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- › [Japace](#) /
- › [Japace Earth Science Kit Instruction Manual](#)

Japace MDSC05

Japace Earth Science Kit Instruction Manual

Model: MDSC05 | Brand: Japace

1. INTRODUCTION

Welcome to the exciting world of geology with the Japace Earth Science Kit! This comprehensive kit is designed to engage young minds aged 4-14 in hands-on scientific exploration. Discover the wonders of the Earth by excavating real gemstones, breaking open geodes, and growing your own crystals. This kit provides a fun and educational experience, fostering a passion for science, geology, and paleontology.



Figure 1: The Japace Earth Science Kit, showcasing the main box, safety goggles, digging tools, geodes, and various gemstones and crystals.

2. WHAT'S INCLUDED

Your Japace Earth Science Kit comes with all the necessary components for a complete geological adventure:

- Dig brick packed with assorted gemstones
- Hammer
- Chisel
- Brush
- Magnifying glass
- Safety goggles
- Gem collection box
- Two natural geodes

- Two measuring cups
- Two packs of crystal powder (for growing crystals)
- Illustrated instruction manual

EVERYTHING ALL IN ONE



Figure 2: A visual representation of all items included in the kit, neatly arranged on a surface.

3. SETUP

Before beginning any experiment, ensure you have a clean, flat surface and adequate lighting. Adult supervision is recommended for all activities. Always wear the provided safety goggles to protect your eyes, especially during the geode breaking and gemstone digging activities.

3.1 Preparing for Geode Breaking

1. Place one geode inside a sock or a sturdy cloth bag. This helps contain fragments and dust.
2. Place the sock/bag on a hard, durable surface, such as concrete or a thick wooden board. Avoid surfaces that can be easily damaged.

3. Ensure all participants are wearing safety goggles.

Break Open Your Own Geodes Improve Hands-on Skills



Each Geodes Size: Approx. 1.9-2.7 in

Figure 3: Examples of geodes, showing the external appearance and the crystalline interior after being broken open. Each geode is approximately 1.9-2.7 inches in size.

3.2 Preparing for Crystal Growing

1. Boil water in a separate container (adult supervision required).
2. Pour the hot water into one of the provided measuring cups.
3. Carefully pour one packet of crystal powder into the hot water.
4. Stir the mixture until the powder is completely dissolved.
5. Place the provided seed rock into the center of the solution.
6. Repeat for the second crystal growing experiment using the other packet and measuring cup.

EXPLORE THE CRYSTAL GROWING

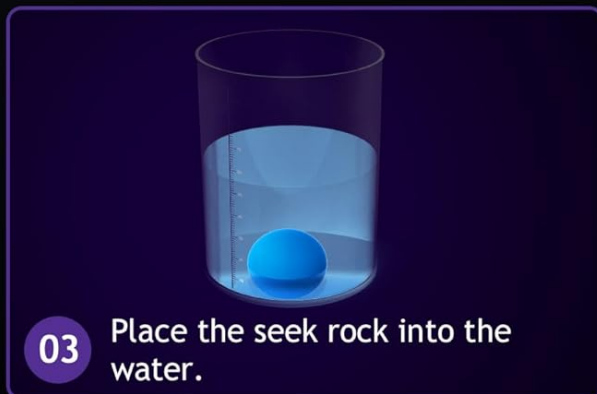
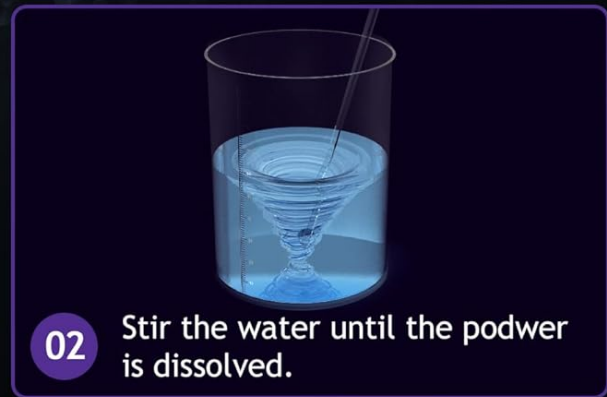


Figure 4: Step-by-step visual guide for the crystal growing experiment, illustrating the process from dissolving powder to placing the seed rock.

