

The Earth time jigsaw puzzle

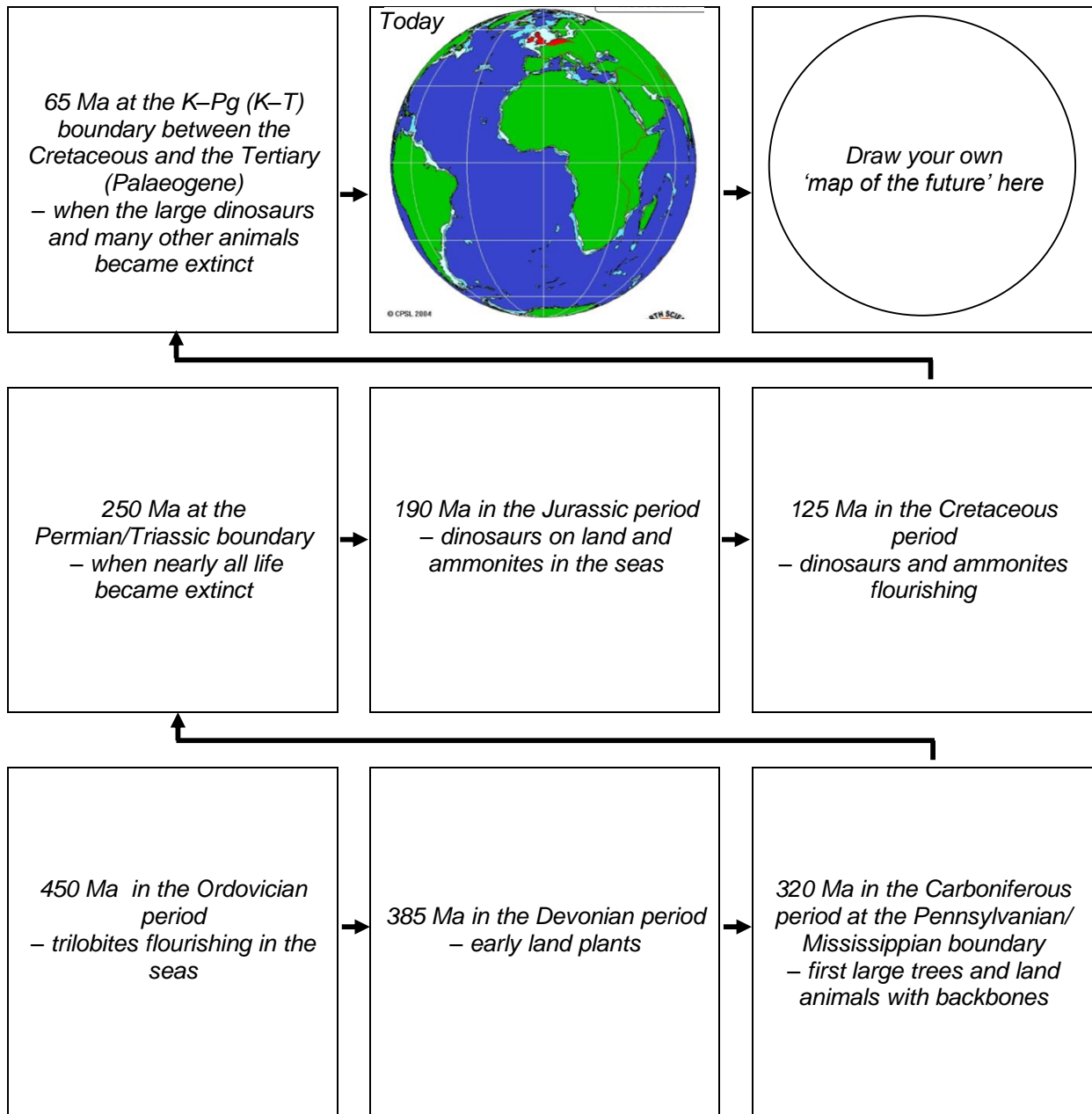
Plot the moving continents, from the past to the future

Cut out the cards on the next sheet which show the positions of the continents at different geological times. Mix them up and ask your students to add them to the 'jigsaw puzzle' template below.

Finally, ask them to draw a possible 'map of the future' in the final box.

