



Bag tags

Grade Level/s:

3, 2, 1, K

Subject/s:

Science, Technologies, Mathematics Unit Plan

Type:

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Bag tags

Students will design and 3D print a personal bag tag to assist them in identifying their identical school bags.

Please note : For a shorter unit of work, lessons may begin at Step 5

Single Lesson Plan

Bag Tags

Task:

Step 1 (15 mins)
Determine the Problem

Activity:

Class Discussion: There are often two or more students in the class that have bags that are exactly the same. Show the student 2 or more bags from your class that are exactly the same. Explain that this means that at times the bags have got mixed up. Talk to the children about this problem. Ask "Has this ever happened to you?" "What happened?"

Resources:

2 or more bags that are exactly the same

Step 2 : (20mins)
Generate ideas for possible solutions

In groups, students brainstorm possible solutions to solve the problem. eg put a coloured ribbon on their bag, put stickers on their bags, write their names on their bags. etc. Get students to make a list of all their ideas on a large sheet of paper. Remember...at this stage all ideas are good ideas!

Large paper, textas

Step 3 : (20 mins) Choose the best idea	Class Discussion: Discuss the merits of each idea. Talk together about why each one may or may not work. Choose the best idea.	"Ideas" Brainstorm sheets
Step 4 : (20 mins) Decide upon design features	(Continue with this step if your students decided on the bag tag option!) Either in groups or as a class decide upon design features that would work well for you. eg 1. be strong 2. Have a loop to attach it with 3. Be between 5 and 7 cm long 4. Mean something special to you Please note, for security reasons many people do not like having names on the outside of bags...which is why we chose 'mean something special to you'. This means the bag is easily identifiable by the correct owner. Record ideas on whiteboard and together choose 4-5 relevant design features for your class	Large sheets of paper or whiteboard
Step 5 : Generate ideas for your bag tag	On a piece of paper, students can draw some ideas for their bag tag design. Before beginning this task, it is useful to take a look at the shapes that will be available for them to use in the Shaper section of Maker's Empire. Have students draw a variety of ideas for their bag tag and then choose one to focus on.	Maker's Empire Shaper Tool
Step 6 : Design your bag tag in Maker's Empire	Use the Shaper Tool in Maker's Empire to design and create your own bag tag.	Maker's Empire
Step 7 : Print, Evaluate and Improve	Print a selection of bag tags to evaluate. Students can discuss the good points, things that need improvement and things they have learned.	A selection of printed bag tags.
Step 8 : Make you final design	The students can use the feedback from the previous lesson to improve their design. They look carefully at the design they have created in Makers Empire and make adjustments as necessary.	Maker's Empire
Step 9 : Print your final design and attach it to bags	Students attach their printed designs to their bags. Discuss...did you meet the design criteria? What worked well? What could you do better next time?	Finished Bag Tags Zip ties

Curriculum

Australian Curriculum:

Sequence steps for making designed solutions and working collaboratively (ACTDEP009)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/458a2e31-7a5a-471c-95d2-ac53757c9fb5>)

Use personal preferences to evaluate the success of design ideas, processes and solutions including their care for environment (ACTDEP008)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/998b4284-d800-448b-a578-b1077260fa8a>)

Use materials, components, tools, equipment and techniques to safely make designed solutions (ACTDEP007)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/15cde36c-8543-4d3b-ae1b-bb6409cf34d8>)

Visualise, generate, develop and communicate design ideas through describing, drawing and modelling (ACTDEP006)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/24ae30d0-93ed-4bd9-b41f-49e668030a70>)

Explore needs or opportunities for designing, and the technologies needed to realise designed solutions (ACTDEP005)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/b112eddc-cc2f-4454-8a8b-8688a20409bf>)

Identifying Roles For Each Member Of A Group When Working Collaboratively (ELBT58)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/e54c997a-112c-4e4b-843f-e199cc9e77ab>)

Recording The Procedure For Making A Product, For Example A Recipe Or Instructions For Making A Container (ELBT45)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/01f38fd7-f5f6-4a2e-ba76-ea6b7023ef2c>)

Using Lists Or Storyboarding When Planning And Making, For Example When Planning An Electronic Planting Calendar (ELBT19)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/70c5ee6f-254f-4555-80a5-f859c3b40388>)

