



EduTrend Contents

EDUTECH · STEM RESOURCES FOR STUDENTS · MIDDLE SCHOOL

Citizen Scientists

Classify real images and learn why research needs many careful eyes

Ages 11–14

Level: Intermediate

60 minutes

Pairs · up to 30

Activity 03

Inside: activity at a glance · step-by-step session plan · facilitator notes · 3 student worksheets · assessment checklist

ACTIVITY 03 · AT A GLANCE

Citizen Scientists

Pairs first classify a printed set of images, such as galaxy shapes or animal camera-trap photos, and compare answers with other pairs. They see how often classifiers disagree and how combining many answers helps. Then, with the teacher, they contribute classifications to a real project on a citizen science platform.

Learning outcomes

By the end of the session students can:

- classify data using a guide;
- compare classifications;
- explain why many classifiers help;
- contribute to real research.

KEY WORDS

citizen science · classify ·
consensus · data · accuracy ·
volunteer

CURRICULUM LINKS

Science: classification and space.
Maths: agreement and
percentages. Citizenship:
contributing to research.

1**GOAL**

Set a small goal

2**QUESTION**

What do I want to
know?

3**EXPLORE**

Use a trusted
resource

4**MAKE**

Build, solve or
record

5**EXPLAIN**

Tell someone

6**REFLECT**

What next?

Materials (per pair)

- Printed image set with a classification guide
- Device with access to a citizen science platform
- Worksheets 1, 2 and 3

Before the session

- Choose a suitable project for the age group.
- Print an image set.
- Test platform access.
- Print worksheets.

SAFETY

Teacher manages any account. Students do not
post personal details in project forums.

ACTIVITY 03 · SESSION PLAN

Step by step

Choose a project with a clear field guide and images suitable for young people.

Time	What happens	Say or ask
0–8 min Hook	Show a real research image.	<i>“Could you help scientists?”</i>
8–22 min Classify	Printed set with a guide.	<i>“Which features decided it?”</i>
22–32 min Compare	Agreement across pairs.	<i>“Where did we disagree?”</i>
32–50 min Contribute	Classify on the platform.	<i>“How careful are you being?”</i>
50–60 min Reflect	Why many volunteers?	<i>“How does consensus help?”</i>

CHALLENGE CARD (print or copy onto the board)

Classify images using a guide, measure how much classifiers agree, and explain why real research uses many volunteers for each image.

ACTIVITY 03 · FACILITATOR NOTES

The learning know-how in brief

Citizen science platforms let members of the public help real research by classifying images and data. Many projects show each item to several volunteers.

Combining several independent classifications reduces the effect of individual mistakes. Careful, patient work matters more than speed.

Common ideas to listen for

- “Scientists do not need help.” Many projects have too much data.
- “One answer is enough.” Consensus is more reliable.
- “Faster is better.” Accuracy matters most.

Adapting the activity

Support

Use images with only two categories.

Stretch

Calculate percentage agreement for each image.

WORKSHEET 1

Classifications

Name: _____

Class: _____ Date: _____

Classify each image.

Classifications

Image	Our class	Feature that decided
1		
2		
3		
4		
5		
6		

WORKSHEET 2

Agreement

Compare with other pairs.

Agreement

Image	Pairs agreeing	Agreement %
1		
2		
3		
4		
5		
6		

WORKSHEET 3

Why many volunteers?

Explain.

Why research uses many classifications

FOR THE TEACHER

Assessment checklist

Use during the session. One sheet covers up to eight students; copy as needed.

Student	Uses the guide	Calculates agreement	Explains consensus

Suggested codes: W = working towards · E = expected · G = greater depth

ABOUT THIS ACTIVITY

Citizen Scientists is a sample activity from the EduTrend Contents Edutech STEM Resources for Students programme (middle school, level: intermediate). Every activity in the programme follows the same format: a practical challenge, a clear session plan, facilitator notes and ready-to-print worksheets, so that teachers, club leaders and parents can run it without extra preparation.

Full 15-, 20- and 32-week programmes are available from EduStore at edutrend.org.

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