4. OPERATING THE KIT

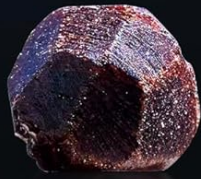
4.1 Breaking Open Geodes

With the geode securely in the sock/bag and safety goggles on, use the hammer to gently tap the geode. Increase the force gradually until the geode cracks open. Carefully remove the broken pieces from the sock/bag and observe the crystals inside. You may use the brush to remove any loose debris.

4.2 Digging for Gemstones

Place the dig brick on a stable surface. Using the chisel and hammer, carefully chip away at the dig brick to reveal the hidden gemstones. Use the brush to clear away dust and the magnifying glass to examine your discoveries. The kit includes 12 special birthstones, each approximately 0.8-1.2 inches in size.

12 SPECIAL BIRTHSTONES



Garnet
(January)



Amethyst
(February)



Aquamarine
(March)



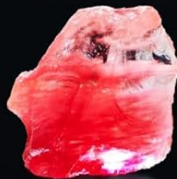
Diamond
(April)



Emerald
(May)



Pearl
(June)



Ruby
(July)



Peridot
(August)



Sapphire
(September)



Opal
(October)



Citrine
(November)



Blue Topaz
(December)

Each Gemstone Size: Approx. 0.8-1.2 in

Figure 5: A visual guide to the 12 birthstones included in the kit, such as Garnet, Amethyst, Aquamarine, Diamond, Emerald, Pearl, Ruby, Peridot, Sapphire, Opal, Citrine, and Blue Topaz.

4.3 Growing Crystals

After setting up the crystal growing solution as described in Section 3.2, place the measuring cups in a location where they will not be disturbed. Crystal growth typically takes 5-7 days. Observe the crystals daily as they form and grow on the seed rock. Once fully grown, carefully remove the crystals from the solution.

5. MAINTENANCE

- After use, clean all tools (hammer, chisel, brush, magnifying glass) with a damp cloth and dry thoroughly before storing.
- Store excavated gemstones and broken geode pieces in the provided gem collection box to keep them organized and protected.
- Keep crystal growing solutions and powders in a cool, dry place away from direct sunlight.

- Ensure safety goggles are clean and free from scratches for clear visibility during future experiments.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Geode not breaking easily.	Insufficient force or incorrect striking point.	Ensure the geode is on a very hard surface. Apply more consistent force with the hammer. Try striking different points around the geode.
Difficulty finding gemstones in the dig brick.	Not chipping away enough material or using the tools incorrectly.	Continue chipping patiently. Use the brush frequently to clear away debris and expose the gemstones.
Crystals not growing or growing slowly.	Water not hot enough, powder not fully dissolved, or solution disturbed.	Ensure water is hot enough to fully dissolve the powder. Stir thoroughly. Place the measuring cup in a stable location where it won't be moved or exposed to drafts. Crystal growth takes 5-7 days.

7. SPECIFICATIONS

Product Dimensions: 10.5 x 9.5 x 3.5 inches

Item Weight: 2.82 pounds

Model Number: MDSC05

Manufacturer Recommended Age: 4 - 14 years

Manufacturer: Japace

8. WARRANTY AND SUPPORT

Japace products are designed for quality and educational value. This product complies with US Toy Safety Requirements. For any questions, concerns, or support needs regarding your Earth Science Kit, please contact Japace customer service through the retailer's platform or visit the official Japace website for contact information. Standard return policies typically allow for returns or replacements within 30 days of purchase, subject to retailer terms and conditions.

For more information, visit the [Japace Store on Amazon](#).