Checking That Planned Features Have Been Included In Design Plans And Drawings By Referring To Identified Criteria For Success Including Care For The Environment (ELBT94)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/483a5b5c-ee4c-4ef9-8e81-d01858c197a8>)

Suggesting Areas For Design Improvement (ELBT232)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/e00506a7-0fe3-467b-92a9-864205fcdacc>)

Reflecting On The Processes And Challenges Of Designing And Producing A Solution And Sharing These Reflections Using Digital Technologies, For Example When Growing A Food Product, Designing A Structure To Take A Load Or Making A Nutritious Snack (ELBT147)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/e7f98446-7be1-4f91-9e1c-b63e225e2644>)

Recording A Judgment About Design Ideas With Teacher Guidance, For Example Expressing Own Likes And Dislikes About A Design Idea (ELBT51)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/5bb27d4a-fd06-4ce4-804b-e7d01231aad8>)

Developing Criteria For Success With Teacher Guidance Including Consideration Of Impact On Environment (ELBT82)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/ac7e286c-f0f4-40a3-a19a-d9a15397118a>)

Assembling Components Of Systems And Checking They Function As Planned, For Example When Making A Musical Instrument (ELBT33)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/8cad861a-36f0-431e-8978-ee1c7a72897>)

Learning And Safely Practising A Range Of Technical Skills Using Tools And Equipment, For Example Joining Techniques When Making Products, Watering And Mulching Gardens, Preparing Food, Using Software To Design An Environment (ELBT42)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/70a39022-a1fb-439a-8032-ebdf5dd51439>)

Using And Playing With Everyday Materials In New Ways Or Re Using Discarded Materials, For Example Using Discarded Materials To Design, Make And Model A Constructed Environment (ELBT112)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/c24222ba-a3ff-48ac-bcdb-c9790cd9e55b>)

Describing How Design Ideas Meet The Needs Of Those Who Will Use The Solution (ELBT428)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/4a23db9e-2adf-4733-985f-266ac8f0e53f>)

Identifying One Common Testing Method, And Recording Results, For Example Taste Testing Comparisons Of A Food Product And Recording Results In A Digital Form (ELBT142)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/6db5b3c8-7ca7-40b8-957a-b887226f43be>)

Recording A Judgment About Design Ideas With Teacher Guidance, For Example Expressing Own Likes And Dislikes About A Design Idea (ELBT173)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/0ac8c388-a7c8-4758-8f00-ab267b1671a4>)

Communicating Design Ideas By Modelling, And Producing And Labelling Two Dimensional Drawings Using A Range Of Technologies To Show Different Views (Top View And Side View), For Example A New Environment Such As A Cubby House Or Animal Shelter (ELBT403)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/67bb8696-3d3d-484d-881a-3387728c85b1>)

Comparing And Contrasting Features Of Existing Products To Provide New Ideas, For Example Exploring Toys With Several Movable Parts With The View To Designing And Making A Simple Puppet With One Movable Part (ELBT89)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/71e66613-c94e-48a8-b6b0-d5144f8725d>)

Exploring Which Tools, Equipment And Techniques To Use With Selected Materials (ELBT474)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/840979fa-f77f-4943-bde5-075ad00dc493>)

Considering The Importance Of Sustainability In Designed Solutions, For Example Comparing The Durability Of Materials For A Selected Solution (ELBT213)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/b0aa29eb-e7e9-4c49-a975-901ab95141f1>)

Discussing Possible Designed Solutions Based On Experience And Some Research, For Example Asking Adults For Advice (ELBT248)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/2f54486b-f1b5-4236-9331-7f33b34786f8>)

Exploring Opportunities Around The School For Designing Solutions, For Example How School Play Areas Could Be Improved; How The School Removes Classroom Waste And Identifying Opportunities To Reduce, Recycle And Re Use Materials; Reviewing The School Canteen Menu To Identify Healthy Food Options And Suggesting Changes To Promote Future Good Health (ELBT331)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/38cdc708-5de3-4102-bb9b-5a3b4d3e08e7>)

Identifying, Gathering And Playing With Materials, Components, Tools And Equipment To Generate Personal Design Ideas, For Example Designing A Greeting Card For A Friend (ELBT57)
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/c90b1992-fa87-4644-ad93-e265cd2b96c4>)

Design and Technologies Processes and Production Skills
link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/f2c37335-9609-4637-8264-fc4acbb2e088>)

