Here are six challenges to complete. They are in this gallery:

*Earth’s Treasury*

Do **two challenges**
to become a researcher

Do **four challenges**
to become a scientist

Do **six challenges**
to become a professor

Do them in any order. Good luck!

---

Explore and Discover...
Rocks
**Dig the geologist challenge**
Discovering rocks challenge

1. Look at the displays on the wall just inside the entrance. Rocks are found in the ground and come in many different forms.

2. Find the nine rock specimens. Look at them closely and touch them. Choose one.
   - My rock is: ________________________________
   - Can you write a description of your rock in the space below?
   - Can your partner find it?

3. Find the Treasured through time section near the middle of the gallery (opposite Ancient Metals). If you could choose three of these treasured items for your classroom display, which would you choose and why?

4. Talk about your choices and compare them with your partner’s.
   - I am about 4.5 billion years old.

Rock hard challenge

1. Go to the Minerals have properties section near the entrance of the gallery.
   - Watch the ball travel around showing you the different properties.
   - The hardest mineral is:
   - The softest mineral is:
   - Which mineral is transparent (lets all light through)?
   - Which mineral is translucent (lets some light through)?
   - Which mineral is opaque (lets no light through)?

2. Minerals can be grouped by how hard they are. Look at the exhibit on hardness and complete the information.
   - Item 1
     - Reason why:
   - Item 2
     - Reason why:
   - Item 3
     - Reason why:
   - Light can pass through some minerals.
   - Hardness | Magnetism
   - Size | Shape
   - Weight | Colour of streak
   - Density | Colour of mineral

3. When scientists identify minerals, they look at different properties (characteristics that describe it). Circle round the properties that help identify minerals below.
Here are six challenges to complete. Do them in any order. Good luck!

1. **Precious gems challenge**
   - Find the displays of gemstones in the long cases. Choose one case.

2. **Gold rush challenge**
   - Go to Ancient metals in the middle of the gallery (opposite Treasured through time). Find the display about gold.

3. **Classroom display, which these treasured items for your**
   - Choose three of Ancient Metals. Find Treasured through time. Would you choose and why?

4. **Rock facts:**
   - Where does gold come from?
   - What special qualities does gold have?
   - Did you know?
     - The ancient Egyptians used powdered lapis lazuli, a type of rock, as blue eye shadow.
     - Did you know?
       - Clay found underneath London contains remains of sea creatures from 60 million years ago.

5. **Rock hard challenge**
   - The softest mineral is: (lets no light through)?
   - Hardness: (lets some light through)?
   - Rock hard: (lets all light through)?

6. **Discovering different forms.**
   - Can you write a description of your rock in the space below.

### Colour Tally and Total Table

<table>
<thead>
<tr>
<th>Colour</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pink</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. **What was the most common colour that you found?**

4. **Choose one crystal. Look at it closely and draw it below.**

5. **Choose one crystal. Look at it closely and draw it below.**

6. **Did you know?**
   - Clay can be found in lots of colours, from dull grey to deep red.
Marvellous metals challenge

1 Go to the Metals in the modern age display towards the end of the gallery (before What makes a good building stone).
Can you find these metals?
- Iron
- Steel
- Aluminium
- Copper

2 These metals have useful properties and we use them to make many objects.
Tick the objects you can find in the display.

Gold can be made into thread and used in embroidery.

3 Are these objects always made from metal? Why are they good at their job?
Talk about it with your partner and write your ideas down.

What metal objects do you have in your pockets or your bag?
I have:

Building a home challenge

1 Go to the What makes a good building stone display towards the end of the gallery.

2 Houses are made using many different materials; some of these materials are made from rock.

Why do you think these materials are good for building houses?
Discuss with your partner.

3 With your partner write down three materials that are used in making a house.

In the space opposite, design your own house.
Can you label the different parts?
What materials have you used?

Windows are usually made of glass. What properties make glass good for this job?
Discuss with your partner.