

Pirates and buried treasure

Grouping and sorting a variety of objects

'Treasure' is hidden in a sand tray. The treasure can be coloured minerals, fossils, rocks, metal e.g. coins, jewellery, wood, plastic, glass - anything you have available that is 'interesting' but some of which is Earth-related. Make sure there is enough for everyone in the class to have at least six pieces.

Discuss with the pupils what they know about pirates and what pirates might keep in their treasure chests. Show the children some of the items and ask for descriptions. Teacher and pupils could dress up as pirates and start the activity by reading a suitable story.

Discuss how the treasure came to be buried in the sand? Perhaps the pirates were bringing their treasure ashore when they thought they heard people coming. Quickly, they buried it in the sand and ran away. When they were sure no-one was about, they returned to the beach to find the treasure.

The pupils are the pirates and they are going to dig in the sand to recover the treasure. Divide the class into groups and, while one group is searching for treasure, the others could be either making and/or decorating their treasure chests. They will need one container/treasure chest per group.

Once all the pirates have found some treasure, ask the second group to come and dig in the sand tray.

Ask the first group to:-

- Sort the treasure into groups based on any criteria. Any grouping is fine as long as the pupil can justify it.

- Suggest from where the various items have come, bearing in mind that ultimately everything has come from the Earth.
- Suggest some uses for the items they have found.

Lastly each group stores its treasure in the treasure chests. At this point, pupils often decide to re-sort every group member's treasure. This can lead to noisy discussion and arguments!



Buried 'treasure'
(Photo: Elizabeth Devon)

The back up:

Title: Pirates and buried treasure

Subtitle: Grouping and sorting a variety of objects

Topic: This activity involves identifying, describing and grouping a selection of objects, including Earth-related objects, into various categories. The activity can fit into any teaching scheme where grouping of objects is required but it can also be included in literacy and numeracy programmes.

Age range of pupils: 4 - 7 years

Time needed to complete activity: 20 minutes

Pupil learning outcomes: Pupils can:

- describe the materials by visual appearance or by touch based on their physical properties and name the various objects;
- distinguish between the objects and the material from which they are made;

- sort into groups by identifying properties of the materials;
- give explanations of why they have sorted the materials in a particular way;
- suggest uses for all the different objects;
- accept that there are many ways to group the same objects and that their way is not the only, correct way.

Context:

Pupils can group the treasure into many categories e.g. type (if minerals, coins, etc are used), colour, texture, shininess, preference and so on. Any sorting method that works is a good method.

The pupils are then asked to explain the sorting methods they have chosen and why they have placed different items in different categories.

It can be explained that all the materials ultimately come from the Earth - minerals and rocks directly, the metals in the coins and ingredients such as silica in glass. Once the objects are grouped their uses can be discussed.

Following up the activity:

The sand tray could have a simple grid over it so that the locations of the pieces of treasure could be recorded. Different methods of recording the locations could be discussed (e.g. drawing a plan on paper, photograph).

The treasure chests could be labelled when they contain their treasures.

Suggest that sorting might be done in other ways, e.g. one item might be placed in a different category - why?

The pupils could try the ELI Early years 'Sensory treasure hunt' or 'Rock Explorers'

Useful Links

Earthlearningidea Early years:-

'Rock Explorers'

'Sensory treasure hunt'

<http://www.earthlearningidea.com>

Source:

ESEU KS1 Rock Circus

<http://www.earthscienceeducation.com>

Underlying principles:

- Items can be grouped in a variety of ways.
- Many items will fit into more than one group.
- Everything comes ultimately from the Earth.

Thinking skill development:

There is a pattern to grouping the objects. Discussion about the objects involves metacognition. The placing of items into different groups from that expected leads to cognitive conflict.

Resource list:

- tray for sand approximately 420mm x 300mm (e.g. Gratnell™ tray)
- dry washed sand
- 'treasure chests' (any containers approximately 150mm x 90mm) - these could be gift boxes or made from cardboard
- optional dressing up clothes (pirates)
- 'treasure' (preferably at least 6 pieces per pupil), including a variety of mineral samples (e.g. coloured quartz and other semi-precious gemstones), rough and smooth pebbles, small fossils, shiny coins, pieces of costume jewellery, coloured glass, wooden or plastic objects (with no sharp edges) etc.

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