines to show the development of layers as the matter decays and develops. The layers should not be perfectly divided but vary from thick to thin, depicting the Earth's shifts, and changes that influence strata.
4. Model Magic plastic modeling clay comes in natural colors and Black. No need to paint! Colors can also be mixed together to create more shades. Make coils of Model Magic and stretch them along the drawn lines for layers. Do not cover the entire panel. Make assorted rocks and place them in clusters as if they were broken from one large rock. Press clay pieces firmly onto the canvas panel. If the clay is applied when it is fresh, it will stick to the panel; otherwise, use glue to attach it.
5. Mix the blue and white acrylic paint to create water. Paint the "water" across the panel to show underground water sources. When the water dries, cover it with a "glob" of polymer gloss to give the water a more realistic look and texture.
6. Tear the sandpaper and cork paper to add more layers of texture. Glue these to the panel. The back of the sandpaper can also be used as an additional strata color and texture.
7. Mix sand and polymer medium for more texture. The polymer dries clear and



makes the sand patches look very realistic next to the rock areas.

8. Make a fossil with a small piece of Model Magic and a highly textured shell. If the Model Magic is very fresh, the shell will stick to it. First, let the Model Magic sit for a minute or two. Then slowly press the shell or object into it in a rolling motion to impress all of its texture. Pull the shell or object away from the Model Magic, then glue the "fossil" to the artwork.
9. Add real rocks and tiny glass beads to represent geodes.

Options

1. Add more design to the top of the strata above the surface – trees, flowers and more.

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National Standards for Visual Arts Education

Content Standard #1 Understanding and applying media, techniques, and processes

K-4 Students know the differences between materials, techniques, and processes

5-8 Students intentionally take advantage of the qualities and characteristics of art media, techniques, and processes to enhance communication of their experiences and ideas

Content Standard #2 — Using knowledge of structures and functions

K-4 Students use visual structures and functions of art to communicate ideas

5-8 Students select and use the qualities of structures and functions of art to improve communication of their ideas

Content Standard #6 — Making connections between visual arts and other disciplines

K-4 Students identify connections between the visual arts and other disciplines in the curriculum

5-8 Students describe ways in which the principles and subject matter of other disciplines taught in the school are interrelated with the visual arts