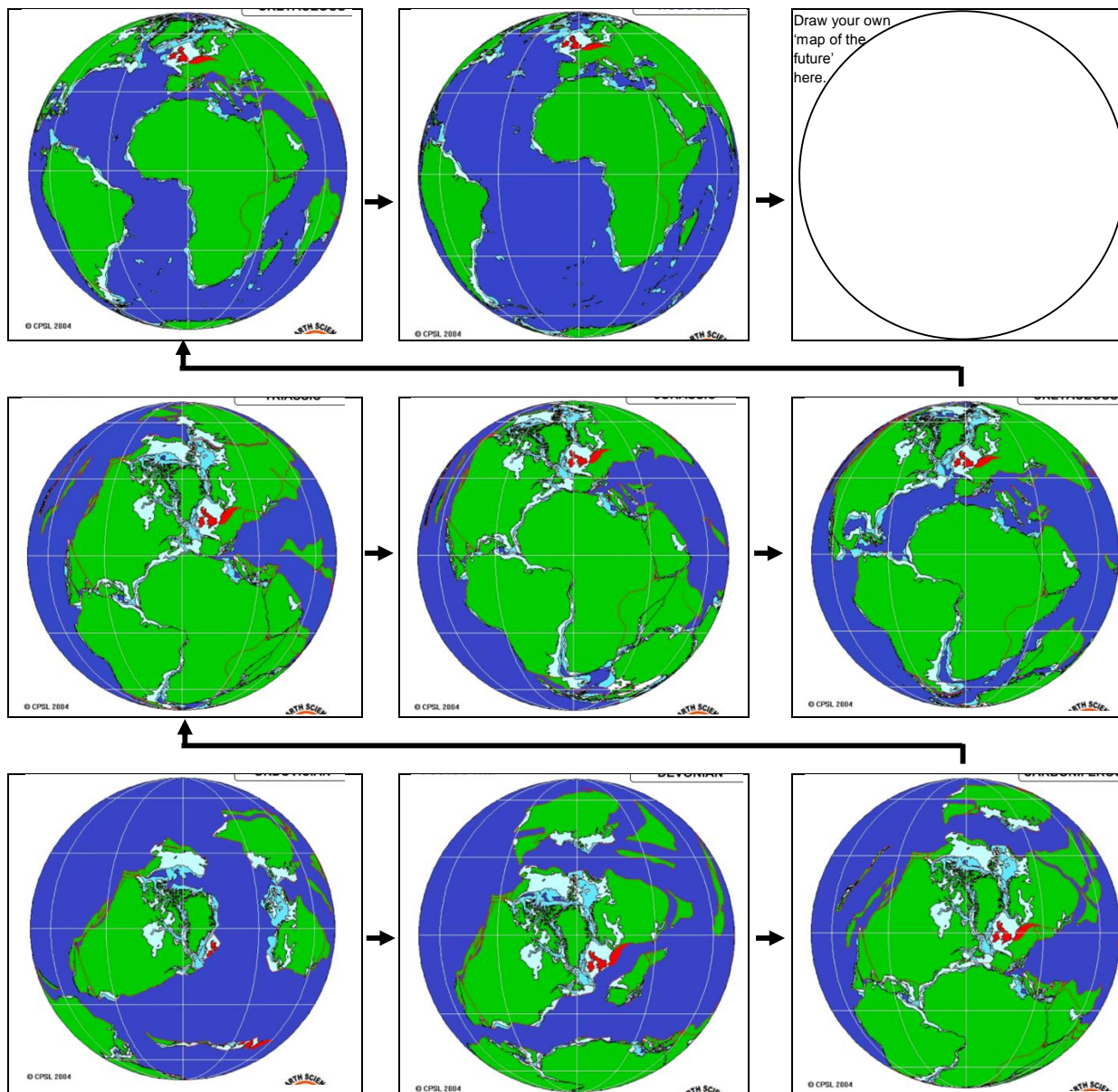
Note 'Ma' = millions of years ago.

The Earth time jigsaw puzzle template



The Earth time jigsaw puzzle cards

Cut out these boxes, mix them up and add them to the 'Earth time jigsaw' in the best places.



The back up

Title: The Earth time jigsaw puzzle.

Subtitle: Plot the moving continents, from the past to the future.

Topic: An activity to help pupils to understand the great length of geological time and the movement of continents over time.

Age range of pupils: 9-18 years.

Time needed to complete activity: 10 mins

Pupil learning outcomes: Pupils can:

- explain that geological time encompasses hundreds of millions of years;
- describe how continents have moved steadily over the Earth's surface during geological time.

Context:

Research has shown that pupils and other people can have great difficulty visualising the great lengths of geological time. This activity has been devised to help them to think in hundreds of millions of years and to picture the steady movement of continents over the

expanse of geological time. Note, the area shown in red on the maps shows part of the micro-continent of Avalonia on which England and Wales formed and of part of the Laurentian plate containing Scotland.

Following up the activity:

Mount a version of each diagram onto an oblong piece of card and then use it as a 'flip book' to show the movement of the Earth over time. Write the age of each diagram clearly in the top right hand corner as a 'clock' that runs during the show.

Underlying principles:

- The movement of continents can be seen on a small template over hundreds of millions of years.
- Continents carried by plates move steadily over time.

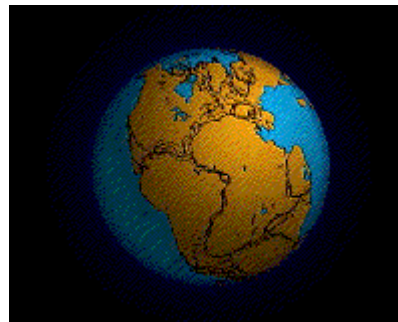
Thinking skill development:

Pupils are enabled to construct a picture of the change of the Earth's surface over hundreds of millions of years of geological time. Drawing the 'map of the future' involves cognitive conflict and, if done in pupil groups, metacognition.

Resource list:

- sheets of the 'Earth time jigsaw puzzle' and the 'Earth time jigsaw puzzle cards' preferably printed in colour
- scissors to cut up the cards
- pencils, crayons, etc. to draw a 'map of the future'

Useful links:



This image uploaded by Tbowser is in the public domain because it contains materials that originally came from the United States Geological Survey.

This animated gif of the moving continents can be found at:

http://en.wikipedia.org/wiki/File:Pangea_animation_03.gif

Source: Devised by Chris King of the Earthlearningidea Team using images taken, with permission, from an animation developed by collaboration between the Earth Science Education Unit and Cambridge Paleomap Services Ltd, who produced the map images used; ESEU gratefully acknowledges the expertise and assistance of Alan Smith and Lawrence Rush of CPSL.

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